

Composite Safety Statement

October 2024



Iascach Intíre Éireann
Inland Fisheries Ireland

Safety Statement Senior Management Sign-off

Head of Finance and Corporate Services:

Date:

Head of Operations:

Date:

Head of Human Resources:

Date:

Head of Research & Development:

Date:

Director of ERBD:

Date:

Director of SERBD:

Date:

Director of SWRBD:

Date:

Director of SHRBD:

Date:

Director of NWRBD:

Date:

Director of WRBD: Ballina

Date:

Director of WRBD: Galway

Date:

Emergency Contacts

General Emergencies: **999 or 112**

Local Hospitals:

Local Doctors:

Local Garda Stations:

HSA Information Service : **0818 289 389**

Health Protection Surveillance Centre : **01 8765300**

Poisons Information Centre Beaumont : **01 8092166**

Table of Contents

	Senior Management Sign-off
	Emergency Contacts
1.0	Document Control
2.0	Statement of General Policy
3.0	Arrangements for Implementing Policy
4.0	Organisational Structure, Duties & Responsibilities
5.0	Safety Organisation, Safety Representatives & Procedures for Consultation
6.0	Contractors & Visitors
7.0	Provisions for Health & Welfare
8.0	Reporting Incidents & Dangerous Occurrences
9.0	Fire & Evacuation Procedures
10.0	First Aid & AED Defibrillators
11.0	Training & Records
12.0	Safety Signage, Chemicals & Electricity
13.0	Hazard Identification & Risk Assessment Methodology
14.0	Hazard Identification, Risk Assessment & Control

General Hazards

14.1	Electricity
14.2	Slips, Trips & Falls
14.3	Noise
14.4	Vibration
14.5	Manual Handling
14.6	Sanitation & Washing Facilities
14.7	Erection of Signage
14.8	Refrigeration and Freezer Units
14.9	Lone Working

Offices

14.10	Preventing Cuts & Punctures
14.11	Preventing Machine Accidents
14.12	IT & Display Screen Equipment (Computers)
14.13	File Cabinets & Shelves
14.14	Chairs
14.15	Guillotines, Shredders & Laminators
14.16	Office Environmental Factors

Occupational Diseases/Exposures

14.17	Lockjaw/Tetanus
14.18	Toxoplasmosis
14.19	Hepatitis
14.20	Leptospirosis (Weils Disease)
14.21	Lyme Disease
14.22	Avian Bird Flu
14.23	Asbestos
14.24	Dermatitis
14.25	Giant Hogweed
14.26	Legionnaires Disease
14.27	Radon
14.28	Lead in Water
14.29	Electromagnetic Fields
14.30	Psittacosis

Equipment/Power Tools

14.31	Air Compressors
14.32	Abrasive Wheels & Cutting Discs (Angle grinders etc)
14.33	Table Saws & Wood Working Equipment
14.34	Welding
14.35	Hand Tools
14.36	Power Tools
14.37	Safe use of Knives
14.38	Safe use of Firearms
14.39	Winching Operations
14.40	Generators
14.41	Pole-Saws
14.42	Chainsaws
14.43	Petrol Strimmer/Brush Cutter
14.44	Use of Mitre Saws (Chop Saws)
14.45	Use of Metal Worker (Punching & Forming Machine)
14.46	Lawnmowers
14.47	Power Washers
14.48	Manual Handling Mechanical Aids
14.49	Mulchers/Woodchippers
14.50	Petrol Drills

Equipment/Power Tools

- 14.51 Reciprocating Saws
- 14.52 Impact Drivers
- 14.53 Use of Earth Augers
- 14.54 Leaf Blowers

Construction, Development & Maintenance Activities

- 14.55 Safe System of Work Plan (SSWP)
- 14.56 Legal Requirements Concerning Construction Work
- 14.57 Basic False & Form Work (Shuttering)
- 14.58 Block Laying
- 14.59 Work in Excavations
- 14.60 Work at Heights
- 14.61 Work in Confined Spaces
- 14.62 Safe use of Hydraulics
- 14.63 Painting
- 14.64 Maintenance of Fish Counters
- 14.65 Maintenance & Safe Access to Weirs
- 14.66 Construction of Angling Stands, Stiles, Bridges Walkways & Similar Structures
- 14.67 Removal of Structures
- 14.68 Maintenance of Riverbanks & Similar Environments
- 14.69 Control & Management of Traffic on Public Roads
- 14.70 Working on Roads
- 14.71 Construction on or Adjacent to Water

Hazardous Materials

- 14.72 General Chemical Safety
- 14.73 Pesticides
- 14.74 Flammable Substances
- 14.75 Petrol
- 14.76 Diesel
- 14.77 LPG Cylinders & Gas Cylinders
- 14.78 Liquid Nitrogen
- 14.79 Gravel Analysis (Peat Separation)
- 14.80 Disinfectant Kits and Stations
- 14.81 Pyrotechnics (Safe use of Flares)

Pedestrians, Vehicles & Mobile Equipment

- 14.82 Driving for Work
 - General Vehicle Safety
 - Vehicle Checks
 - Road Traffic Accidents
 - Use of Mobile Phones
 - Towing Trailers
 - Pedestrians & Vehicular Movement
 - Cyclist Safety
 - Transporting Fuel
 - Driving in other Jurisdictions
 - Use of Roof Racks
- 14.83 Pedestrian Safety
- 14.84 Electric cars & e-charging
- 14.85 4x4 Off Road Vehicles
- 14.86 ATVs (Quad bikes) (For UTVs see 14.171)
- 14.87 Tractors
- 14.88 Teleporter (Loadall) & Platforms
- 14.89 Vans & Light Goods Vehicles
- 14.90 Heavy Goods Vehicles
- 14.91 Forklifts
- 14.92 360° & 180° Excavators & Mini Diggers
- 14.93 Use of (HIAB) Lorry Loader Crane
- 14.94 Multimover (For moving and positioning trailers)
- 14.95 Safe Securing of Loads for Road Transport

Personal Flotation Devices & Dry Suits

- 14.96 Personal Flotation Devices
 - Selecting the correct type for the working environment
 - Donning instruction
 - Training
 - Inspection & Testing
 - Storage
- 14.97 Use & Maintenance of Dry Suits

Activities Involving the Air Corps

- 14.98 Cassa (Airplane)
- 14.99 Helicopters

Diving Operations

- 14.100 General Requirements for Diving
- 14.101 Diver Requirements
- 14.102 Diving Supervision & Risk Assessment
- 14.103 Divers Medical Fitness
- 14.104 Diving Equipment
- 14.105 Snorkelling Surveys

Boating, Netting, Angling & Field Activities

- 14.106 Fisheries Field Work
- 14.107 Use of Small Boats (e.g. lake boats)
- 14.108 Naval Patrols
- 14.109 Delta RIBs
- 14.110 Small RIB Patrols (e.g. Estuaries & Sheltered Bays)
- 14.111 Whaly 500R Pro Boats
- 14.112 Pioneer Multi Boats
- 14.113 Rigidflex Boats
- 14.114 Red Finn
- 14.115 Cheetah (An tSionainn)
- 14.116 Launch, Mooring & Recovery of Boats
- 14.117 Action to take if someone falls into the water
- 14.118 Getting a Vessel Towed
- 14.119 Use of Canoes
- 14.120 Use of Kayaks (Sit on Top)
- 14.121 Personal Watercrafts (Jetskis/Seadoo)
- 14.122 Shannon Navigation & Night Navigation
- 14.123 Large Lake Surveys
- 14.124 Boat and Net Storage
- 14.125 Netting (Gill Netting, Drift Netting, Oyster Dredging, Stop Netting, Fyke Netting, Seine Netting, Bongo Netting, Pelagic Netting)
- 14.126 Research Conducted Aboard Commercial Trawlers
- 14.127 Tides & Waves
- 14.128 Sea Sickness
- 14.129 Wading & Footwear
- 14.130 Smolt Traps
- 14.131 Glass Eel Fishing
- 14.132 Eel Monitoring, Surveying & Netting
- 14.133 Fish Farm Aquaculture Inspections
- 14.134 Salvage Operations
- 14.135 Hydro-acoustic surveys

- 14.136 Radio Telemetry
- 14.137 Acoustic Telemetry
- 14.138 Barrier Assessments
- 14.139 Fish Tagging
- 14.140 Use of ROV
- 14.141 Angling
- 14.142 Handling & Processing Fish
- 14.143 Belly Boat Angling
- 14.144 Excursions involving journalists /groups/ organisations

Electro-fishing

- 14.145 Electro-fishing with Backpacks
- 14.146 Electro-fishing with Bank Generators
- 14.147 Electro-fishing from Boats
- 14.148 High Voltage Electro-fishing from Boats
- 14.149 Boom Boat Electro-fishing

Environmental Protection, Monitoring & Control

- 14.150 Inspection of Construction Projects
- 14.151 Inspection of Forestry Projects
- 14.152 Inspection of Hydro Projects
- 14.153 Inspection of Wind Farm Projects
- 14.154 Inspection of Quarries
- 14.155 Inspection of Fish Farms
- 14.156 Inspection of Commercial & Industrial Premises
- 14.157 Inspection of Farms
- 14.158 Planning Inspections
- 14.159 Inspection of Treatment Plants
- 14.160 Water & Effluent Monitoring
- 14.161 Sampling Techniques
 - Kick Sampling
 - Surber Sampling
 - Grab Sampling
 - Substrate Sampling
 - Van Veen Grab Sampling
- 14.162 Bathymetric Surveying
- 14.163 Taking Levels (Use of Theodolite)
- 14.164 Weed Control Operations (Lagarosiphon)

Fisheries Protection & Patrol Duties

- 14.165 Protection Patrol Risk Assessments
- 14.166 Lone Working on Protection Duties
- 14.167 Encountering poachers & conflict resolution
- 14.168 Use of Cameras
- 14.169 Use of Detection Dogs
- 14.170 Foot Patrols & Stakeouts
- 14.171 UTV Patrols (Beaches & Tow Paths)
- 14.172 Bicycle Patrols & E-Bike Patrols
- 14.173 Vehicle Patrols
- 14.174 Vessel Searches
- 14.175 Use of Surveillance Equipment
- 14.176 Use of Tetra Radios

Outdoor Conditions

- 14.177 Weather
- 14.178 Hypothermia
- 14.179 UV Exposure
- 14.180 Traversing lands
- 14.181 Insects
- 14.182 Needle Stick Injuries
- 14.183 Wading

Laboratory Safety

- 14.184 General Laboratory Practice
- 14.185 Otolith Processes
- 14.186 Chemical Handling
- 14.187 Fume Hoods
- 14.188 Biological Laboratory
- 14.189 Bio Lab Associated Work
- 14.190 Microscopy & Scale Reading
- 14.191 Laboratory Equipment
- 14.192 ICP

Hatcheries, Fish Farms, Fish Traps & Cages

- 14.193 Traffic Management
- 14.194 Access to Lifting Block
- 14.195 Chemical Handling
 - General Safety Measures
- 14.196 Formaldehyde (30 – 55% W/W)

14.197	Sodium Percarbonate
14.198	17 α Methyltestosterone Hormone
14.199	Chloramine T
14.200	Fish Grader & Pump
14.201	Oxymat Oxygen Generation
14.202	Aerators
14.203	Vaccinators
14.204	Hatchery Operations
14.205	Water Pumps
14.206	Fish Transfer, Loading and Truck Transport
14.207	Netting Trout
14.208	Pond Bed Scraper
14.209	Weed Cutting in Ponds & Channels
14.210	Vermin Control
14.211	Lone Working
14.212	Work at Height
14.213	Use of Fish Cages Lough Allua
14.214	Aasleagh Fish Trap

Business Development

14.215	Cautionary Statement
14.216	Angling Promotion & Shows
14.217	Casting & Fishing Lessons
14.218	Angling Competitions

Education and Outreach

14.219	Field Trips
14.220	Open Days
14.221	Chartered Boats

Protection of Pregnant, Post Natal and Breast-feeding Employees

14.222	Risk Assessment
14.223	Protective or Preventative Measures
14.224	Night Work

International Business Travel

14.225	International Business Travel
14.226	Long Haul Flights: Deep Vein Thrombosis (DVT)

Occupational Health

- 14.227 Work Related Stress
- 14.228 Vaccination against Biological Agents

Personal Emergency Egress Plans (For People with Disabilities)

- 14.229 PEEP Template

Relevant HR Policies

- 14.230 Relevant HR Policies

Night Work & Shift Work

- 14.231 Night Work & Shift Work

Security & Access Equipment

- 14.232 Lifts & Chair Lifts
- 14.233 Automatic Gates & Roller Doors

Drones

- 14.234 Safe use of Drones

IT Management

- 14.235 Server Rooms
- 14.236 Manual Handling
- 14.237 Fine Dusts
- 14.238 Housekeeping

Event Management

- 14.239 Event Management

Lithium-Ion Batteries

- 14.240 Charging Electric Vehicles
- 14.241 Charging Electric Bikes (E-Bikes)
- 14.242 Charging Power Tool Batteries
- 14.243 Charging Electric Outboard Batteries

Appendices

Appendix I	Required Content of First Aid Kit
Appendix II	Statutory Examination Intervals of Lifting Equipment & Other Equipment (Non-Exhaustive)
Appendix III	List of Forms Required by the Health & Safety Authority
Appendix IV	Display Screen Equipment Safety
Appendix V	Something Fishy Checklist
Appendix VI	Fisheries Awareness Week Risk Assessment
Appendix VII	IFI Incident Report Form
Appendix VIII	Info & Records of Vaccination Provisions for Employees
Appendix IX	Site Safety Details including Fire Safety, Evacuation & First Aid
Appendix X	PPE General Schedule
Appendix XI	Safety Equipment Checklists Jetskis/PWCs, Kayaks/Canoes, Inland Boats & Communication Logs
Appendix XII	Safety Checklists Vehicles & Trailers
Appendix XIII	Safety Checklist for Electrofishing
Appendix XIV	Staff Sign-Off

1.0 Document Control



1.0 DOCUMENT CONTROL

1.1 The Documented System

This Safety Statement refers to the work activities undertaken by Inland Fisheries Ireland (IFI). The identification and recommendation for the provision of specific arrangements and controls to eliminate or minimise the risks to health and safety will be co-ordinated by the Chief Executive Officer in conjunction with the staff, Health & Safety Executive, National Safety Committee, and outside experts as appropriate.

1.2 Implementing the Safety System

The Health & Safety Executive shall hold the master copy of the Safety Statement on behalf of the CEO. Controlled copies of the Safety Statement shall be issued to personnel as specified on the circulation list, staff, and others as appropriate.

It is the policy of IFI that all employees shall have access to the safety statement. The relevant parts of the safety statement shall be kept at the place of work.

1.3 Circulation List (Non-Exhaustive)

1. Chief Executive Officer
2. Health & Safety Executive
3. Heads of Function
4. Directors of River Basin Districts
5. Safety Representatives
6. All Staff Members

1.4 The H&S Executive is responsible for the issue of new versions and the retrieval and filing of obsolete versions of the safety statement. New versions must be approved by the H&S Executive.

1.5 Document Amendment

To ensure that each copy of the safety statement contains a record of all changes, the H&S Executive will record the change or amendments on an amendment list.

The amendment list along with any revised or new pages will then be circulated to all on the circulation list.

The H&S Executive will maintain on file one copy of all obsolete documentation, which will be stamped "Obsolete".

Name of Document:		IFI Safety Statement		
Author(s):		Michael Cusack, Dermot Broughan		
Authorised Officer:		Francis O'Donnell CEO		
Description of Content:		Health & Safety Policy, Hazard Identification, Risk Assessment & Control		
Approved by:		CEO IFI		
Date of Approval:				
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This document comprises:	TOC	Text Pages	No. of Tables	No. of Appendices
	1	565	12	14

VERSION CONTROL TABLE

Version No.	Status	Authors(s)	Reviewed by	Approved by	Date of issue
V1.0	Final	Michael Cusack, Dermot Broughan	National Safety Committee	CEO	

2.0 Statement of General Policy



2.0 STATEMENT OF GENERAL POLICY

In accordance with the Safety, Health & Welfare at Work Act, 2005 it is the objective of Inland Fisheries Ireland to do all that is reasonably practicable to prevent injury and damage to persons, property, and equipment, to protect employees and others from foreseeable work hazards and to enlist the active support of employees in achieving such conditions.

In the safety statement the various hazards are identified, and the risk assessed and the necessary arrangements to reduce risks to a minimum are detailed in Section 14.

In recognition of its responsibilities, Inland Fisheries Ireland is committed to promoting appropriate standards of health, safety and welfare and compliance with all relevant legislation and approved codes of practice.

Inland Fisheries Ireland will endeavour to provide and maintain a safe and healthy working environment, safe systems, and methods of work in order to protect employees and others, in so far as they come into contact with foreseeable work hazards.

Inland Fisheries Ireland will endeavour to provide employees with the information, PPE, training instruction and supervision necessary to ensure that work is carried out safely and efficiently and to develop safety awareness among employees.

Inland Fisheries Ireland will define individuals' responsibilities for health and safety matters and encourage full and effective joint consultation on all health and safety matters.

The Chief Executive Officer will include safety matters in the Board report.

Signed:



Barry Fox
Deputy CEO
Inland Fisheries Ireland

Date: **October 2024**

3.0 Arrangements for Implementing Policy



3.0 ARRANGEMENTS FOR IMPLEMENTING POLICY

3.1 Health and Safety Training

Inland Fisheries Ireland is committed to providing appropriate health and safety training for all employees.

3.1.1 Induction Training

Induction training shall be provided to new employees to ensure they fully understand the hazards of the workplace and what safety precautions and emergency procedures are in place.

3.1.2 Job training

Training will be given to employees involved in those activities where a training need has been identified. Safety training as identified by staff and management will be provided to meet the requirements of legislation, and approved standards. A non-exhaustive list of training provided is detailed in **Section 11**.

3.2 Safety Consultation

Inland Fisheries Ireland recognises that employee involvement in health and safety in the workplace is an integral part of ensuring that high standards are reached and maintained. The Chief Executive Officer, with the assistance of senior and line management will be responsible for co-ordinating consultation with employees and providing appropriate information on matters pertaining to safety, health, and welfare.

The National Safety Committee shall meet to discuss health and safety issues, review inspection records, accident and dangerous occurrence investigation findings and make recommendations for any necessary improvements.

3.3 Accident Investigation/Reports

Inland Fisheries Ireland maintains that no person should be subjected to any preventable injury no matter how slight the consequences may be. All accidents and incidents with the potential for injury must be reported to the Health & Safety Executive within 5 working days.

3.4 Accident Analysis

The CEO shall delegate the review of accident reports to the H&S Executive annually. The details will be reported to the National Safety Committee for further consideration.

Safety Inspections

3.5.1 Fire Inspection

Fire extinguishers, smoke & heat detectors, exits and any other installations are inspected as required in all applicable buildings. Inspections are recorded in the Fire Register.

3.5.2 Workplace Inspections

Workplace risk assessments are to be carried out by employees or by the Health & Safety Executive when requested. Risk assessment is critical when working in a new environment or unfamiliar conditions or with new equipment. Persons carrying out checks will, in particular, look for hazards associated with working in the field:

- Slips, trips and falls;
- Manual Handling;
- Safe use, storage and handling of chemicals;
- Safe use, maintenance & storage of tools, machinery & equipment;
- Loose, frayed or damaged electric cables or equipment;
- Work at heights;
- Unsafe acts and horseplay;
- Poor housekeeping;
- Training Requirements;
- Personal Protective Equipment;
- Protection duties.

Checklists may be used to assist in the identification of hazards.

3.5.3 Safety Review and Inspections

All employees are responsible for their own safety and should carry out a visual check of their equipment prior to use. Any unsafe or defective equipment must be removed from service and securely stored so that it is not inadvertently used by others.

Equipment requiring a detailed examination must be examined or serviced as per the manufacturer's recommendations. Outside competent persons may be required to carry out some inspections, examinations and maintenance work (e.g. statutory inspection of lifting and pressurised equipment). Staff are also responsible for ensuring all equipment is in safe working order and must carry out basic checks on equipment and maintain records.

The Health & Safety Executive will carry out more detailed inspections of work activities, processes, or work practices as appropriate. In addition, the Health & Safety Executive will carry out Manual Handling Risk Assessments, Visual Display Unit Assessments and others as requested.

A review of the safety statement will be carried out as required and changes and modifications will be communicated to the employees. In addition, a review will take place of the relevant section when new equipment is introduced or when changes in practices occur.

3.6 Non-Employees

3.6.1 Visitors

All contractors and visitors present at any Inland Fisheries Ireland premises **must**:

Report to a member of staff.

Sign the visitors' logbook if remaining on the IFI premises.

Adhere to safety rules and procedures set by IFI.

Sign out on the visitor's logbook when leaving.

Employees have a duty to protect the Safety, Health & Welfare of visitors. Visitors should not be permitted to enter any area unless accompanied by an employee. Such visitors must, where necessary, be given the opportunity to view the safety statement.

Visitors & Contractors are dealt with in greater detail in **Section 6**.

3.7 Fires and Emergency Procedures

3.7.1 Introduction

It is the objective of Inland Fisheries Ireland to maintain high standards of fire safety. IFI has devised fire and emergency procedures to assist in this.

The objectives of the fire safety management programme are as follows:

To guard against the outbreak of fire.

To ensure, in so far as is reasonably practicable, the safety of persons on the premises in the event of an outbreak of fire or in the event of other emergencies.

To ensure the safe evacuation of occupants from buildings.

3.7.2 Fire and Emergency Plan

The Fire and Emergency Plan is contained in **Section 9 & Appendix IX**.

This plan includes procedures relating to fire prevention and instructions in the event of a fire or other emergency. It specifies individual's responsibilities as appropriate.

3.7.3 Emergency Evacuation

Emergency evacuation drills will be carried out at regular intervals. Responsibility for ensuring that drills are carried out and appraised rests with the Chief Executive Officer & Senior Management.

3.8 Resources

Inland Fisheries Ireland is committed to providing the resources necessary to ensure that safety, health & welfare standards are maintained. These resources include but are not limited to the provision of:

- Personnel necessary to carry out safety checks, risk assessments and inspections.
- Time necessary to carry out the above.
- Adequate time for the provision of reports.
- Facilities available to staff to enable report writing.
- An adequate budget for health, safety, and welfare requirements.
- Access to advice and recommendations from the Health and Safety Executive.
- Planned programmes of work to improve H&S standards.
- Planned programmes of maintenance.
- Adequate safety consultation with employees.
- The employment of outside experts as deemed necessary.

4.0 Organisational Structure, Duties & Responsibilities



4.0 ORGANISATIONAL STRUCTURE, DUTIES & RESPONSIBILITIES

4.1 Chief Executive Officer: Mr Francis O'Donnell

- Overall responsibility for Safety, Health, and Welfare of employees.
- Ensure compliance with all legal requirements and safety precautions in respect of works carried out by Inland Fisheries Ireland.
- Resources in terms of staff, training, finance, equipment, time, and materials are provided to implement policy.
- Ensure that all relevant Managers understand their health and safety roles and responsibilities.
- Set a personal example.

4.2 Health & Safety Executive: Dermot Broughan

- Report to the Field Services Manager.
- Advise management and responsible persons on all matters relating to Safety, Health & Welfare.
- Advise employees on matters affecting their health and safety.
- Monitor all activities affecting health and safety.
- Monitor accident trends to ensure continuous improvement.
- Advise on legislative changes, standards, and codes of practice.
- Advise on preparation of safe working practices.
- Promote workplace safety and a positive safety culture.
- Investigate accidents and arrange for specialist advice where necessary.
- Responsibility for formulating, co-ordinating and implementing health and safety policies.
- Set a personal example.

4.3 Function Heads:

Mr. Barry Fox, Head of Operations

Mr. Cathal Gallagher, Head of Research & Development

Ms. Paula Byrne, Interim Head of HR

Ms. Suzanne Campion, Head of Finance and Corporate Services.

Mr. Ian Carroll, Acting Head of IT.

Brian Beckett, Director of Sustainability and Climate Action.

Directors of River Basin Districts:

Mr. Sean Long, South – Western RBD

Dr. Milton Matthews, North – Western RBD.

Mr. David McInerney, Shannon RBD.

Ms. Lynda Connor, South – Eastern RBD.

Ms. Mary Walsh, Western RBD (Ballina).

Ms. Rachel Cooper, Western RBD (Galway).

Mr. Ronan Matson, Eastern RBD.

Each Function Head/RBD Director will have responsibility for safety matters within their function or district. The duties are as follows:

- Management of Safety, Health & Welfare within their function or district.

- Providing systems of work that are planned, organised performed, maintained, and revised as appropriate so as to be, so far as is reasonably practicable, safe and without risk to health.
- Providing and maintaining facilities and arrangements for the welfare of his or her employees at work.
- Provide information, instruction, training, and supervision necessary to ensure the safety of employees. Ensure the safety, health and welfare of temporary employees and persons other than employees who may be at that place of work.
- All incidents whether they result in injury, damage or near misses are reported within 5 working days to the Health & Safety Executive for further investigation.
- Set a personal example.

4.4 Line Management

(Includes any member of staff with other staff reporting to them)

- Inform employees on necessary controls/precautions in place and those to be put in place in the future to ensure their Safety, Health & Welfare.
- Aid in the preparation and review of safe operating procedures with consultation from the Health & Safety Executive.
- Ensure staff are provided with appropriate safety training.
- Arrange for supervision and instruction of staff in relation to safety issues.
- All incidents whether they result in injury, damage or near misses are reported within 5 working days to the Health & Safety Executive for further investigation.
- Ensure all employees are provided with all necessary Personal Protective Equipment so that work can be carried out without risk to health, safety, or welfare.
- Ensure risk assessments are conducted in the workplace.
- Set a personal example.

4.5 Employee Responsibilities

- Each employee has a responsibility for his/her safety & health, which extends to taking reasonable care of his/her own safety health & welfare at work and that of any other person who may be affected by his/her acts or omissions while at work.
- Ensure that he or she is not under the influence of an intoxicant to the extent that he or she is in such a state as to endanger his or her own safety, health, and welfare at work or that of any other person.
- If reasonably required by his or her employer, submit to any appropriate, reasonable, and proportionate tests for intoxicants by or under the supervision of, a registered medical practitioner who is a competent person.
- Co-operate with his/her employer and any other such person to an extent that will enable the employer or the other person to comply with any of the relevant statutory provisions.
- Not engage in improper conduct or other behaviour that is likely to endanger his or her own safety, health, and welfare or that of any other person.

- Attend such training and, as appropriate, undergo such assessment as may reasonably be required by his or her employer or as may be prescribed relating to safety health and welfare at work or relating to the work carried out by the employee.
- Having regard to his or her training and the instructions given by his or her employer, make correct use of any article or substance provided for use by the employee at work, including protective clothing or equipment.
- Report to their employer or line manager as soon as practicable:
 - (i) Any work being carried on or likely to be carried on, in a manner which may endanger the safety health or welfare of the employee or that of any other person,
 - (ii) Any defect in the place of work, the systems of work, any article or substance which might endanger the safety health or welfare at work of the employee or that of any other person, or
 - (iii) Any contravention of the relevant statutory provisions which may endanger the safety, health, or welfare at work of the employee or that of any other person, of which he or she is aware.
- Not to interfere with intentionally or recklessly or misuse any appliance, protective clothing, convenience, equipment or other means or things provided in pursuance of any of the relevant statutory provisions or otherwise, for securing the safety, health and welfare of persons arising out of work activities.
- To report to his/her supervisor and the Health & Safety Executive within 5 working days any accident resulting in loss or injury and any near miss that could have resulted in loss or injury to which he/she becomes aware.
- An employee shall not, on entering a contract of employment, misrepresent himself or herself to an employer with regard to the level of training they have received.
- To conduct risk assessments in the workplace.
- Set a personal example.

4.6 National Safety Committee Responsibilities

- Review and discuss national strategy for risk management.
- Review safety and health reports and risk assessments.
- Seek solutions to safety and health issues which arise.
- Review information relating to accidents, dangerous occurrences, and instances of occupational ill-health at the place of work.
- Review the development and implementation of safe systems of work.
- Review communication and employee training procedures relating to safety and health.
- Consider issues presented by safety representatives.
- Consider progress reports on the implementation of risk assessments and the safety statement.

- Review provisions and use of personal protective clothing and equipment.
- Encourage staff to participate in special promotional activities on safety and health at work including general fitness and well-being programmes, stress reduction or 'work positive' initiatives.
- Consider safety and health training needs and reports on safety training courses attended by management and employees.

4.7 RBD Safety Team Responsibilities

- Raise local safety concerns with the RBD Director.
- Address local safety concerns and implement control measures to eliminate or minimise risk.
- Discuss safety training requirements for staff.
- Escalate safety concerns via their national safety representative to the national safety committee where safety concerns have not been resolved locally or where it is a matter of national organisational concern.

5.0 Safety Organisation, Safety Representatives & Procedures for Consultation



5.0 Safety Organisation, Safety Representatives & Procedures for Consultation

5.1 General

In accordance with the Safety, Health, and Welfare at Work Act, 2005 (Sections 25 & 26), Inland Fisheries Ireland management recognises the right of the employees regarding representation and consultation on matters relating to safety, health & welfare at work. The employees will be afforded the opportunity to nominate a colleague as a Safety Representative. The term of office shall be for three years subject to an annual review.

5.2 Employee Procedure:

Each employee is afforded the opportunity to make representation on any topic concerning safety, health, and welfare at work to the management in the first instance. Failing a resolution, the matter should be brought to the attention of the Safety Representative.

5.3 Safety Organisation:

The Safety Organisation of Inland Fisheries Ireland consists of:

- (1) Safety Teams;
- (2) The National Safety Committee & Safety Representatives;

5.3.1 Safety Teams:

The safety teams have been created locally to deal with safety issues which can be quickly resolved. The safety teams are designed to foster a positive safety culture and allow staff to take ownership of safety management in the workplace. Inland Fisheries Ireland strives to promote attitudes, beliefs, perceptions, and values which lead to a safer workplace. Staff are aware of the importance of maintaining high safety standards and shall rectify immediately any defect, which he/she becomes aware of or if the defect is such that he/she is not in a position to rectify it, he/she should then; report it to their line management and/or Health & Safety Executive.

Meetings should be scheduled to take place on a date in the two weeks leading up to the National Safety Committee in each quarter. Meetings should not generally exceed a period of two hours.

The safety team should comprise of the RBD Director, the national safety representative and a cross section of staff which generally cover the geographic spread of the RBD. In the event that a team member cannot attend they must notify the chair in advance to allow for the possible selection and attendance of a suitable substitute. The opportunity for changes to the membership of the safety team should take place every three years. The national safety rep or Director should chair the meeting. A quorum of 4 is required for a meeting to take place.

If a meeting is to be cancelled all members shall be given reasonable notice.

All staff in the safety team region should be notified of the date of each safety team meeting and the contact details of attendees who can raise issues on their behalf.

All staff in the RBD should receive an email detailing the minutes of the safety team meeting. This shall be copied to the H&S Executive.

5.3.2 The National Safety Committee & Safety Representatives:

Inland Fisheries Ireland employees shall have safety representation on the National Safety Committee. The safety representatives are elected by the staff. Any significant safety issues arising within the organisation will be addressed at committee meetings.

The minutes of committee meetings shall be circulated to all staff.

Note:

Approved minutes of all meetings will be circulated to all staff.

The appointed National Safety Representative(s):

ERBD	Jason Mok
NWRBD	Seamus Bradley
SERBD	Myles Roban
SHRBD	Arnold Donnelly
SWRBD	Michael O'Mahony
WRBD (G)	John Fahy
WRBD (B)	Adrian Murphy
IFI Fish Farms	Eamon Gleeson
IFI HQ	Fran Fagan
Env. Officers	Michaela Kirrane

Management appointees:

Health & Safety Executive	Dermot Broughan
Field Services Manager	Michael Cusack
RBD Director	Rachel Cooper
Head of Operations	Barry Fox
Interim Head of Human Resources	Paula Byrne

5.4 Safety Representatives Rights

The Safety Representative will have full access to any information in the possession of the Inland Fisheries Ireland, which refers to the Safety, Health, and Welfare of employees, subject to the exclusion of personal information relating to an individual. The Safety Representative will be given the opportunity to receive training as a Safety Representative. In accordance with Section 25 of the Safety, Health, and Welfare at Work Act 2005, the Safety Representative will not suffer any disadvantage or loss of remuneration.

The Safety Representative has the right to:

- Information from the safety statement;
- Be informed of impending Health & Safety Inspections;
- Accompany Health & Safety Authority Inspector on a visit (but not accident investigation or dangerous occurrence unless consented to by the Inspector);
- Consult with Health & Safety Authority Inspector;
- Make representation through the appropriate responsible person;
- Investigate accidents and dangerous occurrences provided it does not interfere with the performance of statutory obligations;
- Inspect the workplace subject to agreement;
- Have adequate time off, without loss of remuneration, to obtain training.
- Consult with other safety reps appointed.

6.0 Contractors & Visitors



6.0 CONTRACTORS & VISITOR

6.1 Contractor Requirements

In order to safeguard Contractors, Employees and Visitors against accidents on IFI premises/property, the following procedures must be adhered to:

- All Contractors report to the reception desk (or notify a member of staff when not at an office) and sign in/out when entering or leaving the premises.
- To ensure that the safety needs of both parties are anticipated, all contractors and non-employees who engage in work must be made aware of the Inland Fisheries Ireland Safety Statement before commencement of work.
- Contractors and non-employees whose work includes the use of hazardous equipment, materials or substances will provide written safety procedures on the use of such equipment, materials, and work method. A Health & Safety Plan shall be produced if required. These procedures must be adhered to while on the Inland Fisheries Ireland sites.
- Contractors must provide copies of employee and public liability insurances, method statements and risk assessments prior to commencing work.
- Contractors will provide their own protective clothing and/or any safety equipment, which will be necessary for the safe completion of their work.
Inland Fisheries Ireland management reserves the right at all times to examine contractors' tools and equipment and contractors' insurance must be produced prior to commencement of work.
- Any injury sustained by a contractor, or their employees must be reported immediately to Inland Fisheries Ireland management.
- The Contractor shall indemnify and keep indemnified Inland Fisheries Ireland, its agents, employees, and any other person who may be affected, for injuries, damage to property or equipment which may be inflicted upon the premises, its agents or employees, by the Contractor by his fault or that of his agents or employees.

6.2 Visitors

Inland Fisheries Ireland employees have a duty to protect the Safety, Health, and Welfare of visitors.

Visitors should not be permitted to enter the site unless accompanied by an employee. Visitors are obliged to follow the relevant safety measures on the site visited.

6.3 Construction Contractors on IFI Property and controlled sites

For site works, works involving use of heavy machinery or any work which could fall under the construction regulations, Contractors must:

- Submit a copy of their employers and public liability insurance.
- Submit a copy of their safety statement and provide detailed method statements where high-risk activities will be undertaken. A Health & Safety plan shall be produced if required.

- Identify to Inland Fisheries Ireland and any other contractors or persons who could be affected by their activities, particular hazards which will arise due to the nature of their work. Identify persons responsible for health & safety on the site and identify persons in the company with overall responsibility. Identify persons responsible on both IFI and contractors' sides in writing.
- Where practicable cordon off any particularly high-risk areas, especially where the public could be at risk.
- Agree that the person responsible or senior management may stop work if they are not satisfied that adequate health & safety measures are being taken.
- Comply with any environmental instructions provided by IFI.
- Carry out all work in accordance with statutory provisions and ensure that all equipment conforms to at least minimum safety requirements.
- Provide their equipment in safe working order and not request equipment from IFI.
- Accept these procedures in writing.
- Permit to work systems should be implemented. Obtain method statements for any of the following (non-exhaustive list):

Entry to confined spaces	Work on gas mains
Work on high voltage or mains electricity	Work requiring isolation of moving equipment
Hot work	Line breaking (e.g. chemical piping)
Work at height	Isolating energised equipment

Table 6.1 Non exhaustive list of works requiring permits & method statements.

The “person responsible” must co-ordinate the information needed from contractors and must maintain records of instructions, and information supplied by the contractors.

7.0 Provisions for Health & Welfare



7.0 PROVISIONS FOR HEALTH & WELFARE

7.1 Health

7.1.1 First Aid

Members of staff shall be trained in occupational first aid.

An 'Occupational First Aider' is defined as a person who is trained and qualified in occupational first aid.

It is the objective of IFI to ensure that adequate numbers of staff are trained at least every two years, in compliance with the Safety, Health & Welfare at Work (General Applications) Regulations 2007.

Note: Storage and / or administration of drugs or medication are **not** part of 1st aid provision.

7.1.1.2 First Aid Kit

First aid kits shall be located in the main offices, stores, laboratories and vehicles and vessels. All stock shall be replaced if and when used. Staff must report any shortage in first aid material to management.

Appendix 1 sets out the recommended quantities required in each first aid kit based on the number of employees in the workplace.

7.1.2 Occupational Health

IFI enlist the support of occupational health physicians when required for health assessments, vaccination programmes, health screening & health surveillance.

7.1.3 Sensitive Risk Groups

Having regard to the Safety, Health, and Welfare at Work (Pregnancy at Work) Regulations, 2007, IFI shall make the necessary arrangements to ensure compliance with the regulations for any employee who is pregnant, post-natal or breast feeding. Conditions shall be identified known to affect either a pregnant woman, a breast-feeding woman or the developing foetus for example manual handling of loads, extremes of heat or cold, abnormal movements & posture, underwater diving, biological agents, radiation, noise, vibration, lead and working with chemicals.

IFI shall outline ways to manage the health and safety of the pregnant worker as well as young persons and shift workers and comply with the Safety, Health and Welfare at Work, General Application (Sensitive Risk Groups) Regulations, 2007.

7.2 Welfare:

- Canteen facilities are provided at all IFI offices.
- Sanitary facilities are provided for employees. The sanitary facilities shall be kept clean at all times and shall be disinfected regularly.
- Waste disposal facilities are provided.

8.0 Reporting Incidents & Dangerous Occurrences



8.0 REPORTING INCIDENTS & DANGEROUS OCCURRENCES

8.1 Incidents

All incidents shall be reported to line management as soon as possible and reported within 5 days to the Health & Safety Executive. All reports will be made on IFI's reporting online platform. Management is advised of reported incidents via IFI's online reporting platform. Where appropriate incidents are reported to the HSA, it is sent to the Health & Safety Authority. The online report form is the form of notice of accident for return to the Health & Safety Authority. The Authority must be notified about:

- a work accident causing the death of any employed or self-employed person.
- an accident while at work where the injury results in your employee being unable to carry out their normal work for more than three consecutive days (days include Saturday & Sunday), excluding the day of the accident.
- an accident caused by a work activity, which causes the death of, or requires medical treatment to, a person not at work: e.g. a passer-by.

8.2 Dangerous Occurrences:

A dangerous occurrence is an incident, which could have led to injury and shall be reported to line management & the Health & Safety Executive within 5 working days. As with incidents all reports will be made on IFI's reporting platform. Dangerous occurrences will also include damage to vehicles and property.

8.3 Investigation of Incidents & Dangerous Occurrence:

- All accidents and dangerous occurrences shall be investigated. This shall include obtaining immediate witness's statements, photographs, and first aid reports.
- A copy of the report may be examined by the CEO and may instigate action to correct the situation to avoid the accident or dangerous occurrences reoccurring in the future.
- The Safety Representatives are to be made aware of all accidents and dangerous occurrences.

8.4 Detailed investigation and reporting.

The Health & Safety Executive shall be appointed by the Head of Human Resources to liaise with Health & Safety Authority Inspectors (where applicable) or to carry out a detailed accident investigation and produce a report as required by Inland Fisheries Ireland

9.0 Fire & Evacuation Procedures



9.0 FIRE & EVACUATION PROCEDURES

9.1 Fire Equipment & Drill:

All fire extinguishing equipment, alarm systems and emergency lighting shall be in good working order. Fire alarm systems and extinguishing equipment shall be regularly tested and serviced by a competent person to comply with fire safety regulations. Alarm systems must be serviced quarterly and fire extinguishers annually. A fire drill shall be carried out periodically and evacuation procedures shall be applied. The outcome of each drill shall be recorded in the Fire Register. Servicing and testing shall also be recorded in the Fire Register.

9.2 In the Event of Fire:

The alarm is to be raised as an informative and precautionary measure when an outbreak of fire is discovered. The emergency services are then called. Another person shall remain at the scene of the fire (if safe to do so) and prevent anyone entering the area. If required Fire wardens shall organise the evacuation and sweep of the building.

Deal with the fire (if safe to do so), attack the fire only if you are familiar with the firefighting equipment provided and the correct techniques have been learned and practiced.

A fire should be attacked (immediately after alerting personnel) with the firefighting equipment, providing there is no personal danger in doing so. An immediate decision must be made, i.e. can you extinguish immediately? For example, a wastepaper bin just starting to catch fire may be dealt with (if safe to do so).

Never let the fire come between you and the exit.

All occupants should be familiar with the location of extinguishing equipment. If attempts to extinguish the fire cannot be continued without danger, or if they are clearly failing to keep the fire in check, the fire fighter(s) should withdraw immediately.

You are not expected to risk your own safety. If you feel that an area has become dangerous to enter – get help – do not go in.

Clear all employees and members of the public away from the surrounding area and get them to a position of safety. Fire assembly points must be located at each IFI premises. Employees should assemble at the fire assembly point if an evacuation takes place and/or the fire alarm sounds.

9.3 Contacting Emergency Services

- Inform the fire brigade – Persons working on site shall immediately ring the fire brigade and the Gardaí.

The following information should be known / supplied:

- Know the correct phone number: Dial 999 or 112
- Give clear directions to the buildings address and Eircode. The Eircode should be clearly displayed by the phone at reception.
- Notify the services of the likely number of persons in the building and any particular hazards you are aware of e.g. flammable liquids, compressed gas cylinders, radioactive materials etc.
- Confirm with nominated chief fire warden that the fire brigade has been informed and is on the way.
(In the event of a drill the nominated informant should go through the motions of advising the fire brigade).
- Employees shall evacuate the building in a calm, orderly fashion.
- Close windows and doors – building occupants should ensure, as they leave, that windows and doors (especially fire doors) are closed behind them.
- Leave the building – by the designated route and report to the assembly point, others already nominated by the fire warden should assist disabled persons. The Fire Wardens should conduct a building search if safe to do so. Nobody shall re-enter the premises until the fire authority gives permission.

9.4 At the Fire Assembly Point

- The fire warden must ensure that everybody can be accounted for (including visitors/contractors). Reception staff must bring the visitors logbook with them when evacuating the building.
- Inform the fire officer of the result of the roll call including last known locations of unaccounted for personnel.
- If the alarm was manually activated, then the person who activated it should report to the Fire Officer when the Fire Brigade arrives.
- When the Fire Brigade arrives on site, the situation report should be given, this should include the following:
 - Where the fire is and type of fire if known
 - Number of persons unaccounted for and where they were last seen.
 - Details of access
 - Details of hazardous items stored (compressed gas, flammables, radioactive material etc.)
 - Areas locked and availability of keys.
- In the event of a false alarm or evacuation drills no one should return to the building until the “all clear” is given by the chief fire warden.

9.5 Evacuation Drills

Emergency drills should be carried out periodically in compliance the Fire Services Act 1981 (section 18) to ensure that:

- Personnel are familiar with the sound of the alarm.
- People know what action to take.
- Any shortcomings may be identified and rectified, under practice rather than in an emergency.

- Persons identified with responsibilities may react correctly (even if “going through the motions” style used) in the event of emergency.
- Personnel assemble at designated location and wait for headcount.

All such emergency test evacuation drills should be observed, and time recorded in the Fire register. **Details should also be recorded in Appendix IX. Site Safety Details including Fire Safety, Evacuation & First Aid.**

10.0 First Aid & AED Defibrillators



10.0 First Aid & AED Defibrillators

Inland Fisheries Ireland workplaces including offices, stores, vehicles, and vessels shall contain a first aid kit.

Dependant on the level of risk at the workplace the number of staff trained in first aid may vary.

As of June 1st, 2018, the only recognised first aid training is PHECC First Aid Response (FAR) standard and includes the use of AED Defibrillators. Refresher training is required every two years. There is three days of Initial training. Refresh training must not be less than 12 hours. There is a grace period of thirty days for refresher training.

The first aid kit content is dependent on the number of staff at the workplace. Please refer to Appendix I for full details.

Where an AED defibrillator is kept at the place of work the following checks must be routinely completed (weekly check recommended):

Criteria	Status	Corrective Action
AED Placement visible, unobstructed and near phone		
Verify battery installation.		
Check the status/ service indicator light		
Note absence of visual/ audible service alarm		
Inspect exterior components and sockets for cracks		
Supplies Two sets of AED pads in sealed package		
Check expiration date on pad packages		
Pocket mask with one-way valve		
Examination gloves & Surgical Shears		
Razors & Towel		
Absorbent gauze or hand towels		

Table 10.1 AED Checklist

Ensure that when the AED is purchased, registration forms are completed and returned to the manufacturer. This will ensure maintenance and software update notifications are received. Problems should be reported to the manufacturer and the HPRA

11.0 Training & Records



11.0 TRAINING & RECORDS

Inland Fisheries Ireland is obliged under the Safety, Health & Welfare at Work Act, 2005, (Part II, Section 9, 10) to provide information, instruction, training, and supervision to all staff. Training will promote higher standards of health and safety and well-trained staff are less likely to cause or suffer accidents. The level of training depends on the level of risk, staff duties and nature of the job.

First Aid ¹	Chainsaw
Manual Handling ²	Pesticide
Safe pass ³	Laboratory Safety
Fire Warden	
Safety Representatives	Teleporter
Chemical Handling	Welding
Advanced driver training	Abrasive Wheels
Child Protection Awareness	Power Boat/Advanced
Swift Water Rescue	CSCS Training
Coxswain	Quad Bike
Sea Survival	Kayak/Canoe
Personal Watercraft	Conflict Management
Securing of Loads	Driving for Work

Table 11.1 Sample of H&S Training

The above list is non-exhaustive.

1. First Aid training certification is valid for 2 years at which point refresher training is required.
2. Manual Handling training is valid for 3 years at which point refresher training is required.
3. Safe pass training is valid for 4 years at which point refresher training is required.

The Health & Safety Executive in consultation with Human Resources Learning & Development shall prepare an annual plan outlining the training to be carried out within the safety function. Training shall be carried out periodically or as required.

A record of personnel attending the courses shall be kept and filed in the site office and/or at the Human Resources Dept. The records shall include the following information:

- The name(s) of the staff member being trained.
- Details of the training completed.
- Date training took place, duration, and certification.
- Signature of trainer and employee recording that training took place.

12.0 Safety Signage, Chemicals & Electricity



12.0 SAFETY SIGNAGE, CHEMICALS & ELECTRICITY

12.1 Safety Signs

Safety signs as outlined in the Safety, Health & Welfare at Work General Application (Signs) Regulations 2007, shall be erected and maintained. All signs shall have the appropriate safety colours as outlined below.

Colour	Meaning or Purpose	Instruction & Information
Red	Prohibition Signs Danger alarm Fire Fighting Equipment	Dangerous Behaviour Stop, Shutdown, Evacuate Identification & location
Yellow/Amber	Warning Sign	Be careful, Take pre-cautions Examine
Blue	Mandatory Signs	Specific behaviour or action, Wear Personal Protective Equipment
Green	Emergency Escape First Aid Signs No Danger	Doors, Exits, Routes, Equipment facilities. Return to normal

Table 12.1 Colour Code for Safety Signs

12.2 Chemicals

Management shall ensure that Safety Data Sheets (SDS) obtained from suppliers are made available to employees. Employee exposure to chemical agents must be limited to below the "Occupational Exposure Limit" as stated in the 'Material Safety Data Sheets'. Employees shall ensure the safe handling of chemicals and must wear the necessary Personal Protective Equipment. Staff shall be given the necessary training, information instruction, supervision and consultation as stated under the Safety, Health & Welfare at Work (Chemical Agents) Regulations. Staff purchasing chemicals must request a safety data sheet from the chemical supplier.

12.3 The Use of Electricity

All electrical equipment must be constructed, installed, maintained, protected, and used so as to prevent danger. Adequate protection must be given to equipment, which is exposed to adverse conditions such as shock or damp. If a person is electrocuted de-energize the circuit before attempting to separate the person from the energy source.

Electrical devices and systems shall comply with Part III of the Safety, Health & Welfare at Work (General Application) Regulations, 2007.

An electrical safety checklist is available from the Health & Safety Executive.

13.0 Hazard Identification, Risk Assessment Methodology



13.0 HAZARD IDENTIFICATION, RISK ASSESSMENT METHODOLOGY

A hazard is a potential source of harm or adverse health effect on a person or persons.'

Risk is defined as the likelihood that a person may be harmed or suffers adverse health effects if exposed to a hazard.

Risk = Likelihood of Occurrence x Severity of Consequences

Risk Assessment is where the severity of the Hazard and its potential outcomes are considered in conjunction with other factors including the level of exposure and the numbers of persons exposed and the risk of that hazard being realised.

Severity is a measure of how serious an injury or health effect could be, as a consequence of unsafe working or of an accident. The severity can be influenced by the following:

- the environment,
- the number of people at risk, and
- the steps already taken to control the hazard.

Likelihood is a measure of how likely it is that an accident could happen. When people are working safely there is less chance that an accident will occur.

Severity Designation	Description
"Severe"	Probability of fatality, or serious injury to a number of people.
"Major"	Serious injury or damage to health
"Significant"	Injury requiring medical attention and resulting in absence
"Minor"	Injury requiring first aid
"Insignificant"	Minor injury

Likelihood Designation	Description
Almost Certain	Exposed to hazard continuously
Likely	Occasional exposure to hazard
Moderate	Foreseeable exposure to hazard
Unlikely	Exposure possible but improbable
Rare	Exposure not reasonably foreseeable

		CONSEQUENCE How severe could the outcomes be if the risk event occurred?					
		INSIGNIFICANT 1	MINOR 2	SIGNIFICANT 3	MAJOR 4	SEVERE 5	
LIKELIHOOD What's the chance the of the risk occurring?	ALMOST CERTAIN 5	MEDIUM 5	HIGH 10	VERY HIGH 15	EXTREME 20	EXTREME 25	
	LIKELY 4	MEDIUM 4	MEDIUM 8	HIGH 12	VERY HIGH 16	EXTREME 20	
	MODERATE 3	LOW 3	MEDIUM 6	MEDIUM 9	HIGH 12	VERY HIGH 15	
	UNLIKELY 2	VERY LOW 2	LOW 4	MEDIUM 6	MEDIUM 8	HIGH 10	
	RARE 1	VERY LOW 1	VERY LOW 2	LOW 3	MEDIUM 4	MEDIUM 5	

Table 13.1 Risk Assessment Designation

The majority of risk assessments contained herein depicts residual risk levels following the implementation of control measures.

However, in some instances the designation in the risk assessment may be a combination of risk levels. This is in recognition of the dynamic nature of the work environment e.g. the rise and fall of the level of a river. So far as is reasonably practicable staff may conduct a dynamic risk assessment while relying on their training, knowledge, and experience of the environment.

A dynamic risk assessment is the continuous process of identifying hazards, assessing risk, and taking action to eliminate or reduce risk in the rapidly changing circumstances in the working environment.

On arrival at the workplace e.g. a river, staff will need to gather information, evaluate the situation, and then apply professional judgement to decide the most appropriate course of action.

Hazards must be identified, and the risk assessed. It is important to think before you act rather than act before you think.

Risk assessment helps to determine whether it is safe to proceed or not.

The level of risk in a hazard area may be acceptable having completed a risk assessment and by eliminating or reducing risk by introducing control measures.

Inland Fisheries Ireland will carry out safety inspections and risk assessments in an effort to reduce the level of risk by implementing controls e.g. by altering work practices, guarding machinery or by providing training and protective equipment. Management is committed to the control of risks as far as reasonably practicable so that they are eliminated or reduced to an acceptable level taking account of the general principles of prevention.

There are hazards which have been identified and cannot be eliminated; so far as is reasonably practicable these have been risk assessed and controls implemented. These risk assessments are outlined in Section 14 of this Safety Statement.

A Safety Inspection is a systematic and critical examination of the workplace for the purpose of identifying hazards, assessing risks, and recommending control of the hazard where appropriate.

In this document, risks are graded very low to extreme. This is to help prioritise the allocation of resources and the implementation of controls.

Site specific risk assessments must also be conducted at the place of work. A template for managing risk is detailed in this section (see next page). The template may be used to demonstrate ongoing health and safety management of a workplace or workplace activity.

Name: _____ **Date:** _____ **Location:** _____

Workplace Activity: _____

What are the Hazards?	What controls are already in place?	Risk Rating	Do you need additional controls to manage the risk?	New Risk Rating	Action is required by whom?	Agreed Completion Date	Completion Date

Fig 13.1 Sample Risk Assessment Template

14.0 Hazard Identification, Risk Assessment & Control



General Hazards

14.1 Electricity

Hazard:	Electricity
Level of Risk:	Medium
Controls:	See details outlined below

Only competent and authorised personnel are permitted to work on electrical systems or maintain electrical equipment. Electrical installations should be installed in accordance with approved codes of practice published by the ETCI and IEE regulations for electrical installations. Equipment should be thoroughly inspected and tested by a competent person as required. Properties should undergo a Safe Electric Periodic Inspection every 5 years. The following precautions must be observed by all employees to minimise the risks associated with electricity:

- Any broken, defective, or damaged electrical equipment, such as loose connections and frayed cables must be reported to the immediate supervisor; they must not be used before being repaired or replaced.
- Ensure clear access to switchboards and other similar installations, in case isolation is required in an emergency.
- Always assume electrical circuits are live until you have checked and are certain they are not live.
- Ensure electrical risers are identified and access restricted to authorised personnel only.
- Avoid overloading sockets as this can lead to an electrical fire.
- Do not use taped joints to connect cables since they have neither the mechanical strength needed nor sufficient insulation or protection from liquids.
- Damaged cables should be replaced completely but if cables have to be joined, proper connectors must be used.
- Carry out regular visual checks of plugs and leads and get them repaired as necessary.
- Faults to look out for include physical damage to the cable, failure of the cord grip at the plugs and signs of overheating.
- If faults are found the repair should be carried out by someone who has the required competency to complete the task safely.
- Do not ignore obvious tell-tale signs such as faulty switching or intermittent stopping. These may indicate an internal fault such as a loose wire which could cause external metalwork to become live.
- Where practicable do not leave electrical appliances powered on when unattended.
- Switch off equipment before unplugging and before cleaning.
- Residual Current Devices (RCD) should be tested twice annually.

14.2 Slips, Trips and Falls

Hazard:	Poor Housekeeping, inadequate lighting, slippery or rough floor surfaces, unsuitable footwear.
Level of Risk:	Very Low (Office) Medium (Field)
Controls:	See details outlined below

The easiest way to avoid slips and falls is to pay attention to your surroundings and maintain good standards of housekeeping. To ensure the safety of others the following guidelines should be followed:

In the office/built environment the following controls should be implemented.

- Do not allow trailing leads to create tripping hazards.
- Ensure any spillages are cleaned up immediately.
- Use handrails on stairwells where provided.
- Report any areas where lighting has failed or is inadequate.
- Do not block passageways or corridors.
- Ensure work areas are kept in a clean state.
- Arrange office furnishings in a manner that provides unobstructed areas for movement.
- Keep stairs, steps, flooring, and carpeting well maintained.
- Ensure that glass doors/panels are clearly marked.
- Clearly mark any difference in floor level that could cause an accident.
- Secure throw rugs and mats to prevent slipping hazards.

Refer to Section 14.180 Traversing Lands for control measures in the field.

14.3 Noise

Hazard:	Noise emanating from tools, equipment, and machinery
Level of Risk:	Medium
Controls:	See details outlined below

The Regulations are the Safety Health and Welfare at Work (General Application) Control of Noise at Work Regulations 2007. These Regulations are the minimum health and safety requirements for the protection of employees to the risks arising from exposure to noise.

Exposure to high levels of noise, either continuously or as a loud sudden 'bang' from equipment such as cartridge-operated tools or guns, can have a number of physiological and psychological effects on workers including stress, tinnitus and if exposed to high noise levels over long periods of time, permanent loss of hearing. High noise levels can also interfere with communications in the workplace, leading to an increased risk of accidents. In such cases hearing protection must be worn where other controls will not reduce the noise to a safe level.

14.3.1 Noise Action Values

The Noise Regulations require IFI to take specific action at certain action values. These are the daily noise exposure levels or the peak sound pressure levels which, if exceeded, for an employee, action will need to be taken to reduce the risk.

These values relate to:

- The employees levels of exposure to noise averaged over a working day or week; and
- The maximum noises (peak sound pressure) which employees are exposed to in a working day. If you perceive that the noise level in your workplace is harmful you must contact the Health & Safety Executive.

IFI shall ensure that:

- Noise experienced at work shall be assessed and, when necessary, measured. Formal records of any assessments must be kept in the format set down in the regulations.
- The records shall be kept for at least 3 years and made available to the employees (or their representatives) and inspectors from the HSA.
- If you wish to have noise monitoring conducted at your workplace you must contact the Health & Safety Executive.
- IFI shall reduce the risks resulting from exposure to noise in the workplace to the lowest level reasonably practicable, taking account of technical progress and the availability of measures to control the noise in particular, at source.

- Where the exposure to noise is likely to exceed 80dB(A), IFI shall supply sufficient numbers of suitable and adequate personal hearing protectors to the employees, following consultation with the workers concerned regarding suitability and adequacy of the models of hearing protection chosen.
- Where it is not reasonably practicable to reduce the daily personal noise exposure of a worker below 80dB (A), IFI shall make hearing checks available to the worker.
- Health Surveillance must be provided to all employees, if exposure to noise exceeds, 80dB (A).
- If you require PPE contact your line manager or the Health & Safety Executive.

14.3.2 Health Surveillance

Health surveillance shall be made available to employees whose risk assessment revealed a risk to their health.

As with any other hazard the control of noise has a hierarchy of control options: elimination, substitution, PPE etc.

The Noise regulations state that the IFI must supply sufficient numbers of suitable hearing ppe and consult with the workers regarding suitability and adequacy of the type chosen. Part of the necessary training will be to ensure that workers know exactly how and when to use the hearing protection chosen.

Hearing protection must be worn where stipulated as a control when working with noisy equipment or in a noisy environment.

Concerns about noise exposure in your workplace should be reported to the Health & Safety Executive.

14.4 Vibration

Hazard:	Hand arm vibration & whole-body vibration (vibrating tools & machinery, outboard engines and vessels)
Level of Risk:	Medium
Controls:	See details outlined below

Vibration means rapid movement to and fro or oscillating movement. Mechanical vibrations at work can expose workers to hand-arm vibration (HAV) and or whole-body vibration (WBV).

HAV is caused by the use of work equipment and work processes that transmit vibration into the hands and arms of employees.

Long-term, regular exposure to HAV is known to lead to potentially permanent and debilitating health effects known as hand-arm vibration syndrome, such as vibration white finger and carpal tunnel syndrome.

WBV is caused by vibration transmitted through the seat or the feet by workplace machines and vehicles.

Regular, long-term exposure to high levels of WBV is linked to lower back pain.

For hand-arm vibration the daily exposure limit value standardised to an eight-hour reference period shall be 5m/s^2 ; the daily exposure action value shall be 2.5m/s^2 .

For whole-body vibration, the daily exposure limit value standardised to an eight-hour reference period shall be 1.15m/s^2 ; the daily exposure action value shall be 1.15m/s^2 .

Any employee who is aware of equipment which may pose a risk must contact the Health & Safety Executive immediately.

Where employees are or are likely to be exposed to risks to their safety or health arising from exposure to mechanical vibration during their work, IFI shall make a suitable and appropriate assessment of the risk arising from such exposure.

IFI shall ensure that appropriate health surveillance is made available to those employees, for whom a risk assessment reveals a risk to their health, including employees exposed to mechanical vibration in excess of an exposure action value.

Where alternative work methods are not reasonably practicable, controls to reduce the risk of exposure include:

- Job rotation & time limit individual use
- Ensuring the tools used are suitable and selecting the tool with the lowest vibration.
- Limiting the use of high vibration tools where possible.
- Ensuring equipment is well maintained.
- Provided with suitable PPE.

14.5 Manual Handling

Hazard:	Manual handling incorrectly, heavy, unwieldy objects, awkward postures, poor lighting, pre-existing conditions, unsuitable clothing, or footwear.
Level of Risk:	Medium
Controls:	See details outlined below

Due to the nature of IFI work, manual handling is experienced in most every-day tasks. It cannot be avoided. It is therefore vital to attempt to reduce the risks from such activities. This is attained by:

- Training in manual handling techniques is provided to all employees involved in manual handling tasks. Staff must ensure they receive refresher training at least every three years.
- Staff must not lift objects which are too heavy or pose another hazard.
- Staff must where practicably apply team lifting techniques or use mechanical aids where available.
- Job/task rotation should be implemented to reduce risk to the individual.
- It is essential that where staff perceive a risk of injury due to manual handling, they inform their line manager and request a specific risk assessment of the task.
- Where employees require mechanical aids for manual handling tasks they should inform their line manager, safety representative or the Health & Safety Executive.
- Every employee must be familiar with the correct lifting techniques.

These may be summarised as follows:

Maintain a broad stable base with feet approx. shoulder width apart.

Check the load for weight, sharp edges, splinters, or nails.

Bend the knees to get close to the load and lift using the large muscles in the legs.

Hold weights close to body at waist height.

Don't jerk, shove or twist body.

Grip load with palms – not fingertips.

Don't let the load obstruct your view.

- Employees are expected to use any lifting equipment available such as trolleys, dollies, or hoists/pulleys etc. Any faulty equipment must be reported immediately to their supervisor. Where a need for a manual handling aid is identified by a staff member it must be brought to the attention of management.

- Where practicable, team lifting techniques must be used when transporting heavy equipment. One person must co-ordinate team lifting and must organise staff.
- No person will be expected to lift a load that would likely cause him/her injury. Consideration must be given to the load and whether or not help is necessary.
- All additional factors such as frequency of transportation must be taken into account.
- All employees are expected to assist in the identification of hazardous loads and in practicable suggestions, which could be applied.

14.5.1 Steps to Correct Manual Handling

- Assess the area and the load, remove obstructions before lifting and ensure that there is a safe place where the load must be set down. Consider the size, shape and weight required to be moved.
- Stand close to the object and with feet hip width apart, (broad stable base), prepare to lift, point feet in the direction of movement. Avoid twisting of the trunk.
- Bend your knees into a crouched position with your back straight (not necessarily vertical). Keep feet flat on the ground.
- Tuck your chin in; avoid dropping your head forward.
- Use palm of hand as well as the roots of the fingers to grip the object rather than the fingertips.
- A good grip is required, preferably one hand around the front of the load and one hand underneath to prevent the load slipping forward and down.
- Pull the object close to the body (to the centre of gravity), which is at or slightly below waist level.
- An even lift is required to complete the exercise.

When storing items, the heaviest loads (which are safe to lift) should be stored at heights between knuckle and shoulder height, light objects can be stored above shoulder height or below knuckles height.

The Guideline Weight below can be used to help determine if the load is too heavy. Working outside these guidelines is likely to increase the risk of injury.

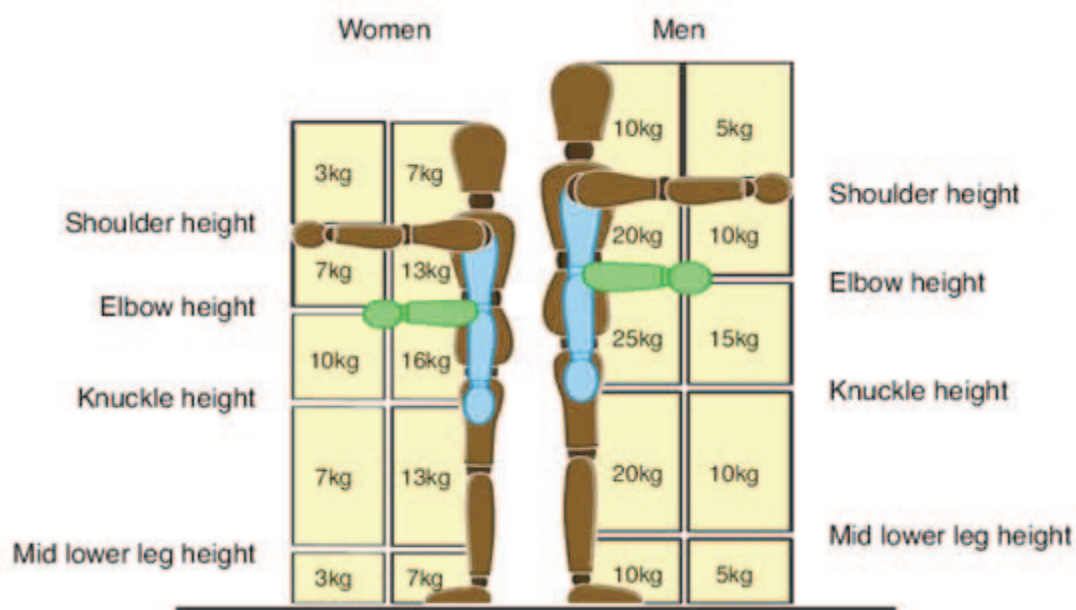


Figure 14.1 Guideline Weights for Manual Handling

14.5.2 Manual Handling of nets & related equipment

- The manual handling of nets can be hazardous due to their unwieldy shape and weight. Where practicable mechanical aids should be used.
- Where this is not practicable to reduce the risk, staff are trained in manual handling. Where practicable a push/pull, position is adopted to retrieve the net with a straight back and working the powerful leg muscles.
- Team lifting is implemented where practicable.
- Job rotation is implemented to reduce individual risk.
- Staff involved in the (un)loading of vehicles with leads, ropes and nets must be trained in manual handling techniques. Where available mechanical aids should be used. Barrels/buckets full of leads & nets should be emptied piece by piece rather than moving the full barrel/bucket. Team lifting techniques should also be deployed where required.

14.5.3 Manual Handling of outboard engines

- The manual handling of outboards can be hazardous due to their unwieldy shape and weight.
- To reduce the risk a specially designed outboard trolley should be used. The design is particularly useful for loading into vehicles or trailers. If you require one, please contact your line manager or the H&S Executive.
- Where the use of an outboard trolley is not reasonably practicable a team lift should be utilised.
- Assess the area and the load, remove obstructions before lifting and ensure that there is a safe place where the load must be set down. Consider the size, shape and weight required to be moved.
- Stand close to the object and with feet hip width apart, (broad stable base), prepare to lift, point feet in the direction of movement. Avoid twisting of the trunk.

- Bend your knees into a crouched position with your back straight (not necessarily vertical). Keep feet flat on the ground.
- Tuck your chin in; avoid dropping your head forward.
- Use palm of hand as well as the roots of the fingers to grip the object rather than the fingertips.
- A good grip is required, preferably one hand around the front of the load and one hand underneath to prevent the load slipping forward and down.

14.5.4 Manual Handling of Generators & Electrofishing Equipment

- To reduce the risk when carrying heavy generators and equipment mechanical aids can be used e.g. trolleys. Hoists should be used to load equipment onto boats.
- Where the use of mechanical aids not reasonably practicable a team lift should be utilised.
- In all cases assess the area and the load, remove obstructions before lifting and ensure that there is a safe place where the load has to be set down. Consider the size, shape and weight required to be moved.
- Stand close to the object and with feet hip width apart, (broad stable base), prepare to lift, point feet in the direction of movement. Avoid twisting of the trunk. When conducting a team lift one person should take the lead and explain the lifting process to the team. They must also give clear commands during handling of the object.
- Bend your knees into a crouched position with your back straight (not necessarily vertical). Keep feet flat on the ground.
- Tuck your chin in; avoid dropping your head forward.
- Use palm of hand as well as the roots of the fingers to grip the object rather than the fingertips.
- A good grip is required, preferably one hand around the front of the load and one hand underneath to prevent the load slipping forward and down.
- When lighter generators and equipment can be safely lifted by a single person job rotation should be implemented to reduce the risk further.

14.6 Sanitation & Washing Facilities

Hazard:	Biological infection
Level of Risk:	Low (Office) Medium (Field)
Controls:	See details outlined below

So far as is reasonably practicable, adequate toilets and washing facilities should be available in all places of work. Facilities are kept in a clean state. Disinfectant wipes & gels are available for work conducted in the field.

See also sections 14.17 – 14.30 Occupational Disease/Exposures

14.7 Erection of Signage

Hazard:	Fitting Signage/falling objects/work at height
Level of Risk:	Low
Controls:	See details outlined below

- Signage erected by IFI should be in locations which do not block or partially block pedestrian or vehicle routes.
- Signage should be erected at a height which accounts for head clearance for pedestrian movement and cyclists.
- Signs and posts should be designed to be clearly visible.
- Signs must not have any sharp or pointed edges.
- Signs cannot be erected where they may endanger the safety of road users.
- All road signs used in public areas must meet the requirements of the Department of Transport, Tourism & Sport Traffic Signs manual. Refer to www.trafficsigns.ie, staff must wear hi vis clothing when erecting signs in public locations.
- The erection of signage may require the permission of local authorities.
- Refer also to section 14.60 Work at heights.

14.8 Refrigeration and Freezer Units

Hazard:	Handling frozen material/cold exposure/refrigerant chemicals
Level of Risk:	Low
Controls:	See details outlined below

- Read and follow the manufacturer's operating manual for safe operation and maintenance.
- Do not connect your appliance to the electricity supply until all packaging and transit protectors have been removed.
- Leave to stand for at least 4 hours before switching on to allow compressor oil to settle if transported horizontally.
- If you are discarding an old refrigerator with a lock or latch fitted to the door disable the lock or latch, ensuring that it is in a safe condition to prevent accidental entrapment.
- The fridge or freezer must only be used for its intended purpose.
- Do not dispose of the appliance in a fire.
- Make sure that sufficient room is provided around the appliance to ensure free air circulation.
- Ensure the appliance is located on a smooth surface to maintain stability.
- Do not use pointed or sharp-edged objects such as knives or forks to remove frost.
- Never use electrical devices for defrosting.
- Do not store chemicals in any refrigerator or freezer which is used to store food.

Walk-in Freezers

- Before entering the freezer, CHECK the door latch opens easily from the inside. If working for an extended period, check the door mechanism regularly to ensure that it has not frozen shut.
- Have a contact person and a check-in schedule. Ensure that your contact can access the freezer. Tell someone, your supervisor, or another co-worker that you are going to work in the walk-in freezer and when you will return. If you are going to be in the freezer for an extended period, timed checks are advised. Do not forget to report back to that contact person at the agreed upon time(s)!
- Staff using walk in freezers should not allow themselves to be exposed to the cold for too long. Staff should wear warm clothing e.g. workwear thermals.
- Any work that requires moving, shelving/retrieval of heavy boxes or ice core must not be done alone.
- Walk in freezers should be maintained by a competent person annually.
- In the event of a walk-in freezer leaking gas staff should evacuate to the emergency assembly point.
- Staff handling cold or frozen items must wear protective gloves.

14.9 Lone Working

Hazard:	Lone working, isolated locations, hostile environments
Level of Risk:	Low - Medium – High
Controls:	See details outlined below

Lone workers are those who work by themselves without close or direct supervision. There is nothing specific in general legislation that prohibits a person from working alone.

The level of risk faced by lone workers may vary. For example, the relative risk for a staff member working alone in an office environment is low in comparison to a staff member on protection duties in an area which is known to be volatile. With this in mind lone working procedures have been developed in consultation with the National Safety Committee.

Each employee has been issued with the lone worker and buddy procedure card. Further copies are available from the Health & Safety Executive. The procedures are for use in perceived high-risk environments. Lone workers must apply good judgement based on their knowledge, training, and experience. The procedures are outlined as follows:

14.9.1 The Lone Worker

- Contact a “buddy” and inform them that you will be working alone.
- Describe your current location, areas you intend visiting and the expected duration.
- Inform your buddy of any changes in your plans.
- Inform your buddy if there are areas of poor mobile phone/radio reception.
- Agree the frequency of contact with your buddy.

14.9.2 The Buddy

- Lone worker makes initial contact and details of location, route, and frequency of check are agreed.
- Buddy acknowledges check in as required.
- If lone worker fails to check in, buddy calls lone worker.
- If there is no response the buddy advises their manager.
- Buddy visits the last known location of the lone worker (if practicable).
- If the lone worker does not respond the manager must report the lone worker to the next of kin and emergency services.

14.9.3 Lone Working on Boats

Working on boats alone is generally prohibited. It is recognised that the circumstances and risk relating to lone working may vary dramatically. A specific risk assessment conducted by the Health & Safety Executive may allow for such work in limited circumstances once obtained.

14.9.4 Lone Working on Protection Stakeouts

Lone working on Protection Stakeouts is strictly prohibited with the exception of surveillance work conducted at a safe distance e.g. observation using a scope.

14.9.5 Protection Patrol Risk Assessments

Patrol risk assessments indicate the minimum number of staff required for a particular patrol. Always consult the most up to date patrol risk assessment before patrolling alone. If you are unsure as to the risk level assigned for a particular patrol consult with your line manager.

Office Hazards

14.10 Preventing Cuts and Punctures

Hazard:	Office equipment, moving parts, sharp edges, pinch points.
Level of Risk:	Low
Controls:	See details outlined below

Cuts and punctures happen when people use everyday office supplies without exercising care. Follow these guidelines to help reduce the chance for cuts and punctures:

- When sealing envelopes, use a liquid dispenser, not your tongue.
- Be careful when using kitchen knives, scissors, staplers, letter openers, and box openers. Any of these items could cause a painful injury.
- Avoid picking up broken glass with your bare hands. Wear gloves and use a broom and a dustpan.
- Place used blades or broken glass in a rigid container, such as a box, before disposing in a wastebasket.

14.11 Preventing Machine Accidents

Hazard:	Office Equipment, moving parts, sharp edges, pinch points, electrical cables, hot surfaces, light.
Level of Risk:	Low
Controls:	See details outlined below

Only use machines that you know how to operate. Never attempt to operate an unfamiliar machine without reading the machine instructions or receiving directions from an experienced employee. In addition, follow these guidelines to ensure machine safety:

14.11.1 Installation of Machines

Machines should be positioned in a well-ventilated area away from doorways and no parts protruding into passageways. The main isolating switch should be accessible at all times. The manufacturer's manual must be available at the location of each machine.

14.11.2 Minor Repairs

Minor repairs, such as removing blockages from the photocopier may be carried out by general staff, where clear instructions exist, and the action presents no hazard. While machines are fitted with interlocking systems to prevent electrocution they should still be switched off before gaining access to the interior. Care is needed to avoid any hot surfaces. Under no circumstances should office staff use screwdrivers or any other article to tamper with the inside of machines.

14.11.3 Major Faults

Major faults including any electrical faults, frayed wires etc. must be reported to the immediate supervisor. No attempt may be made by office staff to repair electrical faults. In such cases the machine should be isolated until repaired by a competent person.

14.11.4 Maintenance

Basic maintenance of machines will be carried out by authorised employees. This includes replenishment of toner and must be done in accordance with manufactures instructions. A first aider will be called in the event of accidental inhalation, swallowing or entry to eyes. Office machinery should be regularly maintained by competent personnel. It is recommended that service contracts be maintained on office machinery.

14.11.5 Light Intensity

Photocopying and laser printers are provided with strong light sources, the intensities of which are such that there should be no hazards to health. However, staff should ensure that covers are in place when copies are made.

14.11.6 Miscellaneous

Secure machines that tend to move during operation. Do not place machines near the edge of a table or desk. Ensure that machines with moving parts are guarded to prevent accidents. Do not remove these guards. Unplug defective machines and have them repaired immediately. Do not use any machine that smokes, sparks, shocks, or appears defective in any way. Close hand-operated paper cutters after each use and activate the guard. Take care when working with copy machines. If you have to open the machine for maintenance, repair, or troubleshooting, remember that some parts may be hot. Always follow the manufacturer's instructions for troubleshooting.

Unplug paper shredders before conducting maintenance, repair, or troubleshooting.

Some items can be very dangerous when worn around machinery with moving parts. Avoid wearing the following items around machines within unguarded moving parts:

- Loose belts
- Jewelry
- Long, loose hair
- Long, loose sleeves or trousers
- Scarves
- Ties

Care should be taken when working with equipment which may generate heat. Equipment which generates heat may have to be allowed to cool before contact is made. If this is not practicable personal protective equipment e.g. gloves should be worn. In the case of electric cable reels, the cable should be fully extended before use to prevent the build-up of heat.

14.12 IT & Display Screen Equipment (Computers)

Hazard:	Work at height, electricity, fire, manual handling, poor posture/unsuitable chairs or workstation design, poor lighting, draughts, or uncomfortable temperatures.
Level of Risk:	Very Low
Controls:	See details outlined below

14.12.1 Display Screen Equipment

Habitual computer users should arrange an ergonomic assessment with the Health & Safety Executive as required.

Workstation setup must be as follows:

- Ensure that eye level is maintained at the top of the computer screen.
- Eye to monitor distance should be approx. 18-26 inches from the screen.
- Adjust seat height so elbows are at 90 degrees and wrists are straight.
- Adjust depth of seat pan to suit your leg length.
- Tilt the chair and adjust to a comfortable position.
- Ensure that thighs are also parallel to the floor and provide a footrest if required.
- Ensure that the chair back support is in a position to support the lumbar region.
- Provide mouse mats and maintain a neutral mouse posture while using a mouse.
- Remember to take breaks, it is important to avoid prolonged periods at the computer, therefore alternate between tasks and try not to work continuously beyond 20/30 minutes at the computer.

Note Diagram on Appendix IV

14.13 File Cabinets and Shelves

Hazard:	Unsafe storage of files, stationery and equipment, overreaching/manual handling
Level of Risk:	Low
Controls:	See details outlined below

As file cabinets and shelves tend to support heavy loads, treat them with special care.

Follow these safety guidelines for file cabinets:

- Ensure that file cabinet drawers cannot easily be pulled clear of the cabinet.
- Do not block ventilation grates with file cabinets.
- Open one drawer at a time to prevent the cabinet from toppling.
- Close drawers when they are not in use.
- Do not place heavy objects on top of cabinets. Be aware that anything on top of a cabinet may fall off if a drawer is opened suddenly.
- Close drawers slowly using the handle to avoid pinched fingers.
- Keep the bottom drawer full. This will help stabilise the entire cabinet.

In addition, follow these safety guidelines for office shelves:

- Secure shelves by bolting them to the floor or wall where practicable.
- Place heavy objects on the bottom shelves. This will keep the entire structure more stable.
- Ensure that there is at least 18 inches between the top shelf items and the ceiling. This space will allow ceiling sprinklers (if present) to function properly if a fire occurs.
- Do not block ventilation grates with shelves.
- Never climb on shelves (even lower shelves). Use a step ladder.

14.14 Chairs

Hazard:	Incorrect use of office chairs
Level of Risk:	Very Low
Controls:	See details outlined below

Safety guidelines for office chairs include the following:

- Office desk chairs for computer work should have a back support which is adjustable in height and tilt and the seat height must also be adjustable. The chair must be stable, comfortable and with a five-caster base.
- Take care when sitting in a chair with casters. Make sure it does not roll out from under you when you sit down.
- Report any chair damage that could be hazardous. Defective chairs should be taken out of use until repaired or replaced.
- Avoid rolling chairs over electrical cords.
- Never stand on chairs with casters.
- Avoid tilting chairs and raising chair legs off the ground.
- Avoid reclining and putting feet on the desk.
- Avoid rolling while seated in a chair.
- Avoid overreaching for objects while seated in a chair.

14.15 Guillotines, Shredders & Laminators

Hazard:	Sharp edges, pinch points, moving parts, hot parts.
Level of Risk:	Low
Controls:	See details outlined below

14.15.1 Guillotine Preliminary Checks

- Read and follow manufacturers operating manual for safe operation and maintenance.
- Ensure fixed guards are in place to prevent hands or other parts of the body from entering the trapping space.
- Guards or safety devices must never be removed or adjusted, except by an authorised person for maintenance purposes.
- Working parts should be well lubricated and free of rust and dirt.
- The area around the machine must be adequately lit and kept free of materials, which might cause slips or trips.
- Be aware of other personnel in the immediate vicinity and ensure the area is clear before using equipment.
- Familiarise yourself with and check all machine operations and controls.
- Ensure cutting table is clear of scrap.

Faulty equipment must not be used. Immediately report suspect machinery.

14.15.2 Guillotine Operational Safety Checks

- Do not attempt to cut material beyond the capacity of the machine.
- Never attempt to cut rod, strap, or wire with this machine.
- Use correct lifting procedures when handling large sheets of material.
- Take extreme care during the initial feeding of the work piece into the machine.
- The work piece should always be held sufficiently far back from the edge being fed into the guillotine.
- Ensure fingers and limbs are clear before actuating the guillotine.
- Hold material firmly to prevent inaccurate cutting due to creep.

14.15.3 Housekeeping

- Remove all off cuts and place them in either in the storage rack or waste bin.
- Leave the work area in a safe, clean, and tidy state.

14.15.4 Shredder Safety

- Read and follow manufacturers operating manual for safe operation and maintenance.
- Never put fingers or objects other than paper (like paper clips or staples) into the shredder feed opening.
- Keep jewelry, long hair, ties, lanyards, etc. away from the paper shredder feed opening.
- Feed paper smoothly into the shredder, not forcing the paper in.
- If there is a paper jam, and forward and reverse buttons don't move the paper, disconnect the power source, and contact a qualified person to make repairs. Don't overheat or burn out the motor, 10 minutes of continuous use requires 20 minutes of inactivity.
- If the shredder motor overheats, turn off the shredder, allowing the motor to cool before using again.
- Locate the paper shredder and its power cord outside of foot traffic areas.

14.15.5 Laminator Safety

- Operate the machine according to manufacturer's instructions.
- Ensure the heat setting is correct for the material being used.
- Do not leave equipment unattended when turned on.
- Turn off when clearing jams and avoid contact with hot parts.
- Keep hands and fingers clear of moving parts.

14.16 Office Environmental Factors

Hazard:	High temperatures, humidity, light, noise
Level of Risk:	Very Low
Controls:	See details outlined below

- Adequate ventilation is provided in office environments.
- Noise levels are controlled to ensure levels do not pose a risk to hearing.
- Humidity is maintained at a comfortable level typically between 40-70%.
- Temperature is generally maintained at a comfortable level.
- Lighting provided is appropriate for the tasks conducted.

Occupational Diseases/Exposures

14.17 Lockjaw/Tetanus

Hazard:	Work activities which may lead to contact with soil, rusty objects, and rich organic matter. Staff with scratches, cuts and abrasions working outside/ on field-work.
Level of Risk:	Low
Controls:	See details outlined below

14.17.1 Description

Lockjaw can occur from tetanus causing organisms (*Clostridium tetani*) entering the body. *Clostridium tetani* is a rod-shaped, anaerobic bacterium of the genus *Clostridium*. *C. tetani* is found as spores in soil or as parasites in the gastrointestinal tract of animals. Staff may be at risk if they have open wounds and are working in the field with potential exposure to soil, manure, dust, or rust.

14.17.2 Symptoms

The incubation period is 3 to 21 days (average of about 10 days) although it may range from one day to several months, depending on the character, extent, and localisation of the wound. Symptoms of tetanus include the acute onset of hypertonia (muscular stiffness) and/or painful muscular contractions (usually of the muscles of the jaw and neck) and generalised muscle spasms without other apparent medical cause.

14.17.3 Treatment

Early recognition and treatment with wound debridement (cleaning), appropriate antibiotics, and tetanus immunoglobulin can be life saving.

Where an employee receives a cut, abrasion or puncture wound and has not had the tetanus vaccinations they should be brought to a hospital or medical practitioner to be treated.

14.17.4 Prevention

Tetanus vaccine is given as part of the routine childhood immunisation programme. Vaccination is given at 2, 4 and 6 months of age. Booster vaccine doses are given at 4-5 years of age and again between 11-14 years of age. Each employee should check with their doctor to ensure they have received the vaccinations. Staff who have not received vaccines will be given the opportunity by IFI to get the inoculation. See Appendix VIII Info & Records for Vaccination Provisions for Employees.

Good wound care can also help to prevent infection. Don't delay first aid of even minor, non-infected wounds like blisters, scrapes, or any break in the skin. First aid kits are available at all bases and in vehicles.

Wash hands often with soap and water or use an alcohol-based hand rub if washing is not possible. Remember to clean your hands before eating, drinking, or vaping/smoking. Disinfectant wipes and gels are provided in field vehicles.

Consult your doctor if you have concerns and need further advice.

14.18 Toxoplasmosis

Hazard:	Handling stored nets, contact with cat faeces
Level of Risk:	Low (High for pregnant field staff)
Controls:	See details outlined below

14.18.1 Description

Toxoplasmosis is an infection caused by the parasite *Toxoplasmosis gondii*. It is a single cell organism, invisible to the human eye. It can be found in meat, cat faeces, and in soil where cats defecate. Field staff may be particularly exposed where nets are kept in stores and there are signs of cat activity/faeces.

14.18.2 Symptoms

People who become infected may experience mild flu-like symptoms, prolonged glandular-fever type illness, or may have no symptoms at all.

Healthy individuals do not usually display symptoms. When symptoms do occur, they are usually mild, resembling infectious mononucleosis, and include the following:

- enlarged lymph nodes
- muscle pains
- fever that comes and goes
- general sick feeling

In adults, if the infection continues for an extended period of time, chronic toxoplasmosis can cause an inflammation of the eyes called retinochoroiditis, which can lead to blindness, severe yellowing of the skin and whites of the eyes (jaundice), easy bruising, and convulsions. Pregnant women are especially at risk. Adults with weakened immune systems have a high risk of developing cerebral toxoplasmosis, including inflammation of the brain (encephalitis), one-sided weakness or numbness, mood and personality changes, vision disturbances, muscle spasms, and severe headaches. If untreated, cerebral toxoplasmosis can lead to coma and death. This form of encephalitis is the second most common AIDS-related nervous system infection that takes advantage of a person's weakened immune system (opportunistic infection).

14.18.3 Treatment

Most individuals who contract toxoplasmosis do not require treatment because their immune systems are able to control the disease. Symptoms are not usually present. Mild symptoms may be relieved by taking over-the-counter medications. Sore throat lozenges and rest may also ease the symptoms.

14.18.4 Prevention

There are no drugs that can eliminate *T. gondii* cysts in animal or human tissues. Humans can reduce their risks of developing toxoplasmosis by practicing the following:

- Freezing (to 10.4°F/-12°C) and cooking foods to an internal temperature of 152°F/67°C will kill the cyst.
- Practicing sanitary kitchen techniques, such as washing utensils and cutting boards that come into contact with raw meat.
- Keeping pregnant women and children away from household cats and cat litter.
- Disposing of cat faeces daily because the oocysts do not become infective until after 24 hours.
- Helping cats to remain free of infection by feeding them dry, canned, or boiled food and by discouraging hunting and scavenging.
- Washing hands after outdoor activities involving soil contact and wearing gloves when handling nets.
- Cats and other animals should be prevented from accessing buildings.
- Pregnant employees should avoid handling stored nets particularly if there is a suspicion of cats nesting.

14.19 Hepatitis

Hazard:	Contact with pollution fluids and polluted waters
Level of Risk:	Very Low (for vaccinated staff)
Controls:	See details outlined below

14.19.1 Description

Hepatitis is a term that refers to inflammation of the liver. There are many forms of Hepatitis including Hepatitis A & B.

Hepatitis infection can be caused by contaminated food, water, exchange of bodily fluids, contaminated blood or faeces and needle stick injuries. Staff working in the field may be exposed to bodily fluids and faeces in the vicinity of wastewater treatment plants and other watercourses where there are signs of sewage contamination.

14.19.2 Symptoms

Hepatitis A

The most common symptoms are fever, loss of appetite, nausea, fatigue, and abdominal pain, followed within a few days by jaundice.

Hepatitis A is an acute self-limiting illness, varying from a relatively mild illness lasting 1-2 weeks to a severely disabling illness lasting months.

Hepatitis B

Some people with acute hepatitis B do not get any symptoms. If you do get symptoms, these can include: fever, nausea, tiredness, swollen tummy, pain, jaundice (yellow skin and eyes), dark urine and a rash.

14.19.3 Treatment

Hepatitis A

There is no specific treatment for hepatitis A. Therapy should be supportive and aimed at maintaining comfort and adequate nutritional balance.

Hepatitis B

The majority of people with hepatitis B don't need specific treatment other than rest and they eventually make a full recovery.

If the infection lasts more than six months (chronic hepatitis infection), a hospital liver specialist may recommend an antiviral drug treatment called alpha interferon. This treatment aims to reduce the risk of permanent liver damage (cirrhosis) and liver cancer.

14.19.4 Prevention

Hepatitis A

Preventive measures for hepatitis A include good personal hygiene, with special emphasis on careful handwashing after using the toilet and before preparing and eating food and the use of clean water and good sanitation, with sanitary disposal of faeces. Immunisation through the administration of vaccine and/or human normal immunoglobulin (HNIG) in certain situations. Each employee should check with their doctor to ensure they have received the vaccinations. Staff who have not received vaccines will be given the opportunity by IFI to get the inoculation.

Hepatitis B

There is a safe and effective vaccine against Hepatitis B. The vaccine is usually given in three doses by your doctor - at the first visit, one month later and six months after the first injection. Occasionally doses are given more quickly. Some people may need additional doses of vaccine before they are protected. Each employee should check with their doctor to ensure they have received the vaccinations. Staff who have not received vaccines will be given the opportunity by IFI to get the inoculation.

Care must be taken by staff working in waterways particularly if they suspect that they are polluted. Cover any cuts or abrasions with waterproof bandages. Good hygiene standards must be practiced. Wash hands thoroughly before eating, drinking, or smoking/vaping. Antibacterial wipes and gels should be used.

Under the Biological Agents regulations IFI shall make effective vaccines available, when necessary, to those employees exposed or are likely to be exposed, taking account of the fourth schedule classification of biological hazards.

See Appendix VIII Info & Records for Vaccination Provisions for Employees.

14.20 Leptospirosis (Weils Disease)

Hazard:	Field Work on or adjacent to water courses and stagnant waters. Areas of rodent activity.
Level of Risk:	High
Controls:	See details outlined below

14.20.1 Description

Leptospirosis is an infection usually picked up from contact with the urine of rats, although a milder form can be caught from cattle or dogs and other domestic animals.

If you are in contact with infected urine the bacteria which causes leptospirosis can get into your body through cuts and scratches and through the lining of the mouth, throat, and eyes. Field staff are at risk during the course of their work on or adjacent to water courses/lakes and when carrying out development or research or environmental work.

14.20.2 Symptoms

The majority of people have a flu-like illness, with a persistent and severe headache. A few people can develop meningitis and occasionally it can develop into the severe form (Weil's disease) with liver and kidney failure. This can be fatal in a small proportion of cases.

14.20.3 Treatment

Leptospirosis treatment is a relatively complicated process comprising of two main components - suppressing the causative agent and fighting possible complications. Antibiotics are used to treat the condition.

14.20.4 Prevention

Care must be taken when working in water, which may be polluted (slow moving rivers, riverbanks, ditches, ponds, canals, stagnant water and sewers) and inhabited by rodents. Protective clothing and footwear (hiking, boots, waders, wellingtons) should be worn by those potentially exposed to contaminated water or soil during fieldwork.

Cover any cuts or abrasions with a waterproof dressing while working in such waters. Shower thoroughly following these activities.

Wash your hands after handling any animal or contaminated clothing or equipment and always before eating, drinking, or smoking/vaping. Antibacterial wipes or hand wash should be used. These are available at your base and in field vehicles.

If you get a flu-like illness within a three-week period after engaging in any of these activities, you should visit your doctor immediately and tell them of your fears and possible exposure to the disease.

Staff should carry a Weils Disease Advice Card and show it (available from the Health & Safety Executive) to their doctor at each visit.

14.21 Lyme Disease

Hazard:	Field work activities
Level of Risk:	Low-Medium-High-Very High Risk is elevated in areas of primary host activity (e.g. deer) in rough pasture, heathland & woodland.
Controls:	See details outlined below

14.21.1 Description

Lyme disease is caused by the bacterium *Borrelia burgdorferi* which is spread by the bite of a tick. These tiny ticks are frequently found in woodland, moorland and other grassy areas inhabited by deer. They are usually found close to the ground, especially in moist, shaded areas. Field staff are at risk during the course of their work on or adjacent to water courses/lakes and when carrying out development or research or environmental work.

14.21.2 Symptoms

Lyme disease can present flu-like symptoms, headaches muscle ache and pain. Occasionally, the heart, joints or the nervous system can be affected. Often there is a small rash in the area of the bite. This rash can occur within one day to thirty days after being bitten.

One of the main symptoms of Lyme disease is the rash (erythema migrans). It starts as a small red dot at the bite site but may grow larger with time. The centre of the spot often fades creating a characteristic "bull's-eye" appearance.



Figure 14.2 Lyme Disease rash known as Erythema Migrans

If Lyme disease progresses it becomes disseminated and may affect various parts of the body including:

- Brain: - Meningitis, Tingling sensations, difficulties chewing/speaking /swallowing, Bells palsy, Sleep disorders and many more.
- Eyes: - Vision changes, blindness retinal damage, conjunctivitis and many more.
- Skin: - Rash spreads to other sites away from initial tick bite, may be hot or itchy, can lead to lymphocytoma, a benign tumour.
- Heart: - Irregular beat, chest pain, vasculitis.
- Joints: - Pain in joints, arthritic type symptoms.
- Lungs: - Difficulty in breathing, pneumonia.
- Stomach: - Nausea, vomiting.

14.21.3 Treatment

Ticks generally need to be attached to the skin for 24-48 hours before infection takes place. Remove the tick (ideally with tweezers/tick remover) by gripping it close to the skin. Wash the area after as soon as possible with soap and water. If any of the mouthparts of the tick are left behind, remove with tweezers when possible. Check the skin over the next few days for a rash. Initial redness and swelling after removing the tick is normal and does not indicate infection (Note infection may occur without the development of a rash). If a rash or other symptoms develop, see your GP and report being bitten. Your GP will make a diagnosis and prescribe treatment.

Lyme disease is diagnosed by medical history and physical examination. Diagnosis can be difficult if there has been no erythema migrans rash. The infection is confirmed by special blood tests. The tests used, look for antibodies to *B. burgdorferi*, which are produced by an infected person's body in response to the infection. Antibodies will take several weeks to develop and may not be present in the early stages of the rash. They will usually be present in the later stages of the infection. More sophisticated tests can be used if the diagnosis is not clear. Lyme disease can be treated using antibiotics – treatment lasts generally for up to three weeks to ensure that the bacteria have been killed. It is important that the full course of antibiotics is taken to prevent the spread of the bacteria to the joints, heart, or nervous system.

14.21.4 Prevention (Source HPSC)

Before going out in areas where ticks are found:

- Cover exposed skin by wearing long trousers tucked into socks/boots and long sleeves tops.
- Wear closed toe shoes or boots rather than sandals.
- Use repellent that contains at least 20% DEET or picaridin or IR3535 on exposed skin taking care to follow product instructions and avoiding hands, eyes, and mouth. (DEET is safe to use during pregnancy and while breastfeeding but only in concentrations less than 50%. DEET is only safe for babies aged 2 months and older.)
- If using sunscreen, tick repellent should be applied **after** sunscreen.

- Use repellent that contain 0.5% permethrin on clothing, back packs and tents.
- Inspect your skin and clothes every 3-4 hours while in areas where ticks are found.

After returning from area where ticks are found find & remove ticks from your body

- Bathe or shower as soon as possible after coming indoors (preferably within 2 hours) to wash off and help find ticks that are crawling on you.
- Conduct a full-body tick check using a hand-held or full-length mirror to view all parts of your body upon return from tick-infested areas.

After returning from area where ticks are found find and remove ticks from your clothing

- Examine gear/clothing and pets. Ticks can ride into the home on clothing and pets, then attach to a person later, so carefully examine pets, clothing and back packs.
- Tumble dry clothes in a dryer on high heat for 10 minutes or until the clothing is dry to kill ticks on dry clothing after you come indoors.
- If the clothes require washing first, hot water is recommended. Cold and medium temperature water will not kill ticks effectively. If the clothes cannot be washed in hot water, tumble dry on low heat for 90 minutes or high heat for 60 minutes. The clothes should be warm and completely dry.
- At the end of your day out, check yourself for ticks. Check both skin and hair, paying particular attention to warm moist areas such as the groin, backs of knees, armpits, ears, bellybutton, waist, neck and around hair.
- Best practice is to bring the tick to a hospital and ensure they test it for carrying the disease.

Tweezer Removal

Use fine-tipped tweezers to grasp the tick as close to the skin's surface as possible. Pull upward with steady, even pressure. Don't twist or jerk the tick; this can cause the mouthparts to break off and remain in the skin. If this happens, remove the mouthparts with tweezers.

Tick Tool Removal

- Choose the most suitable Tick tool, according to the size of the tick (each pack contains two sizes, one for adult ticks and one for the tiny nymph ticks).
- Engage the tool by approaching the tick from the side (the body of the tick is flat when unfed) until it is held securely.
- Lift the tool very lightly and TURN IT (clockwise or counterclockwise). The tick detaches itself after 2-3 rotations.
- After removing the tick, disinfect the bite site and wash hands with soap and water.

14.22 Avian Bird Flu

Hazard:	Handling/contact with dead birds
Level of Risk:	Very Low
Controls:	See details outlined below

14.22.1 Description

Avian influenza or “bird flu” is a disease of birds caused by type A strains of the influenza virus. It can affect all species of birds, some other animals (e.g. cats, horses) and can very rarely infect humans. Only the virus types of the H5 and H7 types are known to cause the highly pathogenic (HPAI) form of the disease. The most well-known example is the avian influenza subtype H5N1 viruses currently circulating in poultry in parts of Asia and northeast Africa, which have caused human disease and deaths since 1997. Other avian influenza subtypes, including H7N9 and H9N2, have also infected people. Some of these infections have been very severe and some have resulted in deaths, but many infections have been mild or even without symptoms in humans.

14.22.2 Symptoms

Most people infected with bird flu get fever (38°C or higher) followed by flu-like symptoms, including cough, runny nose, sore throat, and shortness of breath. Diarrhoea is often present early on in the illness but may start up to one week before the flu-like symptoms. People can also have stomach pain or vomiting or headache.

14.22.3 Treatment

Antiviral drugs and seasonal influenza vaccines are available, where appropriate, to anyone who has been in close contact with the infected poultry/wild birds.

14.22.4 Prevention

Avoid touching live poultry or their droppings and don't handle any dead poultry or wild birds.

Wash your hands well with soap and water for about 20 seconds immediately after contact with live poultry, birds, or their droppings. Avoid touching your eyes, nose, or mouth with your hands. Washing your hands regularly is one of the most important ways to protect yourself against bird flu.

Possible, probable, or confirmed cases of Avian Influenza must be communicated to the HPSC 01-8765300.

14.23 Asbestos

Hazard:	Handling asbestos containing materials/exposure to particles from broken or damaged asbestos containing materials
Level of Risk:	Very High (where ACMs are identified as respirable)
Controls:	See details outlined below

If you suspect that you are working with asbestos containing materials, you must contact the Health & Safety Executive immediately.

14.23.1 Description

Asbestos is a naturally occurring mineral and is found in three forms (blue, brown, and white) made up of long thin fibres. These fibres can be dangerous if they are inhaled as dust and are known to contribute to increased risk of lung cancer, asbestosis (scarring of the lung tissue) and mesothelioma (cancer of the lining of the chest and the lining of the abdominal cavity). Asbestos containing materials are commonly found in spray coatings on steel, concrete and ceilings; as insulation lagging on pipe work and for boilers and ducts, pipes and fireplace cement, heat, fire, and acid resistant gaskets, pipe insulation, ceiling insulation, fireproof drywall, flooring, roofing, lawn furniture, and drywall joint compound.

The risk associated with exposure to asbestos relates to the possibility that the fibres within the asbestos containing material (ACM) can become released into the air and are then inhaled. Breathing in air containing asbestos fibres can lead to asbestos-related diseases (mainly cancers of the chest and lungs). These diseases will not occur immediately and can take from 15 – 60 years to develop.

Where asbestos is confirmed in the workplace and poses a risk to employees it shall be safely removed.

Where required staff health surveillance shall be conducted.

As long as asbestos is in good condition and there is no disturbance or damage to the ACM, it will not pose a risk to health as fibres will not be released.

14.23.2 Symptoms

Asbestos exposure becomes a health concern when high concentrations of asbestos fibers are inhaled over a long time period. Asbestosis sufferers have severe dyspnea (shortness of breath) and are at an increased risk regarding several different types of lung cancer. The symptoms of mesothelioma include shortness of breath due to pleural effusion (fluid between the lung and the chest wall) or chest wall pain, and general symptoms such as weight loss.

14.23.3 Treatment

Anyone who believes they have been exposed to asbestos fibres should consult their doctor. There is no curative treatment for asbestosis. Oxygen therapy at home is often necessary to relieve the shortness of breath. Patients who suffer with mesothelioma may undergo surgery.

14.23.4 Prevention

Most asbestos materials were installed between about the 1960s and the mid-1980s. Asbestos cement was in use until 2000. If any works are carried out in a building in which there are suspected asbestos containing materials a full risk assessment must be conducted prior to the commencement of work. Any required preventative measures resulting from the risk assessment must be implemented. Where appropriate asbestos surveys and management plans shall be conducted, if you have concerns regarding asbestos contact the H&S Executive.

14.23.5 Removal

The HSA must be notified if the removal of asbestos is likely to generate dust. All removal jobs must have a written plan of work and method statement. This method statement, together with the required notification form must be submitted to the HSA 14 days in advance of the work commencing. Where asbestos containing materials are suspected a competent person may be required to carry out air monitoring or removal. A site clearance certificate must be obtained by the competent person when work is complete.

During removal asbestos containing material must be secured in containers/double wrapped in heavy gauge plastic and clearly labelled. Seek advice from the Local Authorities to ensure safe disposal by licensed operator.

Asbestos removal may not be required when fibres are tightly bound e.g. asbestos cement roof in good condition.

If you are or think you may have been exposed to asbestos consult your doctor and inform senior management & the Health & Safety Executive.

14.24 Dermatitis

Hazard:	Chemical and compound handling (e.g. nickel, detergents, bleach, fibreglass) Wet Work
Level of Risk:	Medium
Controls:	See details outlined below

14.24.1 Description

Dermatitis is an irritation or inflammation of the skin. The skin becomes itchy, red, blistered, or crusty. It occurs mostly on the hands. Damage by irritants (acids, alkalis, oils) is caused by chemical concentration, frequency, and duration of contact. Damage by sensitisers (chromates, dyes, and resins) is by allergic reaction. Other harmful agents include polishes, nickel, detergents, formaldehydes, fixers, inks, thinners, retarders, degreasers, etchers, cement powder, fresh concrete, tar, diesel, kerosene, coolants, grease, oils, solvents, turpentine, water treatment disinfectants and chemicals.

14.24.2 Symptoms

Dermatitis (eczema) is inflammation of the upper layers of the skin, causing itching, blisters, redness, swelling, and often oozing, scabbing, and scaling. Dermatitis may be a brief reaction to a substance. In such cases it may produce symptoms, such as itching and redness, for just a few hours or for only a day or two. Chronic dermatitis persists over a period of time. The hands and feet are particularly vulnerable to chronic dermatitis because the hands are in frequent contact with many foreign substances and the feet are in the warm, moist conditions created by socks and shoes that favor fungal growth.

14.24.3 Treatment

Contact dermatitis can be prevented by avoiding contact with the causative substance. If contact does occur, the material should be washed off immediately with soap and water. Treatment is not effective until there is no further contact with the substance causing the problem. Once the substance is removed, the redness usually disappears after a week. Blisters may continue to ooze and form crusts, but they soon dry. Residual scaling, itching, and temporary thickening of the skin may last for days or weeks.

Itching can be relieved with a number of topical drugs or drugs taken by mouth. In addition, small areas of dermatitis can be soothed by applying pieces of gauze or thin cloth dipped in cool water or aluminum acetate several times a day for an hour. Larger areas may be treated with short, cool tub baths with or without colloidal oatmeal. The doctor may drain fluid from a large blister, but the blister is not removed.

14.24.4 Prevention

Where possible avoid any contact with the sensitising agents. Suitable gloves (consult safety data sheet) should be worn when dealing with these agents. Ensure that there are no gaps between gloves and overalls. Hands must be washed thoroughly using warm water cleansers and dried. Barrier creams may also be used.

14.24.5 Wet-work Irritation

Water is a potential irritant, which may penetrate relatively easily through the skin. Frequent exposure to water causes swelling and shrinking of the outermost layer of skin and can lead to hand dermatitis (hand eczema). Staff involved in wet work should wear water-resistant gloves (rubber or plastic) as a form of personal protective equipment. Staff working in cold water in hatcheries or netting should use Sealskinz or similar protective gloves.

14.25 Giant Hogweed

Hazard:	Contact with giant hogweed sap
Level of Risk:	Low
Controls:	See details outlined below

14.25.1 Description

Giant Hogweed is a large flowering perennial. The plant is a public hazard and contact must be avoided. It is similar in appearance to our native cow parsnip, only it is much larger and the hairs on the under surface of the leaf are shorter (about .25 mm long). It reaches a height of 10 to 15 feet when in flower and has hollow stems, 2 to 4 inches in diameter with dark reddish-purple spots and bristles. Coarse white hairs at the base of the leaf stalk are also purplish, and each purple spot surrounds a blister-based hair. See employee safety handbook for pictures. The deeply incised compound leaves grow up to 5 feet in width. Giant hogweed flowers mid-May through July, with numerous white flowers clustered in an umbrella-shaped head that is up to 2.5 feet in diameter across its flat top. The plant produces flattened, 3/8-inch long, oval dry fruits that have a broadly rounded base, and broad marginal ridges. Hogweed prefers moist soil and can quickly dominate ravines and stream banks. Field staff are at risk during the course of their work on or adjacent to water courses/lakes and when carrying out development or research or environmental work.

14.25.2 Symptoms

A public health hazard, hogweed's clear, watery sap has toxins that cause photodermatitis. Skin contact followed by exposure to sunlight produces painful, burning blisters that may develop into purplish or blackened scars. After the burns subside, darkened areas or scars can persist for several years. The affected areas remain sensitive to sunlight, so it is important to keep the burned areas away from direct sunlight as much as possible. If you experience skin burning seek professional medical advice as soon as possible.

14.25.3 Prevention

Contact with Giant Hogweed should be avoided. If the sap comes in contact with your skin, cover immediately to avoid exposure to light. Wash off at the earliest opportunity. Wear long trousers tucked in to boots, wear long sleeved tops, cover your head and neck if working /walking in vicinity of giant hogweed. Do not attempt to cut down giant hogweed.

In order to avoid contact you must be able to identify the plant correctly.
All employees involved in field work must familiarise themselves with giant hogweed, its appearance, locations, and hazards. Refer to the employee handbook for identification photos of giant hogweed.

GIANT HOGWEED			
			
HEIGHT 15 to 20 feet	STEM 1 to 3 inch diameter Purple blotches, stiff bristles	LEAF Compound, lobed, deeply incised; up to 5 feet wide	FLOWER White flowers, flat-topped, umbrella, up to 2.5 feet across

Figure 14.3 Giant Hogweed identification chart

14.25.4 Eradication of Giant Hogweed

Cutting of hogweed will result in an increase of new growth. Where giant hogweed is present, eradication should be carried out by means of spraying with glyphosate (Roundup). This involves a strict four-year treatment programme, and controls must be provided for use with glyphosate.

14.26 Legionnaires Disease

Hazard:	Exposure to contaminated water
Level of Risk:	Low
Controls:	See details outlined below

14.26.1 Description

Legionnaires' disease is a type of pneumonia caused by the bacteria *Legionella pneumophila* and other *Legionella* species. Pontiac fever is a milder form of the disease with flu-like symptoms and no pneumonia. Patients with Pontiac fever recover within 2-5 days without treatment.

The disease is spread through the air from a water source. People become infected when they breathe in aerosols (tiny droplets of water) which have been contaminated with *Legionella* bacteria. Outbreaks of Legionnaires' disease have occurred when people have breathed in contaminated aerosols from hot and cold-water systems, air conditioning cooling systems, whirlpool spas and water fountains.

Legionnaires' disease is not very common. There are less than 10 cases reported each year in Ireland. However, it is thought that many more cases occur that are not diagnosed because Legionnaires' disease is difficult to distinguish from other forms of pneumonia and specific laboratory tests must be carried out to diagnose it. Staff are at risk if they use a shower which has not been regularly flushed.

14.26.2 Symptoms

The illness usually starts with a flu-like illness including fever, tiredness, headache, and muscle pains. This is followed by a dry cough and breathing difficulties that may progress to a severe pneumonia. Some people also develop diarrhoea or may become confused. Death occurs in 10-15% of otherwise healthy people and may be higher in some groups of patients.

The incubation period is 2-10 days. Symptoms usually appear 5-6 days after infection but may take longer.

If you develop the above symptoms and you are worried that you might have legionnaires' disease, please see your doctor.

14.26.3 Prevention

Legionnaires' disease can be prevented by the proper design and maintenance of water systems that limit the growth of the bacteria in the system. Where showers and taps are fitted, they should be run at least once a week for a couple of minutes to prevent the build-up of harmful bacteria. For large systems chemical treatment may be required. A record of preventative maintenance must be retained.

14.26.4 Treatment

There are several antibiotics available that are effective in treating the disease.

14.27 Radon

Hazard:	Radon Gas
Level of Risk:	Low
Controls:	See details outlined below

The greatest health risk from radiation in Ireland is caused by radon. It accounts for more than half of the total radiation dose received by the Irish population. As a known carcinogen, in the same category as tobacco smoke and asbestos it is a cause of lung cancer.

Certain areas of the country are more likely to have a high number of buildings with excessive levels of radon and these areas are known as High Radon Areas. They can be found on the online EPA radon map of Ireland.

Inland Fisheries Ireland is in the process of measuring radon levels in its properties nationwide. Radon results for IFI premises are held centrally by the Health & Safety Executive.

Where levels are found to be unsafe remedial measures will be taken. This may require additional ventilation or an active radon sump.

14.28 Lead in Water

Hazard:	Lead in Water
Level of Risk:	Very low
Controls:	See details outlined below

IFI properties constructed on or before the 1970's has had water testing for the presence of lead. Where levels of lead have been identified above safe drinking levels (10µg Pb per litre) an alternative source of potable water will be provided.

14.29 Electromagnetic Fields (EMF)

Hazard:	Electromagnetic Fields
Level of Risk:	Low
Controls:	See details outlined below

Electromagnetic fields (EMFs) arise whenever electrical energy is used. EMFs arise from all sorts of electrical appliances and in electricity generation and transmission, broadcasting, radio and telephone base stations, dielectric and induction heating, welding, electric furnaces, and medical equipment.

Exposure of people to high levels of EMFs can give rise to acute (short term) effects. The effects that occur depend on the frequency of the radiation. At low frequencies the effects will be on the central nervous system of the body whilst at high frequencies, heating effects can occur leading to a rise in body temperature. In reality, these effects are extremely rare and will not occur in most work situations.

EU Directive 2013/35/EU on the minimum health and safety requirements regarding the exposure of workers to the risks from EMFs was transposed into Irish law on 1st July 2016 by the Safety, Health, and Welfare at Work (Electromagnetic Fields) Regulations 2016 (S.I. No. 337 of 2016).

Where a risk of exposure is identified risk assessments shall be conducted. Where staff members have concern regarding potential exposure they must report to the Health & Safety Executive.

IFI will provide employees with information, training as well as controls to reduce the risk of exposure from EMF where applicable.

Where appropriate health surveillance intended to prevent or rapidly diagnose any adverse health effect due to exposure to EMFs shall be made available to those employees for whom the risk assessment reveals a health risk.

Where illness or adverse health effects are identified the risk assessment shall be reviewed, advice on control measures may be sought from medical professionals, other competent personnel and the HSA. Health surveillance shall continue and a review of the health status of any employee who has similarly exposure.

Mobile Phones

Large reviews of published research have concluded that overall, the evidence doesn't suggest that radio waves from mobile phones cause health problems.

Radio waves produced by mobile phones transmit in all directions to find the nearest base station. This means that some of the radio waves are directed at your body when you use a mobile phone.

Radio waves are absorbed into your body tissue as energy, which adds to the energy being produced by your body's metabolism.

Concerns have been raised that exposure to radio wave radiation might cause various health problems. However, the only known effect of radio waves on the human body is a very small rise in temperature of up to 0.2C. This is comparable to natural increases in temperature, such as during exercise, and does not pose a known risk to health.

Unlike more powerful ionising radiation, which is associated with problems such as cancer, radio waves are not thought to damage or alter the DNA in human cells.

The research into long term exposure is still ongoing. Future study findings may result in a change to the current risk rating which is low.

14.30 Psittacosis

Hazard:	Psittacosis
Level of Risk:	Low
Controls:	See details outlined below

Wild Birds Psittacosis

Description

The bacteria *Chlamydila psittaci* is the cause of psittacosis. Commonly affected birds include pigeons and doves. Chlamydial infections in birds are important as they represent a biological hazard to human health. *C. psittaci* can be transmitted from birds to humans; the resulting infection is also known as psittacosis, ornithosis or parrot fever.

Symptoms

Humans can be infected when coming in contact with the bird's body secretions, or faeces. Psittacosis typically causes influenza-like symptoms and can lead to severe pneumonia and non-respiratory health problems. It is an acute generalised respiratory disease with an incubation period of between one and four weeks. Clinical presentations may be variable, with fever, headache, myalgia (muscle aches) and upper or lower respiratory tract symptoms. An extensive atypical pneumonia may be demonstrated radiologically. This usually has a characteristic distribution in lung fields which is distinct from other causes of pneumonia. Although human disease may often be mild or moderate, it can be severe especially when untreated in elderly or immunocompromised individuals. Psittacosis can be difficult to diagnose and cases, especially of mild infection, often go unreported.

Treatment

Diagnosis of the disease in humans is confirmed by serological testing in which paired sera (blood samples collected two weeks apart) are tested for chlamydial antibodies. A diagnosis of psittacosis should be considered in patients with appropriate symptoms who have a history of exposure to birds and elevated or increasing antibody titres. The infection is treated with antibiotics.

Prevention

Protective clothing including gloves, eye wear, protective cap and a properly fitted respirator should be worn when entering areas where there is a high risk. Good standards of hygiene must be employed, and suitable disinfectants used as required. People with compromised immune systems should not be exposed to birds that might have Psittacosis.

Equipment/Power tools

14.31 Air Compressors

Hazard:	Poor housekeeping, moving parts, noise, vibration, dust, heat and over pressurisation.
Level of Risk:	Medium
Controls:	See details outlined below

14.31.1.1 Safety Checks

- Read and follow manufacturers operating manual for safe operation and maintenance.
- All compressors should have an inspection carried out by a competent person annually (should be completed as part of engineering insurance cover). Ensure that service records are up to date.
- All pipes, hoses, and fittings must have a rating of the maximum pressure of the compressor visibly marked upon it. Compressed air pipelines should be identified (psi) as to maximum working pressure.
- Safety valves must be fitted on air compressors.
- Pressure gauges must be fitted on air compressors.
- Compressors must be fitted with suitable appliances for draining the receiver.
- Compressors must be provided with a suitable manhole, handhole or other means which will allow the interior to be thoroughly cleaned.
- Air supply shutoff valves should be located (as near as possible) at the point-of-operation.
- Air hoses should be kept free of grease and oil to reduce the possibility of deterioration.

14.31.1.2 Safety in Use

- Hoses should not be strung across floors or aisles where they are liable to cause personnel to trip and fall. When possible, air supply hoses should be suspended overhead, or otherwise located to afford efficient access and protection against damage.
- Hose ends must be secured to prevent whipping if an accidental cut or break occurs.
- Pneumatic impact tools, such as riveting guns, should never be pointed at a person.
- Before a pneumatic tool is disconnected (unless it has quick disconnect plugs), the air supply must be turned off at the control valve and the tool bled.
- Compressed air must not be used under any circumstances to clean dirt and dust from clothing or off a person's skin.
- Static electricity can be generated through the use of pneumatic tools. This type of equipment must be grounded or bonded if it is used where fuel, flammable vapors or explosive atmospheres are present.

14.31.1.3 Personal Protective Equipment

- Goggles face shields or other eye protection must be worn by personnel using compressed air. Dust masks hearing protection must also be worn.

14.31.1.4 Air Receivers

Operators need to be aware of the following:

- The maximum allowable working pressures of air receivers should never be exceeded.
- The intake and exhaust pipes of small tanks, similar to those used in garages, should be made removable for interior inspections.
- No tank or receiver should be altered or modified by unauthorised persons.
- Air receivers should be fitted with a drain cock that is located at the bottom of the receiver.
- Receivers should be drained frequently to prevent accumulation of liquid inside the unit.
- Air tanks should be located so that the entire outside surfaces can be easily inspected.
- Each air receiver shall be equipped with at least one pressure gauge and a safety valve of the proper design.
- Only qualified personnel should be permitted to repair air tanks, and all work must be done according to manufacturer's standards.

14.31.1.5 Air Distribution Line

- Air lines should be made of high-quality materials, fitted with secure connections.
- Only standard fittings should be used on air lines.
- Operators should avoid bending or kinking air hoses.
- Air hoses should not be placed where they will create tripping hazards.
- Hoses should be checked to make sure they are properly connected to pipe outlets before use.
- Air lines should be inspected frequently for defects, and any defective equipment repaired or replaced immediately.
- Compressed air lines should be identified as to maximum working pressures (psi), by tagging or marking pipeline outlets.

14.31.1.6 Pressure Regulation Devices

Only qualified personnel should be allowed to repair or adjust pressure regulating equipment.

- Valves, gauges, and other regulating devices should be installed on compressor equipment in such a way that cannot be made inoperative.
- Air tank safety valves should be set no less than 15 psi or 10 percent (whichever is greater) above the operating pressure of the compressor but never higher than the maximum allowable working pressure of the air receiver.

- Air lines between the compressor and receiver should usually not be equipped with stop valves. Where stop valves are necessary and authorized, safety valves should be installed between the stop valves and the compressor.
- The safety valves should be set to blow at pressures slightly above those necessary to pop the receiver safety valves.
- Blow off valves should be located on the equipment and shielded so sudden blow offs will not cause personnel injuries or equipment damage.
- If the design of a safety or a relief valve is such that liquid can collect on the discharge side of the disk, the valve should be equipped with a drain at the lowest point where liquid can collect.
- Safety valves exposed to freezing temperatures should be located so water cannot collect in the valves. Frozen valves must be thawed and drained before operating the compressor.

14.31.1.7 Air Compressor Operation

- Air compressor equipment should be operated only by authorized and trained personnel.
- The air intake should be from a clean, outside, fresh air source. Screens or filters can be used to clean the air.
- Air compressors should never be operated at speeds faster than the manufacturer's recommendation.
- Equipment should not become overheated.
- Moving parts, such as compressor flywheels, pulleys, and belts that could be hazardous should be effectively guarded.

14.31.1.8 Compressed Air Equipment Maintenance

- Only authorised and trained personnel should service and maintain air compressor equipment.
- Exposed, non-current carrying, metal parts of compressor should be effectively grounded.
- High flash point lubricants should not be used on compressors because of its high operating temperatures that could cause a fire or explosion.
- Equipment should not be over lubricated.
- Gasoline or diesel fuel powered compressors shall not be used indoors unless local ventilation is employed.
- Equipment placed outside but near buildings should have the exhausts directed away from doors, windows, and fresh air intakes.
- Soapy water or lye solutions can be used to clean compressor parts of carbon deposits, but kerosene or other flammable substances should not be used. Frequent cleaning is necessary to keep compressors in good working condition.
- The air systems should be completely purged after each cleaning.
- During maintenance work, the switches of electrically operated compressors should be locked open and tagged to prevent accidental starting.
- Portable electric compressors should be disconnected from the power supply before performing maintenance.

14.31.2 Larger Portable Air Compressors (Trailer Compressor)

- Read and follow the manufacturer's operating manual for safe operation and maintenance.
- Ensure personal protective equipment (protective footwear, gloves, eyewear, dust masks and hearing protection) is worn.
- Staff towing the vehicle must maintain a safe speed to avoid trailer sway or "fish tailing."
- Staff operating the compressor must have completed safe pass training.
- Ensure the equipment is tested and certified by a competent person at least once in every 26 months.

14.32 Abrasive Wheels & Cutting Discs (Angle Grinder etc.)

Hazard:	Dust, noise, sharp edges, projectiles, moving parts, fire, wheel breakage
Level of Risk:	Medium
Controls:	See details outlined below

14.32.1 Abrasive Wheels

- Read and follow the manufacturer's operating manual for safe operation and maintenance.
- Staff using abrasive wheels must have received formal training in safe operation. Only trained staff are authorised to use and mount abrasive wheels.
- Ensure the abrasive wheels are suitable for the work which it is used.
- An abrasive wheel shall not be used unless the max speed specified by the manufacturer is clearly marked and any other safety information such as expiry dates or restrictions of use.
- Every machine is marked with the maximum speed or speed range of the spindle on which an abrasive wheel is, or is intended to be, mounted. Unmarked machines must be reported and marked as required.
- Where practicable a guard is fitted where abrasive wheels are used.
- The work area should be clean, tidy, and free of combustible material.
- The tool should not be operated in close proximity to others.
- Always hold the tool with both hands.
- Abrasive wheel discs can become brittle, to avoid this, discs must be stored per the manufacturers guide. Cutting discs should never be used for grinding.
- Rags and waste must be kept clear of wheels.
- Never use excessive pressure on the work piece. This could burst the wheel.
- Never stop the wheel by applying pressure to it.
- Do not operate the equipment near flammable substances or combustibles.
- Ensure suitable personal protective equipment is worn including, protective overalls, gloves, face, eye, hearing and respiratory protection. Steel toe boots should also be worn. Do not wear loose fitting clothing.
- Check safety data sheets for the material you are working on.
- Where there is a rest for supporting workpiece, the rest is of substantial construction, properly maintained, mounted and secured so as to be as close as practicable to the abrasive wheel while it is in motion. As the wheel wears, the work rest should be frequently inspected and adjusted.
- Grinding on the side of straight-sided wheels used for offhand grinding is dangerous; particularly when they are appreciably worn or when sudden pressure is applied.
- Discs should always be stored separately in a clean and dry location.

14.32.1.1 Checks

- Carry out visual checks on the machine or tool, prior to use.
- Do not use discs which are cracked or damaged. Inspect for defects.
- Unsafe equipment should be clearly labelled, taken out of service and stored securely.
- Check for loose plug connections or damage to the cable sheath.
- Ensure that the floor around the machine is maintained in good condition.
- When mounting wheels or discs, ensure that the maximum operating speed marked on the wheel cannot be exceeded. The rated speed of the motor must not exceed the disc. Ensure the correct flanges are used and do not over tighten.
- The wheel guard must be secured in position and properly adjusted before the wheel is run.
- Work rests should be kept as close as possible to the wheel. As the wheel wears, the work rest should be frequently inspected and adjusted.
- Grinding on the side of straight-sided wheels used for offhand grinding is prohibited and is dangerous; particularly when they are appreciably worn or when sudden pressure is applied.

14.32.2 Cutting Discs

- Read and follow the manufacturer's operating manual for safe operation and maintenance.
- Staff using cutting discs must have received formal training in safe operation.
- Only use a cutting disc when the use of other safer cutting equipment is not practicable.
- The cutting disc shall not be used unless the max speed specified by the manufacturer is clearly marked and greater than the speed of the tool which is also clearly marked.
- A guard must be fitted.
- Cutting discs should never be used for grinding.
- The work area should be clean, tidy and free of combustible material.
- The tool should not be operated in close proximity to others.
- Always hold the tool with both hands.
- Rags and waste must be kept clear of discs.
- Do not operate the equipment near flammable substances or combustibles.
- Ensure suitable personal protective equipment is worn including protective overalls, gloves, face, eye, hearing and respiratory protection. Steel toe boots should also be worn. Do not wear loose fitting clothing.
- Check safety data sheets for the material you are working on.
- Ensure you have the correct disc for the material to be cut.
- The switch must be pressure controlled and trigger locks should not be used.
- Never grind on the side of a disc.
- Discs should be stored separately in a clean and cool location.

14.32.2.1 Checks

- Carry out visual checks on the machine or tool, prior to use.
- Do not use discs which are cracked or damaged. Inspect for defects.
- Check for loose plug connections or damage to the cable sheath.
- Ensure that the floor around the machine is maintained in good condition.
- When mounting wheels or discs, ensure that the maximum operating speed marked on the wheel cannot be exceeded. The rated speed of the motor must not exceed the disc. Ensure the correct flanges are used and do not over tighten.
- The wheel guard must be secured in position and properly adjusted before the wheel is run.

14.33 Table Saws & Wood Working Equipment

Hazard:	Dust, noise, electricity, sharp edges, moving parts, projectiles, fire
Level of Risk:	Medium
Controls:	See details outlined below

14.33.1 Table Saws

- Read and follow the manufacturer's operating manual for safe operation and maintenance.
- Inspect the table saw before use every time. Check the blade for chips or cracks, and make sure it is the correct type of blade for the material that you want to cut and adjusted to the appropriate height. If the blade is chipped or cracked, replace it at once.
- Make sure all guards are in place, in good condition, attached securely, and used at all times. A riving knife must be fitted and correctly positioned in direct line with the saw blade. A distance of 12mm from knife to blade must not be exceeded.
- With a saw blade of less than 600 millimetres, the knife extends upwards from the machine table to a height above the surface of the machine table which is not more than 25 millimetres below the highest point of the saw blade, and with a saw blade of 600 millimetres or more, the knife extends upwards from the machine table to a height of at least 225 millimetres above the machine table.
- Never force a piece of material through the saw, as a "kick-back" of the material could result.
- Keep the saw teeth sharp; dull teeth are more likely to cause a kickback.
- No rags should be used around the table saw since they can easily cause entanglement of the operator.
- Never use both the crosscut guide and the rip fence during the same cutting process.
- If the stock that is being cut is long, then a support should be used for material coming off the saw.
- Always be watchful for blade-pinching situations.
- Always use splitter and anti-kick back fingers when ripping.
- Always hold the work firmly against the miter gauge or fence.
- Always use a push stick for ripping narrow stock.
- Stand to one side, not in line with the saw cut when ripping.
- Move the rip fence out of the way when cross cutting.
- When cutting moldings, never run the stock between the fence and molding cutter head.
- Never use the fence as a cut-off gage when cross cutting.
- Use a push stick for the final 300mm of feed.
- Do not remove off-cuts while the blade is running.
- Do not sweep away sawdust or off-cuts by hand.

14.33.1.1 Personal Protective Equipment

- Safety glasses must be worn.
- A suitable dust mask must be worn.
- Hearing protection must be worn.
- Long sleeves, including loose fitting lab coats, or baggy clothes should never be worn during table saw operation since the fabric hanging down from the arms could be in very close proximity to the blade.
- Ties should not be worn by the table saw operator.
- Long hair should be pulled back in a ponytail and secured up near head and away from the blade.
- No rings should be worn on fingers during operation of the saw.
- No jewelry hanging around the neck should be worn that could be accidentally picked up by the saw blade.

14.33.1.2 Basic Description of Operation

- The correct process must be identified; either it is a crosscut or a ripping cut.
- The type of cut which is being utilized will determine the next step.
- Crosscut: a cut which runs the board perpendicular to the grain.
- Rip cut: a cut which runs the length of a board parallel to the grain.

14.33.1.3 Crosscut

- Locate the crosscut guide and install it into the table saws slot.
- Unplug the saw.
- Set the correct angle on the crosscut guide, in reference to the blade.
- Set the correct angle of the blade, in reference to the top of the table saw.
- Set the correct height of the blade, in reference to the material being cut. Correct height of the blade is approximately 1/4" higher than the top surface of the material being cut.
- Make sure the rip fence is off the saw.
- Remove the blade guard only if it will interfere with the board being moved across the saw.
- Plug the saw back in.
- Locate the stock to be cut in the correct position against the crosscut guide, in reference to the blade. This will determine how much material gets cut off.
- Turn on the saw.
- Make the cut.
- Turn off the saw.
- If you are done cutting pieces, then lower the blade below the table surface.
- Wait for the blade to stop spinning before reaching down to pick up the stock.

14.33.1.4 Ripping

- Remove the crosscut guide from the table saw.
- Unplug the saw.
- Install the rip fence on the saw.
- Set the fence at the correct distance from the blade, to determine width of material being cut.
- Double check the blade distance to the rip fence from two positions to ensure the stock being cut will not become wedged in between the blade and the rip fence.
- Put the blade guard into place. Make sure the stock being cut will not hit the blade guide's arm near the edge of the saw.
- Set the blade to the correct angle and height.
- Set up a support for the stock coming off the saw if it is a long piece.
- Locate a push stick and put it on the table saw just on the other side of the fence, where it can be reached when the material being cut is getting just past the edge of the tabletop.
- Turn the saw on.
- Guide the wood into blade while keeping the material up against the rip fence.
- Push the material into the saw and when the material gets just past the edge of the table saw, pick up the push stick and use it to push the material on past the blade.
- Push the material past the blade and make sure it is secure.
- Turn the saw off and wait for the blade to stop spinning.
- If you are done cutting, lower the blade below the table surface.
- When finished working with the saw, put scraps away and clean up.

14.33.2 Wood Working Equipment (Band Saw, Circular Saw, Lathes etc.)

- Staff operating woodworking equipment must be trained and competent to do so.
- Read and follow the manufacturer's operating manual for safe operation and maintenance.
- Ensure the equipment is located so as to give sufficient clear and unobstructed space free of trip hazards.
- Guarding must be used; the removal or interference with machine guarding is strictly prohibited.
- Where applicable other protection devices such as spikes, push-sticks, push-blocks, jigs, holders and back stops, gripping devices and powered feed devices are to be used to ensure the safe operation of the machine.
- The examination, repair, cleaning, oiling, or greasing of woodworking equipment is prohibited where there is a risk of injury from moving parts of the machine.
- Cleaning of machinery blade by hand scrapping is prohibited when the blade is in motion.
- Stand clear when woodworking machines are still in motion after power down.
- Where wood dust is emitted extraction devices must be used.
- Additional RPE must be used when working with hard woods.
- Where extraction devices are not used with the machine RPE must be used.

14.34 Welding

Hazard:	Radiant energy, arc eye, fumes & gases, noise, sharps, impact injury, electricity, fire, heat stress, sparks & slag, explosive compressed gas, chemicals, awkward postures.
Level of Risk:	High
Controls:	See details outlined below

14.34.1 MIG Welding

- Read and follow manufacturers operating manual for safe operation and maintenance.
- Equipment is only operated by competent and experienced personnel who are fully aware of all precautions required.
- The gas cylinder must be held in an upright position and secured with a safety chain.
- Ensure all cables fit tightly into connections and are free of burns cuts or abrasions. Replace defective cables.
- The workplace must be kept clean and tidy, free from combustible rubbish.
- Personal protective equipment must be worn. This includes overalls, apron, gloves, safety boots and protective face shield with a suitable lens. If the work area is not well-ventilated local fume extractors hood should be used. Respiratory protective equipment may also be required. Hearing protection is required in noisy environments.
- Other employees shall not work in close proximity to the welder unless they also wear personal protective equipment. A welding curtain should also be used to protect nearby staff from UV and infra-red rays.
- When preparing a piece of metal with a wire brush before welding safety goggles must be worn.
- Ensure a suitable fire extinguisher is at hand.
- Ensure argo-shield is turned off after use.

14.34.2 TIG Welding

- Read and follow manufacturers operating manual for safe operation and maintenance.
- Equipment is only operated by competent and experienced personnel who are fully aware of all precautions required.
- The gas cylinder must be held in an upright position and secured with a safety chain.
- Ensure all cables fit tightly into connections and are free of burns cuts or abrasions. Replace defective cables.
- The workplace must be kept clean and tidy, free from combustible rubbish.

- Personal protective equipment must be worn. This includes overalls, apron, gloves, safety boots and protective face shield with a suitable lens. If the work area is not well-ventilated local fume extractors hood should be used. Respiratory protective equipment may also be required. Hearing protection is required in noisy environments.
- Other employees shall not work in close proximity to the welder unless they also wear personal protective equipment. A welding curtain should also be used to protect nearby staff from UV and infra-red rays.
- When preparing a piece of metal with a wire brush before welding safety goggles must be worn.
- Ensure a suitable fire extinguisher is at hand.

14.34.3 Oxyacetylene Welding

- Read and follow manufacturers operating manual for safe operation and maintenance.
- Equipment is only operated by competent and experienced personnel who are fully aware of all precautions required.
- The gas cylinders must be held in an upright position and secured with a safety chain.
- The cylinders should be fitted to a mobile trolley to reduce the manual handling risk.
- The cylinder must be kept a safe distance from the working area.
- The workplace must be kept clean and tidy, free from combustible rubbish.
- Personal protective equipment must be worn. This includes overalls, apron, gloves, safety boots and protective face shield with a suitable lens. If the work area is not well-ventilated local fume extractors hood should be used. Respiratory protective equipment may also be required. Hearing protection is required in noisy environments.
- Regular checks for leaks are required. A test solution should be used on the hose, regulator, torch and cylinder connections. Replace leaking equipment.
- Never use oil or other lubricants to fit connections. Replace poor fitting connections.
- Always use a flint lighter to light the gas.
- In the event of backfire turn off the torch and check settings and connections. This may occur when there is insufficient acetylene pressure; a tip is placed too close to the weld; overheated or dirty tips, tip is not securely attached, or the tip size is too large.
- Ensure tips are kept clean.
- A flash back arrestor should be fitted. Flashback may occur if connections are badly fitted. If this occurs immediately turn off the acetylene at the cylinder. Turn off both gas valves at the torch. Check the settings and connections to make sure they are secure. Allow to cool before relighting. If the flame has reached the regulators and the safety valves have blown the hose must be replace before using again.
- Other employees shall not work in close proximity to the welder unless they also wear personal protective equipment. A welding curtain should also be used to protect nearby staff from UV and infra-red rays.

- When preparing a piece of metal with a wire brush before welding safety goggles must be worn.
- Ensure a suitable fire extinguisher is at hand.

14.34.4 Electric Arc Welding

- Read and follow manufacturers operating manual for safe operation and maintenance.
- Equipment is only operated by competent and experienced personnel who are fully aware of all precautions required.
- Personal protective equipment must be worn. This includes overalls, apron, gloves, safety boots and protective face shield with a suitable lens. If the work area is not well-ventilated local fume extractors hood should be used. Respiratory protective equipment may also be required. Hearing protection is required in noisy environments.
- When preparing a piece of metal with a wire brush before welding safety goggles must be worn. Goggles must also be worn when chipping slag.
- Ensure all cables fit tightly into connections and are free of burns cuts or abrasions. Replace defective cables.
- When welding support the cable on the work bench to reduce the load on your hand where possible.

14.35 Hand Tools General

Hazard:	Sharp edges, pointed objects, impacting debris, pinch points
Level of Risk:	Low
Controls:	See details outlined below

14.35.1 General Rules

Hand tools refer to hammers, screwdrivers, knives, shovels, etc., which do not require electrical, hydraulic, pneumatic or other forms of power to operate.

- The proper tool will be selected for the job.
- Tools must be in good condition and used correctly.
- Tools must never be thrown or misused in such a way that anyone could be injured.
- Tools must be placed in a secure position while being sharpened.
- When not in use, all sharp-edged, toothed, and pointed tools must be properly stored in such a manner that points and edges will not be a hazard.
- Make sure the handle or gripping surface of a tool used is free from dirt, grease, oil, and splinters.
- Do not use hammers of any description with cracked, splintered, or badly worn handles.
- Sharp edged and pointed tools become deadly weapons when used in close quarters – guard accordingly.
- Unguarded sharp-edged or pointed tools must not be carried in pockets.
- Defective tools must not be used and will be turned into supervisors as soon as is practicable.

14.35.2 Chisels

- Eye protection must be worn when using chisels.
- The cutting edge should be sharpened to the correct angle.
- Keep the chisel head trimmed at all times to prevent mushrooming particles from flying.
- Work away from the body when striking a chisel.
- Chisels must not be used as crowbars or wedges, as the brittle steel may break and cause injury.
- Gloves and chisel holders are recommended when using chisels.
- Screwdrivers: must never be used as 'chisels' and should never be hammered. Split handles are dangerous.

14.35.3 Files

- Never use a file without a handle attached to it.
- The correct way to hold a file is to grasp the handle firmly in one hand and use thumb and forefinger of the other hand to guide the point.
- Be extra careful when filing against the cutting edge of item being filed.
- Files must never be used as crowbars, punches, chisels, or similar tools.
- When filing, pay attention to your work; if interrupted, stop filing.
- Employees will not carry unguarded or unsheathed files in pockets.
- Employees should wear gloves when using a file.

14.35.4 Hammers

- Eye protection must be worn when hammering material likely to splinter or shatter.
- Select the proper type of hammer for the job.
- Hammers must be secured to the shafts.
- Avoid the use of split, broken, or loose, worn or chipped heads.
- Hammers with cracked, splintered, or badly worn handles will not be used.

14.35.5 Sledgehammers

- Eye protection must be worn when using a sledgehammer.
- Sledgehammers must have securely wedged handles.
- Never attempt to strike an object with a sledgehammer at or above shoulder height. Use a platform to drive an object at or above shoulder height.
- An employee holding a post, stake, nail, pin, wedge, etc., to be driven will stand at right angles to the direction of the sledgehammer and use a holding device to grip the driven item. Gloves are recommended. Where there is a risk of a pole, stake etc. splintering or cracking when struck, then the top should be covered using a handheld post driver or similar cover.
- Single-bit axes (axes with one sharp end and one flat end on the head) must not be used as a sledgehammer.

14.35.6 Picks

- Eye protection should be worn when using a pick.
- Points on picks, pick mattocks, and pick axes must be kept sharp and properly maintained to prevent the tool from glancing off the work and striking the user.
- When using "Swinging" types of tools, make sure to have sufficient clearance to swing to avoid injury to yourself and others. Spread your legs apart on secure footing and avoid swinging too close to the feet.
- Picks must be hung or laid across a rack when storing.

14.35.7 Crowbars (Pinch Bars, etc.)

- When using crowbars, make sure to have sufficient clearance to avoid injury to yourself and others.

14.35.8 Pitchforks, Hoes, Rakes, Shovels

- Pitchforks, hoes, rakes, and shovels must never be left lying around with teeth or blades in an upright position. Exposed prongs, when stepped on, may cause puncture wounds. Blades or prongs, when stepped on, may cause the handles to fly up and strike you in the face.
- Long-handled tools such as pitchforks, hoes, rakes, shovels etc., must be placed in an upright position, when not in use on the job, or placed on the ground away from walk areas so that tripping hazards may be avoided.
- When lifting with a long-handled tool, such as pitchfork, shovel, etc., grip one hand close to the load to lessen the strain.

14.35.9 Pliers and Cutters

- Pliers must not be used as a substitute for wrenches, as they do not hold the work securely; injury may result from slipping.
- When using wire cutters, guard against fingers being pinched or crushed.
- When cutting short ends of wire, cut away from the face to avoid exposure to flying particles.
- When cutting wire under tension, grasp the wire close to the cutter and stand so that the other end cannot strike you when the tension is suddenly released.
- Insulated pliers must be used for electrical work.

14.35.10 Saws

- Select the proper type of saw for the job. Use it properly and hang it up when the job is completed.
- Ensure that the saw teeth are kept sharp.
- Wear a suitable dust mask when cutting in enclosed spaces. Dust masks are mandatory when cutting hard woods or medium density fibreboard (MDF).

14.35.11 Hacksaws

- Select a saw blade that is suitable for the materials to be cut.
- Place the blade in the frame so that the teeth point toward the end of the frame and away from the handle.
- Tighten the blade rigidly and make sure the frame is in proper alignment.
- Straight cuts cannot be made with loose blades and crooked frames, which may also cause the blade to bend, buckle, twist, bind, or otherwise break and injure you.
- Too much pressure or twisting when sawing with a hacksaw may cause the blade to break, resulting in an injury.
- Place one hand on the upper portion of the frame and the other hand on the handle; cut away from yourself and cut with long, straight, steady strokes using practically the entire length of the blade.
- To avoid dulling the teeth, ease pressure on the backward stroke.
- When work is held in a vice, make certain that in cutting, your hand will not strike the vice.

14.35.12 Screwdrivers

- Screwdrivers must not be used as substitutes for punches, hammers, wedges, crowbars, chisels, nail pullers, or similar uses.
- Both hands must be used to safely handle a screwdriver; one hand to turn the handle and the other to steady the blade so as to prevent slipping.
- All parts of the body must be kept in the clear in case the screwdriver slips.
- Only screwdrivers with insulated handles will be used for electrical work.
- Screwdrivers with blades or rivets extending through the handle must not be used for electrical work.
- Use the correct size screwdriver to prevent slipping.
- When dressing or reshaping a screwdriver, do so forming a long taper instead of a "chisel-type" blade.
- Employees must avoid carrying unguarded screwdrivers in their pockets.

14.35.13 Sharp and Pointed Objects

- Razor blades and pins must be kept in containers, never loose in desks or thrown in wastebaskets.
- Sharp or pointed articles, such as pens, knives, pencils or envelope openers must never be left on the edge of a desk or any other place where they may puncture or cut someone.
- Never carry an unprotected knife, pencil, pen, or other sharp instrument in your pocket.
- Never toss or throw a sharp or pointed object.

14.35.14 Wrenches

- Use wrenches that are the right type and size for the job.
- A loose wrench will slip and may cause serious injury. A loose wrench also ruins the corners of the cap screw or nut.
- When working in a tight place, take care that the grip you use will not injure your hand in turning.
- Pulling on a wrench is the proper way to use it. It is not advisable to push a wrench as slippage may cause serious injury to your hand, face, or body. If you must push a wrench, do so with a stiff arm, holding your face and body back.
- Do not over strain a small wrench, subject any wrench to a severe side strain, or use a wrench as a hammer.
- Using a pipe or other device "cheater" for extra leverage is not a safe practice; the wrench is not built for that extra strain. Such a practice may result in serious injury to the user. A larger wrench should be used to gain leverage.

14.36 Power Tools General

Hazard:	Moving parts, sharps, dust, noise, poor housekeeping, impacting debris, electricity, vibration
Level of Risk:	Medium
Controls:	See details outlined below

- Read and follow manufacturers operating manual for safe operation and maintenance.
- Only trained and authorised personnel may use power tools.
- Safety guards must not be interfered with on tools. The trigger mechanism must not be tied down.
- All tools must be inspected before use. Do not use defective power tools, immediately report them to your supervisor for repair or replacement.
- Do not adapt or repair power tools unless you are competent and authorised to do so.
- Ensure Electrical leads and connections/plugs are in safe working order before using the tool.
- Do not strain, twist or damage an electric lead – ensure it is long enough to reach the workplace.
- Use only 110volt Power tools for outdoor and confined space work.
- Do not use petrol-driven tools in an enclosed space and ensure fuel is stored in a safety can.
- In workshops ensure 220v power tools are protected by a circuit breaker.
- The following protective equipment must be worn when working with power tools, goggles, hearing defenders and foot protection.
- Make sure that equipment selected or allocated for tasks is suitable and can do the work efficiently thus reducing the duration of vibration exposure. Equipment that is unsuitable, too small or not powerful enough is likely to take much longer to complete the task. Select the lowest vibration tool that is suitable and can do the work efficiently. Limit the use of high-vibration tools wherever possible.
- Work equipment is replaced over time as it becomes worn out, and it is important that you choose replacements, so far as is reasonably practicable, which are suitable for the work, efficient and of lower vibration.

14.36.1 Nail Guns

- Read and follow manufacturers operating manual for safe operation and maintenance.
- The tool must be checked before use, it must be loaded only before it is used. When not in use remove the battery/cartridge & remaining nail magazine.
- Never point the gun at anyone. If you have to move when it is in use the gun must be pointed downward with finger off the trigger.

- Always keep cartridges away from heat sources.
- At the moment of firing the operator must be in a stable position, holding the tool as far as possible at right angles to the base material.
- The operator must ensure nobody is working close to the firing area.
- Always shoot the gun away from your body.
- Check lumbar surfaces before nailing. Look for knots, nails, straps, hangers etc. These can cause recoil or ricochet.
- If the tool malfunctions, keep the tool on the work surface and fire again. If it fails, remove the battery and examine the tool. If several incidents occur, you must inform the manufacturer.
- The user and others working in the area must wear PPE. This includes goggles, and hearing protection.
- The condition of the tool must be checked at least once a year by the manufacturer or their authorised agent. The tool should be regularly maintained (cleaning and greasing) to keep it in good operating condition.

14.37 Safe Use of Knives

Hazard:	Sharp edges and points
Level of Risk:	Medium
Controls:	See details outlined below

- Always keep your knife sharp. A dull knife is a dangerous instrument as it will often slide when you want it to cut.
- Always keep a knife sheathed or closed when not in use.
- Always hold the knife firmly and by the handle only.
- Never press on the blade when cutting.
- The knife must be closed or sheathed when passing on to others.
- If a knife cannot be closed or sheathed, lay it down to be picked up.
- If you drop your knife let it fall never attempt to catch it.
- Never run with a knife.
- Protective gloves should be worn when knives are regularly used.
- Kevlar protective gloves should be worn when using scalpels.
- Open knives should be carried in a sheath and not in the pocket.
- Never use a knife with a broken or cracked blade.
- When using "Snap-Off" disposable blades, never extend the blade beyond the last notch.
- Knives not having a point are preferable.
- Sharps e.g. blades, must be disposed of in a suitable bin.

14.38 Safe Use of Firearms

Hazard:	Noise, barrel obstruction, pitting, recoil, accidental discharge
Level of Risk:	High
Controls:	See details outlined below

14.38.1 Safe Handling of Firearms

- The firearm can only be handled by those named on the firearms license.
- The firearm held by IFI shall only be used by licensed and trained staff.
- The muzzle must not be pointed at anything you don't intend to shoot.
- Extra care must be taken when loading or unloading.
- Always treat every gun as if it were loaded.
- Firearms should only be loaded in the field immediately prior to use.
- Never let a loaded gun out of your sight or out of your hands.
- Unload the gun as soon as you're finished shooting.
- Before handling a firearm, or passing it on to someone else, visually check the chamber, receiver and magazine to be certain it does not contain ammunition. Always keep the gun's action open when not in use.
- Never assume a gun is unloaded.
- Treat every gun as though it can fire at any time — whether or not there's pressure on the trigger.
- A gun's safety is a mechanical device, and, like any mechanical device, it could fail.
- Don't touch the trigger on a firearm until you're ready to shoot.
- Keep your fingers away from the trigger while loading or unloading.
- Do not pull the trigger with the safety engaged or positioned anywhere between "safe" and "fire." The gun could go off at any time.

14.38.2 Loading and Blockages

- Before loading your gun, open the action and make sure there's no ammunition in the chamber or magazine.
- Check to see that there's no debris of any kind in the barrel.
- Use a cleaning rod and patch to wipe away any anti-rust compounds or any other residues in the gun.
- Never try to remove an object from the barrel by loading another shell and firing.

14.38.3 Precautions when taking a target

- Do not fire unless you know exactly where your shot is going and what it will strike. Never fire at a sound, a movement or a patch of colour.
- Never shoot without being absolutely sure of what you're shooting at, and what's behind it.
- Before you pull the trigger, be absolutely certain that your shot has a backstop such as a hillside, or dense material like sand.

- Bullets can travel great distances with tremendous velocity you must know how far your shot will go if you miss your target or the bullet ricochets.
- As far as is reasonably practicable areas where the firearm can be safely discharged must be clearly signed to warn employees, contractors and members of the public.

14.38.4 Correct Ammunition

- Using the wrong ammunition, or mixing ammunition, can destroy your firearm and expose you or bystanders to serious personal injury.
- Make sure that the ammunition you use exactly matches the gauge and chamber length of your gun.
- Refer to your owner's manual to find out about the specific requirements of your gun and always read and heed the instructions on ammunition boxes.
- Check all ammunition before you load it to be sure that it matches.
- Firearms are designed, manufactured and proof-tested to standards based on factory-loaded ammunition. Hand-loaded or reloaded ammunition that deviates from load or component recommendations can be very dangerous. Observe all possible safety precautions and practices related to the proper handling of explosives.
- Don't mix or substitute powders or primers, because the firearm could explode.
- Do not use unknown or substandard components.

14.38.5 Gun Failure

- If the ammunition doesn't fire when you pull the trigger, stop.
- Keep the muzzle pointed in a safe direction.
- Keep your face away from the breech, open the action, unload the firearm and dispose of the cartridge safely.
- Remember, any time there is a shell in the chamber, your gun is loaded and ready to use — even if you've tried to shoot and it does not fire. It could still discharge.

14.38.6 Personal protective Equipment

- Wear shooting glasses to guard against eye injury, as well as falling shot and powder residue.
- Always wear suitable hearing defenders when using a firearm.

14.38.7 Gun modification and Service

- Never alter or modify your firearm in any way.
- Your gun must be maintained and periodically serviced to assure optimum safety and performance.
- Do not allow anyone to service, repair or modify your firearm except a service facility recommended or approved by the gun's manufacturer.
- Proper cleaning and lubrication of all parts of your gun are also critical to gun maintenance, and are necessary to assure accuracy, safety and reliability.

- Clean your gun before and after long-term storage and no less frequently than once a year.
- Clean your gun whenever it has been exposed to adverse conditions, such as dirt, mud, rain, and snow sleet or in saltwater areas.
- Carefully inspect the trigger assembly to be sure it's clean and free of debris and residue build-up.
- Use recommended lubricants on your gun and take care not to over-lubricate. Excessive use of a non-recommended lubricant could cause serious functional problems that might result in an accidental firing.

14.38.8 Mechanical and Handling Characteristics of the Firearm

- Not all guns are alike. They have different mechanical characteristics that dictate how you should carry and handle them.
- Prior to using a firearm, you must first become totally familiar with the type of gun it is and the safe handling requirements for loading, unloading, carrying, shooting and storage.

14.38.9 Use of intoxicant

- Alcohol, drugs and guns are a deadly combination.
- Never consume anything (including medication) that will even mildly impair your judgment or physical coordination when you're using a firearm.

14.38.10 Storage

- The firearm must be stored in the gun safe at all times. A logbook must be kept. It shall include the date, time and reason of use of the firearm as well as the signature of the user. The date, time and signature must also be entered when the gun is returned.
- Never store a gun loaded.
- Keep guns and ammunition in separate and secure places so they can't be used without your knowledge.

14.38.11 Safe Transportation

- During transport, firearms must always be stored in a case/sleeve, out of sight in a locked vehicle boot.
- They should not be immediately accessible to the driver or any passenger.
- No gun should be loaded with ammunition while travelling to or from a shoot.
- Where possible, rifle bolts and shotgun fore ends, pistol top slides and magazines should be removed and kept separately.
- A firearm should never be left inside the seating area of a vehicle: whether occupied or unattended.
- If it is necessary to stop and leave the vehicle, reasonable steps should be taken to ensure the safety of the firearm in question. It is prudent to also place in the boot anything which might indicate that a firearm may be in the vehicle e.g. hunting clothing, etc.
- The transportation of licenced firearms for private use e.g. leisure hunting is strictly prohibited.

14.38.12 Specific Permissions

- Where specific permissions are granted e.g. specific permissions granted by the relevant government department, the H&S Executive must be contacted to create a specific risk assessment for the activity prior to commencement.

14.39 Winching Operations

Hazard:	Winch overload, cable failure, pinch points, moving parts, damaged cables, electricity, manual handling
Level of Risk:	Medium
Controls:	See details outlined below

Note winches used for the removal of angling structures must have a minimum safe working load of 4 tonne.

14.39.1 Powered Winching Operations

- Read and follow the manufacturer's operating manual for safe operation and maintenance. Only staff who have received suitable information, instruction, supervision and training can participate in winching operations.
- Ensure the winch is fitted by a competent person.
- Ensure the winch is regularly serviced/maintained by a competent person (Inspection and certification is covered under the engineering insurance policy).
- Gloves must always be worn during winching operations.
- The strength of the wire rope should always exceed the maximum stall rating of the winch.
- Cables should be inspected frequently for wear and tear.
- Always stand well clear of wire rope and load during winching operations. Insist that helpers/spectators keep to a safe distance when winching.
- Always use vehicle ground anchors when recovering another vehicle.
- Always be sure that an anchor point intended for use is strong enough to withstand the load applied.
- Always use a choker chain, wire rope made for the purpose or tree trunk protector when connecting the winch wire to an anchor point.
- Always check that when ground or vehicle anchors are used the anchor is firm throughout the duration of the pull.
- Always keep a check on the winch wire anchor point; under heavy load it could fall with disastrous consequences.
- Always inspect and carefully re-wind wire rope after use. Crushed, pinched or frayed areas severely reduce original tensile strength. (For safety's sake, wire rope should be replaced when any form of damage is evident).
- Always stop winching when the hook is at least 3 metres away from the fairlead of the winch.
- Always wear gloves. Do not let wire rope slide through bare hands.
- Always use proper vehicle anchor points. Never hook up to bumpers, spring hangers or axle casings. When recovering an old vehicle be aware of the condition of the vehicle's anchor points.
- Ensure that the rope is correctly spooled onto the winch drum. The spooling (winding-on) of the wire rope can be accidentally reversed by running the rope all the way out and re-spooling in with remote control switch in the 'power-out' mode.

- Never handle wire rope or rigging during winching operations or touch a wire rope or its hook while they are under tension; even when the winch is not in operation there may still be a considerable load applied to winch and cable.
- Never put a wire winch rope round an anchor and hook it back on itself, as this will damage the wire rope and reduce its tensile strength.
- Never operate a winch with less than 5 wraps of wire rope on the drum. A winch drum with fewer than 5 wraps of the rope remaining may break loose under load conditions.
- Never exceed the capacity of the winch. Use a pulley block to double the line-pull, which will almost halve the load on the winch and the wire rope.
- Never use the winch to tow another vehicle. The braking system on winches is not designed for this sort of abuse and the sudden jerking will eventually cause the wire rope to snap.
- Never stand astride or step over the cable when winching.
- When re-spooling cable, always release the control switch when the hook is a minimum of 1 metre from the fairlead and inch in the remaining cable onto the drum. The procedure is vital to personal safety and to avoid rope damage caused by over-tightening.
- When starting winching, use the control switch intermittently to inch in any slack in the wire rope prior to taking the strain. This will reduce the chance of damage to the winch or wire rope from shock loadings (which could briefly exceed the winch's capacity).

14.39.1.1 Electric Winching

- Read and follow the manufacturer's operating manual for safe operation and maintenance. Only staff who have received suitable information, instruction, supervision and training can participate in winching operations.
- Ensure the winch is fitted and regularly serviced/maintained by a competent person (Inspection and certification should be covered under the engineering insurance policy).
- Before winching with an electric winch, inspect the remote-control lead for cracks, pinched wiring, fraying or loose connections. A damaged, shorted lead could cause the winch to operate as soon as it is plugged in.
- Only plug in the remote-control lead when you want to use the winch.
- When the remote-control lead is plugged in ALWAYS keep it clear of the drum fairlead area, the rope and any rigging.
- Always store the control lead in a clean dry area where it cannot be damaged.
- When using the remote control from inside the vehicle, ALWAYS pass the lead through the window to avoid trapping the lead in the door.
- Never use the winch to tow another vehicle. The braking system on winches is not designed for this sort of abuse and the sudden jerking will eventually cause the wire rope to snap.
- Never stand astride or step over the cable when winching.
- Keep onlookers at a safe distance, well clear of the work at hand.

14.39.2 Hand Winching

- Read and follow the manufacturer's operating manual for safe operation and maintenance.
- Ensure the winch is regularly serviced/maintained by a competent person (inspection and certification should be covered under the engineering insurance policy).
- Only staff who have received suitable information, instruction, supervision and training can participate in winching operations.
- Gloves must always be worn during winching operations.
- The strength of the wire rope should always exceed the maximum stall rating of the winch.
- Cables should be inspected frequently for wear and tear.
- Ensure staff or onlookers remain a safe distance away in the event of a winch snapping.
- Hand winching can involve a lot of physical exertion, where winches are used frequently, replacement with powered winches should be considered. Where this is not possible staff rotation is required.

14.39.3 Use of Winches/Pulley Blocks Gin Wheels

- The operator of a winch must have received adequate training, instruction, information and supervision before operation.
- Gloves must be worn when using a winch.
- The winch shall not be used unless it has been tested and certified by a competent person using a GA1 form.
- A weekly inspection of the equipment must be carried out by a competent person in a construction setting.

14.40 Generators

Hazard:	Hot surfaces, fumes, electricity, chemicals, noise, vibration and fire
Level of Risk:	Low
Controls:	See details outlined below

- Read and follow the manufacturer's operating manual for safe operation and maintenance.
- Be sure that the total electric load on your generator won't exceed the manufacturer's rating.
- Know how to stop the generator quickly and understand the operation of all controls. Never permit anyone to operate the generator without proper instruction.
- The generator is a potential source of electric shock if misused. Do not expose the generator to moisture, rain or snow. Do not allow the generator to get wet, and do not operate it with wet hands.
- Petrol is extremely flammable and is explosive under certain conditions. Do not smoke or allow flames or sources of ignition near the generator or fuel storage area. Refuel in a well-ventilated area with the engine switched off and away from sources of ignition.
- The muffler may become very hot during operation and remains hot for some time after stopping the engine. Be careful not to touch the muffler while it is hot. Let the engine cool before storing the generator indoors.
- Exhaust gas contains poisonous carbon monoxide. Avoid inhalation of exhaust fumes. Never run the engine in an enclosed space. Always locate your generator where its exhaust will vent safely.
- Keep cords out of the way so they don't present a tripping hazard — especially in dimly lit doorways or halls. Never run cords under rugs or carpets where heat might build up or damage to a cord may go unnoticed.
- Extension cords must be properly sized to carry the electric load. Overloaded cords can overheat and cause fires or damage to equipment.

14.41 Pole-Saws

Hazard:	Sharp edge, moving parts, noise, dust, vibration, falling objects, chemicals, fire, uneven surfaces, slippery surfaces, manual handling.
Level of Risk:	Medium
Controls:	See details outlined below

- Read and follow the manufacturer's operating manual for safe operation and maintenance.
- Staff must be trained and competent.
- Ensure the following Personal Protective Equipment is worn:
Eye and head protection, hearing defenders, footwear which is stable and offer good grip (safety boots), gloves should be worn. A combined helmet visor and earmuffs may be worn.
- Clothing should be of a durable material, avoid loose clothing or jewelry which may catch in moving parts. Helmets are essential when using a pole saw overhead.
- Where provided, a harness should be worn to support the machine while in use.
- A guard should be fitted to avoid where practicable objects from being thrown towards the operator.
- Check the spark plug cap and lead are not damaged otherwise you could suffer an electrical shock.
- Do not operate the machine indoors or in poorly ventilated areas as the carbon monoxide emissions are poisonous.
- Always inspect the guard and cutting chain for damage prior to use.
- Visually inspect the pole saw prior to operation and be sure there are no missing or loose nuts or bolts.
- Inspect the air filter and clean as necessary.
- Inspect the guide bar for wear, clean, repair or replace as necessary.
- Inspect the drive sprocket for wear and replace as necessary.
- Inspect and be sure your chain is sharp with the proper tension before using any power saw!
- Remember to fill the bar oil reservoir when fuelling the saw.
- A damaged cutting attachment should always be replaced.
- Ensure the cutting chain teeth are lubricated and maintained at the proper tension.
- Never refuel the machine while the engine is running, always stop the engine and let it cool for a few minutes before fuelling.
- Move the machine 3 meters from the fuelling point before starting.
- Avoid all skin contact with fuel. Fuel is a skin irritant.
- Before starting the operation ensure that people and animals cannot affect your control of the machine. Keep a minimum distance of 15 metres from people and animals to avoid accidental contact with the cutting attachment or been struck by loose or falling objects.
- Avoid using the pole saw near overhead power lines.

- Never work on a ladder, stool or any other raised position that is not fully secured.
- Do not operate in bad weather, such as dense fog, heavy rain, strong wind or intense cold. Working in bad weather is tiring and often brings added risks such as unstable ground and unpredictable falling direction.
- Make sure you can move and stand safely. Check the area around you for possible obstacles such as roots rocks and branches and take extra care on sloping ground.
- Switch off the engine before moving to another area. Fit a transport guard before carrying or transporting the equipment any distance.
- Never put the machine down with the engine running unless you have it in clear sight.
- Do not operate the machine alone and always have a first aid kit available.
- Allow the exhaust to cool before transporting or storing.

To reduce the effects of vibration:

- Maintain a firm grip at all times but do not squeeze the handles/steering wheel with constant, excessive pressures.
- Wear gloves and keep hands warm.
- Take frequent breaks and rotate the user.
- Continual and regular users should monitor the condition of their hands and fingers closely as the above precautions do not guarantee that white finger disease or carpal tunnel syndrome will not be sustained. If any of the above symptoms appear, seek medical advice.

Operator's use of pole saws while standing in a watercourse is prohibited without a site-specific risk assessment.

14.42 Chainsaws

Hazard:	Sharp edge, moving parts, noise, dust, vibration, falling objects, chemicals, fire, uneven surfaces, slippery surfaces, manual handling, kickback
Level of Risk:	High
Controls:	See details outlined below

- Read and follow the manufacturer's operating manual for safe operation and maintenance.

14.42.1 Training

- Staff who operate chainsaws must have received training and hold a relevant certificate of competence.
- Staff must also receive regular refresher training. The basic training course is completed in 5 days. The course covers maintenance, chain sharpening, crosscutting, snedding and tree/branch felling of a diameter not exceeding 15 inches (the guidebar). The duration of refresher training taking place after three years is three days. The duration of refresher training taking place after five years is five days.
- Additional training is required for felling trees which are greater than 15 inches in diameter and less than 30 inches. This training includes the use of a felling wedge, boring cut technique, snedding and cross cutting under tension and compression.
- Furthermore, advanced course is required for tree felling in excess of 30 inches.
- Specialist training is also required for delimbing windblown trees which are under tension and compression.

14.42.2 Maintenance & Checks & PPE

- Read and follow the manufacturer's operating manual for safe operation and maintenance.
- The saw must be maintained in its manufactured condition with all safety devices in efficient working order and all guards in place. It must be serviced by someone who is competent to do the job.
- Operators should report any damage or excessive wear from daily checks on the following:

On-off switch;
Chain brake;
Chain catcher;
Silencer;
Guide bar, drive sprocket and chain links;
Side plate, front and rear hand guards;
Anti-vibration mounts;
Starting cord for correct tension.

- Protective clothing complying with the following standards should provide a consistent level of resistance to chainsaw cut through. Other clothing worn with the PPE should be close fitting and non-snagging.
- Safety Helmet – to EN 397
- Hearing Protection – to EN 352-1
- Eye Protection – mesh visors to EN 1731 or safety glasses to EN 166
- Upper Body Protection - chainsaw jackets to BS EN 381-11 Chainsaw jackets can provide additional protection where operators are at increased risk (e.g. trainees, unavoidable use of a chainsaw above chest height). However, this needs to be weighted against increased heat stress generated by physical exertion (e.g. working from a rope and harness).
- Gloves – to EN 381-7
- Leg Protection – to EN 381-5 (all round protection is recommended for arborists working in trees and occasional users such as those working in agriculture)
- Chainsaw Boots – to EN 345-2 and bearing a shield depicting a chainsaw to show compliance with EN 381-3. (For occasional users working on even ground where there is little risk of tripping or snagging on undergrowth or brash, protective gaiters conforming to EN 381-9 worn in combination with steel-toe-capped safety boots.)
- Lone working with a chainsaw must be avoided.
- Anyone working with chainsaws needs to understand how to control major bleeding and to deal with crush injuries, so it is recommended that operators hold a first aid certificate.
- When preparing to use a chainsaw, operators should check:
 - All nuts, screws etc are tight;
 - The saw chain is correctly tensioned;
 - The throttle cannot be squeezed unless the throttle lock-out is pressed; and
 - they are wearing the correct PPE.
- When starting a chainsaw with a cold engine, operators should:
 - Place the saw on level ground.
 - Secure the saw firmly, e.g. put a foot on the rear-handle base plate and a hand on the front handle.
 - Set the controls as recommended by the manufacturer.
 - Pull the starter cord firmly.
- Once the saw has started, operators should rev the throttle to warm up the engine and check.
 - The saw chain stops moving when the engine revs return to idle.
 - The chain brake is effective when applied at maximum revs or according to the manufacturer's specification.
 - The engine continues to run when the saw is turned through 90° in any direction.
 - The stop switch works correctly.
 - Lubrication to the guide bar and chain is working properly.

- Make sure the operators use the saw in a way which avoids kickback by:
Not allowing the nose of the guide bar to accidentally come into contact with any obstruction, e.g. branches, logs, stumps.
Not over-reaching.
Keeping the saw below chest height.
Keeping the thumb of the left hand around the back of the front handle.
Using the appropriate chain speed for the material being cut.
- Do not operate in bad weather, such as dense fog, heavy rain, strong wind or intense cold. Working in bad weather is tiring and often brings added risks such as unstable ground and unpredictable falling direction.

14.42.3 Felling Timber

When felling a tree consider factors such as the wind, the natural lean of the tree, location of large limbs, and whether the trunk is sound, hollow or partially rotted. Watch for the presence of dead limbs overhead and for the presence of overhead power lines in the vicinity.

- Plan the work to minimise manual handling.
- Before felling a tree, decide on its direction of fall and select a suitable escape route to the rear and diagonal to the line of fall of a tree. The area directly behind the tree is also a danger zone because the tree may bounce or slide back when it hits the ground. The escape route should always be kept clear of obstructions.
- Felling is a one-person operation.
- Ensure that any bystanders are at a safe distance for the tree felling operation. Persons in the vicinity should be at least two tree lengths away from the person operating the chainsaw.
- Clear any undergrowth likely to interfere with the operator and the chainsaw and remove any dead material that could catch fire.
- Make sure your foothold is secure and free from any obstruction. If working on sloping groundwork from an uphill position.
- Hold the saw firmly with both hands.
- Make sure you have the necessary equipment close to hand in case it is needed during the felling work. Such equipment would include a breaker bar, alloy or plastic wedges and a sledgehammer.
- If a tree is likely to become hung-up on another tree during felling, you will need to have the competence and the equipment to bring the hung-up tree down safely. Seek expert help if necessary.

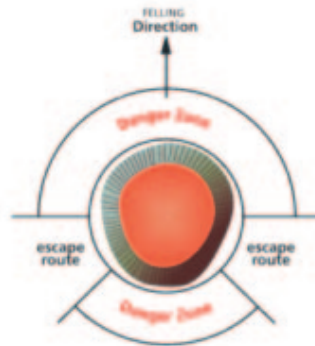


Fig. 14.4 Felling Direction Zones

- Lopping branches off trees and working on ditches is extremely dangerous. The Chainsaw operator may be tempted to work in dangerous positions and to use the saw above shoulder height. Therefore, this type of work should only be carried out by a skilled and competent operator.

When felling a tree less than the diameter of the guide bar:

- Cut a notch one-third of the diameter of the trunk at a right angle to the fall. The back cut (main felling cut) should be at least 25 mm higher than the notch and leave a hinge of uncut wood to guide the tree and control the rate and direction of fall. The hinge must have the same thickness from end to end to direct the fall at right angles to the notch.
- If there is any chance that the tree might not fall-over in the desired direction or may rock back and bind the saw stop cutting before the back cut is completed and switch off the engine.
- Use a wooden, plastic or aluminium wedge (never hard metal) to open the cut and tilt the tree in the desired direction of fall. Never cut through the hinge.

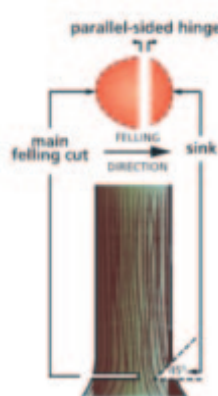


Fig. 14.5 Felling Direction Cuts

- Once a felling cut has been started on a tree the tree must not be left standing.
- When the tree begins to fall, step back and to the side into the escape route. Look out for falling branches and tops.

- Beware of branches under tension and watch out for them springing back. When a branch is in tension, when cut the timber could spring and cause injury or death.
- When lopping make a preliminary cut underneath the branch and then complete the cut from the top.
- Never stand astride a felled tree when cutting off the branches. If the tree is lying across a slope never stand on the lower side if there is any risk of it rolling.
- When cutting lengths of timber, for example cutting firewood, ensure that the timber is securely supported at about waist height to allow room for the blade to cut.
- When cross cutting make sure no-one comes closer than five metres or within twice the length of the longest piece of timber.

Trees with diameters greater than the diameter of the guide bar should only be felled by persons properly trained in the safe procedures for this type of operation.

To reduce the effects of vibration:

- Maintain a firm grip at all times but do not squeeze the handles/steering wheel with constant, excessive pressures.
- Wear gloves and keep hands warm.
- Take frequent breaks and rotate the user.
- Continual and regular users should monitor the condition of their hands and fingers closely as the above precautions do not guarantee that white finger disease or carpal tunnel syndrome will not be sustained. If any of the above symptoms appear, seek medical advice.

Operator's use of chainsaws while standing in a watercourse is prohibited without a site-specific risk assessment. Chainsaw waders must be worn with protective trousers or protective chaps must be worn.

14.43 Petrol Strimmer/Brush Cutters

Hazard:	Moving parts, noise, vibration, chemicals, fire, slippery/uneven surfaces
Level of Risk:	Low
Controls:	See details outlined below

- Read and follow the manufactures operating manual for safe operation and maintenance.
- Ensure before beginning work that guarding is adequate and not damaged.
- Operators must ensure that there are no other people within 15m of the working area.
- Steel toe boots which also offer good grip and trousers protecting against grass juices and wet vegetation are recommended.
- Operators must wear hearing and face shield protection.
- A harness should be worn to reduce the effects of manual handling if strimming for long periods of time.
- Do not operate in bad weather, such as dense fog, heavy rain, strong wind or intense cold. Working in bad weather is tiring and often brings added risks such as unstable ground and unpredictable falling direction.
- Strimming adjacent to water should not be carried out alone. Where the water's edge is particularly hazardous e.g. uneven/unstable ground underfoot avoid strimming.
- PPE including hearing protection and safety glasses must be worn.

To reduce the effects of vibration:

- Maintain a firm grip at all times but do not squeeze the handles/steering wheel with constant, excessive pressures.
- Wear gloves and keep hands warm.
- Take frequent breaks and rotate the user.
- Continual and regular users should monitor the condition of their hands and fingers closely as the above precautions do not guarantee that white finger disease or carpal tunnel syndrome will not be sustained. If any of the above symptoms appear, seek medical advice.

14.44 Use of Mitre Saws (Chop Saws)

Hazard:	Sharp edge, moving parts, noise, dust, vibration, uneven surfaces, slippery surfaces, electricity
Level of Risk:	Medium
Controls:	See details outlined below

- Read and follow the manufacturer's operating manual for safe operation and maintenance.
- Ensure personal protective equipment (protective footwear, gloves, eyewear, dust masks and hearing protection) as required.
- Check your blade guard occasionally to make certain it is functioning properly and does not bind when raising or lowering the saw.
- Check to make certain that your saw blade is sharp and is properly fastened to the saw's arbor. A dull or improperly installed saw blade can be extremely dangerous. (When checking or installing your saw blade, always remember to unplug the saw from its power source).
- When cutting stock ensure it always rests firmly against the back fence.
- Long pieces of timber should be supported using a sawhorse(s) to prevent the timber falling or kicking back.
- Never raise the saw until it has stopped moving.
- Keep your saw clean as you use it. Little off cuts from previous cuts or an excessive amount of sawdust can interfere with your current cutting operation. Keep a small box or bucket nearby for your small off cuts.

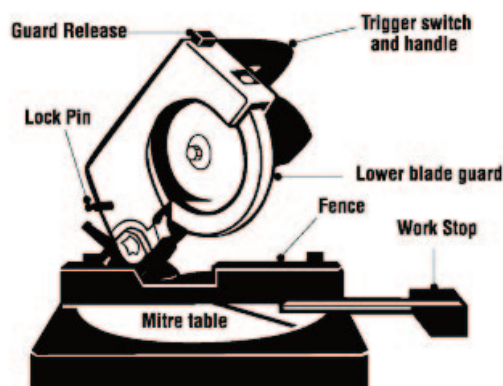


Fig. 14.6 Mitre Saw

- Follow instructions for lubricating and changing accessories.
- Keep the work area and floors clean. Cluttered areas and benches invite accidents.
- Keep the work area well lit.
- Reduce the risk of unintentional startup. Make sure saw switch is in OFF position before plugging in.
- Unplug tools before servicing and when not in use.

- Check for damage. Repair or replace damaged parts.
- Keep motor air slots clean and free of chips.
- Use only the accessories designed for the specific saw and job.
- Do not operate the saw on ground.
- Do not cut pieces smaller than 20 cm (8 in.) in length.
- Do not cut "free hand." The stock should lie solidly on the table against the fence.
- Do not reach around or behind the saw blade.
- Do not take your hand away from the trigger switch and handle until the blade is fully covered by the lower blade guard.
- Do not overreach. Keep proper footing and balance at all times.
- Do not force the saw. The saw cuts better and more safely at the rate for which it was designed.
- Do not leave the saw until it has stopped completely. Turn the power off and unplug the saw.
- Do not use electric tools in damp or wet locations.
- Do not operate electric tools near flammable liquids or in gaseous or explosive atmospheres. Sparks may ignite fumes.

14.45 Use of Metal Worker (Punching & Forming Machine)

Hazard:	Pinch points, moving parts, noise, vibration, falling objects, chemicals, fire, manual handling
Level of Risk:	Medium
Controls:	See details outlined below

- Read and follow the manufacturer's operating manual for safe operation and maintenance.
- Ensure personal protective equipment is worn which should include protective footwear, gloves, protective eyewear, dust masks (when required) and hearing protection.
- Check guards occasionally to make certain they function properly.
- Don't grasp metal pieces tightly. A light grip will prevent cuts and slices.
- Don't brush scraps of metal into the bin with your hands. Always use a brush or even a piece of stiff cardboard to push them along.
- Keep the work areas and floors clean and tidy.
- Ensure the equipment is inspected by a competent person and serviced annually.

14.46 Lawnmowers

Hazard:	Moving parts, noise, vibration, manual handling, fuel handling.
Level of Risk:	Low
Controls:	See details outlined below

14.46.1 Push Mower

- Read and follow the manufacturer's operating manual for safe operation and maintenance.
- Check the mowing area for obstacles tools, twigs bottles etc.
- Personal protective equipment must be worn including safety boots hearing protection and gloves.
- Ensure the engine is fuelled prior to use.
- Do not refill a running or hot engine; switch off and allow cooling.
- Avoid mowing wet grass.
- Only remove the grass box when the mower is powered off and the blade has stopped rotating.

14.46.2 Powered Mower

- Read and follow the manufacturer's operating manual for safe operation and maintenance.
- Check the mowing area for obstacles tools, twigs bottles etc.
- Personal protective equipment must be worn including safety boots hearing protection and gloves.
- Ensure the engine is fuelled prior to use.
- Do not refill a running or hot engine; switch off and allow cooling.
- Avoid mowing wet grass.

14.46.3 Ride on Mower

- Read and follow the manufacturer's operating manual for safe operation and maintenance.
- Check the mowing area for obstacles tools, twigs bottles etc.
- Personal protective equipment must be worn including safety boots hearing protection and gloves.
- Ensure the engine is fuelled prior to use.
- Do not refill a running or hot engine; switch off and allow cooling.
- Avoid mowing wet grass.
- Do not mow with a riding mower in reverse unless absolutely necessary.
- Avoid riding a mower on too steep an incline i.e. greater than 10 degrees. Using a riding mower on a slope that is too steep, or where you don't have adequate traction can cause you to lose control or roll over.
- Be sure the all safety devices are in working order and warning labels are in place, these items are installed for your safety.

- Know how to stop the engine and blade quickly in case of an emergency. Understand the use of all controls.
- Do not allow anyone to operate the ride on mower without proper instruction, training and information.
- Do not allow passengers to ride on the mower or any of its attachments as this may cause the mower to tip over.
- Wear protective footwear and ear defenders.
- Dress sensibly; do not wear loose clothing as it may get caught in moving parts.
- Ensure other people are not working in close proximity to the mower when in operation.
- The cutting blade is sharp, and it turns at high speed. Accidental contact can cause serious injury. Keep your hands and feet away from the mower deck and blades when the engine is running.
- Stop the engine, disengage the Power Take Off (P.T.O.) clutch and remove the key before inspection or maintenance of the deck or blade.
- Disconnect the spark plug cap to prevent any possibility of accidental starting.
- Wear heavy gloves to protect your hands from the blade when cleaning out the mower deck or when inspecting or replacing the blade.
- Mow only in daylight or in well-lit areas at night, so that you can see and avoid objects in the grass.
- Before operating the mower, be sure the side discharge guard is down, or the optional grass cutter bags and discharge chute are in place.
- Disengage the P.T.O. lever to stop the blade before crossing a gravel driveway or any other area with loose stones.
- Always inspect the mower for damage after striking an object. Repair or replace any damaged parts before continuing use. Broken pieces thrown from worn or damaged blade can cause serious injury. Always inspect the blade before using the mower.
- Petrol is extremely flammable, and the vapours are explosive, take extreme care when handling.
- Refuel in a well-ventilated area with the engine switched off.
- The accumulation of dry grass and leaves around the engine or exhaust may ignite.
- Exhaust contains poisonous carbon monoxide, a colourless and odourless gas. Breathing exhaust fumes can cause loss of consciousness and may lead to death. If you run the engine in an area that is confined, or even partially enclosed, the air you breathe could contain a dangerous amount of exhaust fumes.
- To prevent exhaust gas from building up, provide adequate ventilation.
- Towing vehicles such as carts, trailers, or other vehicles is not recommended.
- Towing vehicles could cause brake failure, transmission failure or loss of control.
- The riding mower is intended for use on relatively flat terrain.

14.46.4 Vibration controls (for all mower types).

- Maintain a firm grip at all times but do not squeeze the handles/steering wheel with constant, excessive pressures.
- Wear gloves and keep hands warm.
- Take frequent breaks and rotate the user.
- Continual and regular users should monitor the condition of their hands and fingers closely as the above precautions do not guarantee that white finger disease or carpal tunnel syndrome will not be sustained. If any of the above symptoms appear, seek medical advice.

14.47 Power Washers

Hazard:	Noise, vibration, electrocution, flying debris
Level of Risk:	Low
Controls:	See details outlined below

14.47.1 Safe Operation

- Read and follow the manufacturer's operating manual for safe operation and maintenance.
- Never point a pressure washer at yourself or others.
- Never attempt to push or move objects with spray from the washer.
- Never use a petrol-powered washer in an enclosed space.
- Do not drive over, pull on, or kink the high-pressure hose. Damage to the hose may compromise the wire braiding inside and cause the hose to burst.
- Ensure the power washer is properly connected and grounded. Test the ground fault circuit interrupter (circuit breaker or outlet) before using a pressure washer.
- Always plug a properly grounded pressure washer into a properly grounded receptacle.
- If an extension cord must be used, keep the pressure washer's power cord connection out of any standing water, and use a heavy-duty extension cord with components rated for use in wet locations.
- Keep both the power cord and extension cord connections as far away as possible from the item being washed and away from any water runoff.
- Wear rubber soled shoes that provide some insulation when using the pressure washer.
- Never cut or splice the pressure washer's power cord or extension cords.
- Never remove the grounding prong from the pressure washer's power cord plug or the extension cord.
- Always have a qualified electrician check the pressure washer for any presenting electrical problems.
- Wear eye protection to guard against flying debris.
- Hearing protection must be worn.
- Where high powered (e.g. Honda engine driven) washers are used and become blocked or pressure is lost do not adjust the pressure relief valve. Switch off the washer and refer to the manufacturer's manual for troubleshooting.

14.48 Manual Handling Mechanical Aids

Hazard:	Noise, vibration, electrocution, dust, fly-ing debris
Level of Risk:	Low
Controls:	See details outlined below

In all cases if you are unsure of the suitability of equipment for safe use contact the H&S Executive

14.48.1 Trolleys

- Use the correct trolley for the task.
- Ensure that trolley and wheels are in good repair.
- If you are unsure how to operate it, consult with an experienced colleague.
- Minimise twisting by positioning the trolley in line with bench or shelf.
- Do not overload a trolley, note the safe working load.
- Ensure that visibility is not obstructed by load height.
- Ensure a good secure grip.
- Trolleys with larger wheels require less force.

14.48.2 Mobile Scissor Lifts

- Ensure the scissor lift is suitable for the task.
- If you are unsure how to operate it, consult with an experienced colleague.
- Ensure that visibility is not obstructed by load height.
- Do not exceed the safe working limit.
- Ensure the equipment is in good repair including wheels.
- Do not raise platform on slope or drive onto slope when elevated.
- Do not raise platform on uneven or soft surfaces.
- Apply the break when the lift is being raised or lowered.

14.48.3 Pallet Trucks

- Ensure the pallet truck is suitable for the task.
- If you are unsure how to operate it, consult with an experienced colleague.
- Ensure that visibility is not obstructed by load height.
- Do not exceed the safe working limit.
- Ensure the equipment and wheels are in good repair.
- If possible, avoid moving loads up or down ramps.
- Do not turn the handle too fast. This can cause the load to shift.
- Watch for clearances on both sides of the aisle.
- Do not carry riders on the hand pallet truck.
- Centre the forks evenly under the load to maintain good balance.
- Ensure the stability of the load.
- Operate at controllable speeds. Hand pallet trucks do not have brakes.

- Allow plenty of room to stop.
- Be aware of other people and forklifts in or near your work area.
- Be wary of pinch points to avoid injuries to your hands.

14.48.4 Manual Hoists

- Ensure the hoist is suitable for the task.
- Ensure the equipment is in good repair including wheels.
- If you are unsure how to operate it, consult with an experienced colleague.
- Plan your lifting operations before commencing.
- Check the safe working load of the hoist is suitable for the weight of the load.
- Do not push a loaded hoist at speeds which exceed a slow walking pace.
- Do not push the lift over uneven or rough ground, particularly if loaded.
- Do not attempt to push or pull a loaded lift over a floor obstruction which the castors are unable to ride over easily.
- Do not bump the lift down steps, loaded or unloaded.

14.48.5 Powered Jib Cranes

- Ensure the crane is suitable for the task.
- Ensure the equipment is in good repair.
- Plan your lifting operations before commencing.
- Check the safe working load of the hoist is suitable for the weight of the load.
- Where loads are being lifted and lowered at a height a designated loading & unloading point should be clearly demarcated.
- Hard hats should be worn.
- Banks man and operator must use recognised hand signals for communicating when required.
- Ensure suspension points and anchorages are adequate for the full imposed load.
- Check the load chain/wire rope is hanging freely and is not twisted or knotted.
- Position the hook over the centre of gravity of the load.
- Check the operation of the brake before making the lift.
- Ensure the slings are secure and load is free to be lifted.
- Check the travel path is clear.
- Ensure the landing area is properly prepared.
- Never exceed the marked SWL.
- Do not use the load chain/wire rope as a sling.
- Do not shock load the block or other equipment.
- Do not permit the load to swing out of control.
- Do not leave suspended loads unattended.

14.48.6 Outboard Trolleys

- Ensure the trolleys are in good repair and wheels inflated.
- If you are unsure how to operate it, consult with an experienced colleague.

- Two staff may be required to stabilise the trolley and fix the outboard to the trolley.
- Do not overload the trolley.
- Once the outboard is fitted it can be pushed by one person.
- To load into a vehicle, ensure the top of the trolley rests against the floor of boot.
- Bending the knees grip the lower handle and wheel into place.
- If the load is too heavy a team lift can be applied.

14.48.7 Block & Tackle (chain blocks)

- Know the safe load limit of the hoist. Do not exceed it.
- Ensure the equipment is in good repair.
- Thoroughly inspect chain block for damage or wear before each use.
- Briefly test operation of unloaded chain block before using to lift any load. If chain block is damaged or is malfunctioning do not lift any load until the problem is corrected.
- Keep wire ropes and chains lubricated.
- Hoist from directly over the load. If not centred, the load may swing when lifted.
- Hang hoists solidly in the highest part of the hook area. Rigged this way, the hook support is directly in line with the hook shank.
- Lever operated hoists can be used to pull in any direction, but a straight-line pull must be maintained. Side pulling or lifting increases wear and sets up dangerous stress levels on hoist parts. Only one person should pull on hand, chain and lever hoists.
- When loading the lower hook, place the load directly in line with the hook shank. Loaded this way, the load chain makes a straight line from hook shank to hook shank.
- With chain block properly positioned. Make sure the ground is clean and no obstacles are in the work area.
- Attach chain block lifting hook to the sling, chain, or load levelling device (not included) making sure the device is securely attached to the object and is suitably rated to hold the weight.
- Position yourself away from the object to be lifted.
- Be aware of a sliding or swinging motion of the object if it is not directly under the chain block.
- Slowly pull the hand chain with gloved hands until the load chain becomes tight, with the load still on the ground. Recheck the load is securely attached and will not slip, move, or swing when lifted.
- Raise the load slowly and smoothly, fast or sudden movement increases the risk of swinging the load.
- A swinging load can more easily come loose or exert a dynamic load sufficient to exceed the nominated capacity.
- Never leave an object suspended by a chain block – as soon as is practicable the object should be lowered so the load chain is no longer bearing any load.
- NEVER work on an object suspended by and chain block. Never place and part of your body under an object supported by chain block.

14.49 Mulcher/Woodchipper

Hazard:	Noise, vibration, sharp moving objects, pinch points, dust, flying debris, fire
Level of Risk:	High
Controls:	See details outlined below

- Read and follow the manufacturer's operating manual for safe operation and maintenance.
- Ensure the working area is level and ground are solid under foot.
- Do not operate in poorly lit conditions.
- Ensure the work area is kept clear with adequate space (remove obstacles or brush in the work area) and do not allow third parties enter the work area. Set an exclusion zone of at least 10m. Ensure snagged material such as stones or wires are removed from items to be placed in the mulcher.
- Ensure the discharge shoot is directed safely away from the work area.
- Do not exceed the recommended wood diameter to be used. Refer to manual.
- Ensure the feed table is in place before use and check that the feed stop bar(s) or emergency stop buttons/wire is in place and functioning.
- A safety helmet eye protection or mesh visor, hearing protection, gloves with tight fit, safety boots should be worn when using the mulcher. Loose clothing must not be worn.
- Ensure guards for moving parts (belts shafts etc.) are in place.
- Always feed from the side to avoid snagging in brush and branches.
- Always feed material starting with the base first.
- Use a push stick where appropriate. Never climb onto the feed table to feed or free jammed material.
- If material is jammed reverse the mechanism, reposition the material and feed again. Trim the material if it continues to jam.
- If the discharge shoot becomes jammed shut down the machine. Ensure the machine has come to a complete stop after shutdown. Follow instruction manual to free the shoot.

14.50 Petrol Drills

Hazard:	Noise, vibration, sharp edge, moving parts, pinch points, chemicals, dust, flying debris, heat source, manual handling, uneven and slippery surfaces
Level of Risk:	Medium
Controls:	See details outlined below

14.50.1 Basic Precautions

- Read and follow the manufacturer's operating manual for safe operation and maintenance.
- Do not operate the machine alone and always have a first aid kit available.
- Guards should be fitted to avoid where practicable objects from being thrown towards the operator. Do not utilise the machine for uses different to the ones specified in the manual.
- Do not operate the power drill from a ladder or a tree. Always cut from a firm footed and safe position.
- Do not work near electric cables.
- Do not start work until you have a clear work area.
- Do not operate the machine indoors. Only use the power drill in well-ventilated areas, do not operate the in explosive or flammable atmospheres or in closed environments.
- Never leave the machine unattended with the engine running.
- Keep the handles dry, clean and free of oil or fuel mixture.
- Staff must be trained and competent.

14.50.2 Maintenance, Checks & PPE

- Read and follow the manufacturer's operating manual for maintenance.
- Ensure the following Personal Protective Equipment is worn: Eye and head protection, hearing defenders, safety boots with skid-proof sole and anti-piercing insert, anti-vibration gloves, protective jacket and dungarees should be worn. A combined helmet visor and earmuffs may be worn.
- Clothing should be of durable material, avoid loose clothing or jewelry which could be taken up by the machine or bit. Tie up and protect long hair. Wear a helmet where there can be falling objects.
- Check the air filter every day, clean it and reinstall it. Replace with a new one after six months.
- Never use a damaged, modified, or improperly repaired or assembled power drill. Do not remove, damage or deactivate any of the safety devices.
- Do not test the spark plug near the cylinder hole.
- Check the spark plug cap and lead are not damaged otherwise you could suffer an electrical shock.

- Replace the drilling tool immediately if any cracks or other damage is present.
- Visually inspect the power drill prior to operation.
- Never touch the drilling tool or carry out maintenance with the engine running.
- Check the power drill each day to ensure that each device, whether for safety or otherwise is functional.
- Always inspect the guard and drilling tool for damage prior to use.
- Immediately replace any safety devices when damaged or broken.
- The drill must be maintained in its manufactured condition with all safety devices in efficient working order and all guards in place. It must be serviced by a competent person.
- Operators must report any damage or excessive wear to the drill.

14.50.3 Precautions to reduce vibration risk

- Wear gloves and keep hands warm.
- Keep the drilling tool sharp and the power drill well maintained.
- Maintain a firm grip at all times, but do not squeeze the handles with constant, excessive pressures.
- Take frequent breaks.
- Continual and regular users should monitor the condition of their hands and fingers closely as the above precautions do not guarantee that white finger disease or carpal tunnel syndrome will not be sustained. If any of the above symptoms appear, report it to manager and complete incident report form.

14.50.4 Fuelling

- Never refuel the machine while the engine is running, always stop the engine and let it cool for a few minutes before fuelling.
- Avoid all skin contact with fuel. Fuel is a skin irritant.
- Do not smoke while handling fuel or while operating the power drill.
- Store fuel in a cool, dry, well-ventilated area.
- Tighten fuel cap securely after refuelling. Unit vibration can cause an improperly tightened fuel cap to loosen or come off and spill quantities of fuel.
- Move the machine 10 meters from the fuelling point before starting.
- Check fuel system for leaks especially filler cap, hose connections, manual fuel pump (if equipped with one).

14.50.5 Transporting

- Carrying strap is an aid for transporting the power drill by hand.
- Remove the drilling tool before transporting.
- Allow the exhaust to cool before transporting or storing.
- When transporting in a vehicle, properly secure the power drill to prevent turnover, fuel spillage and damage.
- Always stop the engine before putting the power drill down or carrying it.
- Avoid touching the muffler as it is at high temperature.

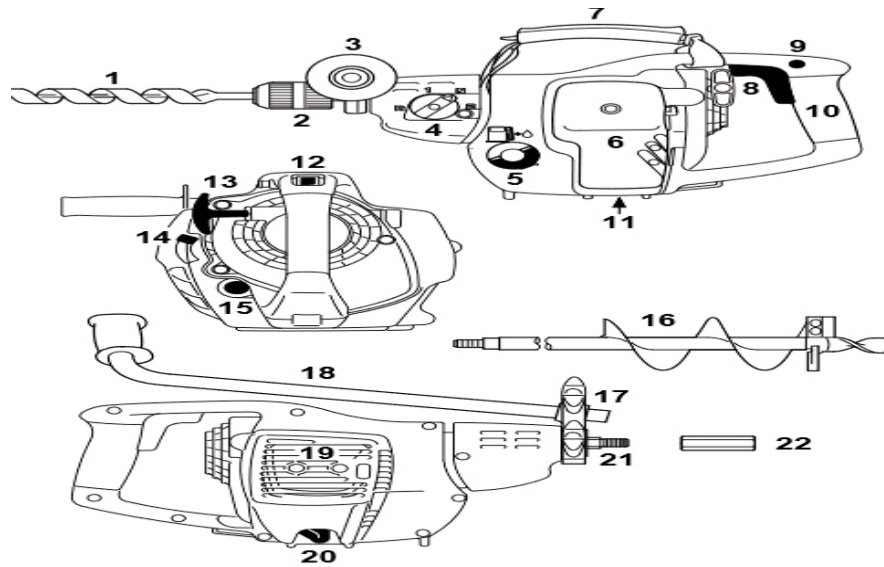


Figure 14.7 Typical assembly of petrol drill.

1. Wood Drill/Twist Drill	12. Stop Switch
2. Chuck	13. Starter Grip
3. Assist Handle	14. Choke Lever
4. Knob	15. Manual Fuel Pump
5. Fuel Filler Cap	16. Planting Hole Auger
6. Air Filter Cover	17. Flange
7. Carrying Strap	18. Assist Handle
8. Throttle Trigger	19. Muffler with Spark Arresting Screen
9. Starting Throttle Lock	20. Spark Plug Boot
10. Control Handle	21. Drilling Spindle
11. Carburettor Adjusting Screws	22. Adapter for Planting Hole Auger

14.51 Reciprocating Saws (battery or electric)

Hazard:	Noise, vibration, sharp moving objects, pinch points, dust, flying debris, electricity
Level of Risk:	Medium
Controls:	See details outlined below

- Read and follow the manufacturer's operating manual for safe operation and maintenance.
- Ensure the working area is level and ground is solid under foot.
- Do not operate in poorly lit conditions.
- Ensure the appropriate blade is correctly fitted and suitable sharp. Check that the blade runs 'true' and does not wobble.
- For electric saws always inspect the cable before use and avoid use in the rain or in wet environments.
- Ensure work piece is securely clamped and is free of any loose portions which could damage blade or become entangled.
- PPE should be worn, this shall include dust mask, gloves, protective glasses and hearing protection.
- Grip with both hands when operating. Avoid placing hands over the motor which will get hot.
- Avoid wearing loose clothing/jewelry and tie up long hair.
- Wear gloves and keep hands warm.
- Keep the sawing tool sharp and well maintained.
- Maintain a firm grip at all times, but do not squeeze the handles with constant, excessive pressures.
- Take frequent breaks and rotate user.
- Continual and regular users should monitor the condition of their hands and fingers closely as the above precautions do not guarantee that white finger disease or carpal tunnel syndrome will not be sustained. If any of the above symptoms appear, report it to manager and complete incident report form.

14.52 Impact Drivers (battery or electric)

Hazard:	Noise, vibration, moving objects, dust, flying debris, electricity
Level of Risk:	Medium
Controls:	See details outlined below

- Read and follow the manufacturer's operating manual for safe operation and maintenance.
- Ensure the working area is level and ground is solid under foot.
- Do not operate in poorly lit conditions.
- Ensure the appropriate tool is correctly fitted and suitable for the task. Check that the blade runs 'true' and does not wobble.
- For electric saws always inspect the cable before use and avoid use in the rain or in wet environments.
- Ensure work piece is securely clamped and is free of any loose portions which could damage blade or become entangled.
- PPE should be worn, this shall include dust mask, gloves, protective glasses and hearing protection.
- Grip with both hands when operating. Avoid placing hands over the motor which will get hot.
- Avoid wearing loose clothing/jewelry and tie up long hair.
- Wear gloves and keep hands warm.
- Keep the tool well maintained.
- Maintain a firm grip at all times, but do not squeeze the handles with constant, excessive pressures.
- Take frequent breaks and rotate user.
- Continual and regular users should monitor the condition of their hands and fingers closely as the above precautions do not guarantee that white finger disease or carpal tunnel syndrome will not be sustained. If any of the above symptoms appear, report it to manager and complete incident report form.

14.53 Use of Earth Augers

Hazard:	Sharp edges, moving parts, dust, vibration, chemicals, fuel, uneven surfaces, slippery surfaces, manual handling, noise, flying debris.
Level of Risk:	Medium
Controls:	See details outlined below

14.53.1 Basic Precautions

- Read and follow the manufacturer's operating manual for safe operation and maintenance.
- Do not operate the machine alone and always have a first aid kit available.
- A guard should be fitted to avoid where practicable objects from being thrown towards the operator. Do not utilise the machine for uses different to the ones specified in the manual.
- Do not operate the earth auger with one hand.
- Do not operate the auger from a ladder. Always cut from a firm footed and safe position.
- Do not work near electric cables.
- Do not operate the auger when you are tired or fatigued or under the influence of alcohol or drugs.
- Do not allow other people to remain in the operating range of the earth auger when in use.
- Do not start work until you have a clear work area.
- Do not operate the machine indoors. Only use the earth auger in well-ventilated areas, do not operate the earth auger in explosive or flammable atmospheres or in closed environments.
- Before starting the operation ensure that people and animals cannot affect your control of the machine. Keep a minimum distance of 15 metres from people and animals to avoid accidental contact with the cutting attachment or been struck by loose or falling objects.
- If the bit jams, release throttle trigger and stop the engine immediately.
- Do not attach the earth auger to fixed supports.
- It is forbidden to hitch tools or applications to the P.T.O that are not specified by the manufacturer.
- Always carry the earth auger with the engine stopped, the bit to the rear, and the muffler away from the body.
- Never leave the machine unattended with the engine running.
- Never raise the earth auger above shoulder height.
- Keep the handles dry, clean and free of oil or fuel mixture.
- The earth auger should only be operated by one person.
- First time users must familiarise themselves thoroughly with the operation of the machine before working in the field.
- The earth auger must only be used by adults in good physical condition with knowledge of the operating instructions.

14.53.2 Maintenance, Checks & PPE

- Ensure the following Personal Protective Equipment is worn: Eye protection, hearing defenders, safety boots with skid-proof sole and anti-piercing sole, gloves & suitable clothing. A combined helmet visor and earmuffs may be worn.
- Clothing should be of durable material, avoid loose clothing or jewellery which could be taken up by the machine or bit. Tie up and protect long hair. Wear a helmet where there can be falling objects.
- Check the air filter every day, shake it and reinstall it. Replace with a new one after six months.
- Never use a damaged, modified, or improperly repaired or assembled earth auger. Do not remove, damage or deactivate any of the safety devices.
- Do not test the spark plug near the cylinder hole.
- Check the spark plug cap and lead are not damaged otherwise you could suffer an electrical shock.
- Replace the bit immediately if any cracks or other damage is present.
- Visually inspect the earth auger prior to operation.
- Never touch the bit or carry out maintenance with the engine running.
- Check the earth auger each day to ensure that each device, whether for safety or otherwise is functional.
- Always inspect the guard and bit for damage prior to use.
- Clean (don't use grease solvent) any resin and plant residue from the bit before and after using the machine.
- Immediately replace any safety devices when damaged or broken.
- The auger must be maintained in its manufactured condition with all safety devices in efficient working order and all guards in place. It must be serviced by a competent person.
- Operators must report to their line manager any damage or excessive wear to the auger. If safe use is compromised store securely out of service until it is repaired.
- When starting the auger with a cold engine, operators should:
 - Place the auger on level ground.
 - Secure the auger firmly, e.g. hold the right handle firmly with the left hand and put the right foot onto the base of the left handle.
 - Put the on/off switch in the 'I' position.
 - Put the choke lever in the CLOSE position.
 - Pull throttle lever and lock it in the half throttle position.
 - Pull the starter rope firmly, when the engine begins to turn, bring the choke lever back to the original position OPEN (when pulling the starter rope, do not use the full extent of the rope as this can cause the rope to break).
 - Once the engine is running, press the throttle to release it from the half throttle position and let the engine idle.
- When starting the auger with a warm engine: Follow the above instructions but do not use the OPEN choke position for start up again, pull the choke out completely and push it back into the original CLOSE position.

14.53.3 Precautions to reduce vibration risk

- Wear gloves and keep hands warm.
- Keep the bit sharp and the earth auger well maintained. A dull bit will increase cutting time and will increase the vibrations transmitted to your hands.
- Maintain a firm grip at all times, but do not squeeze the handles with constant, excessive pressures.
- Take frequent breaks and rotate the user.
- Continual and regular users should monitor the condition of their hands and fingers closely as the above precautions do not guarantee that white finger disease or carpal tunnel syndrome will not be sustained. If any of the above symptoms appear, seek medical advice.

14.53.4 Working conditions

- Be aware that striking something hard in the earth, such as rock or gravel may cause the drilling tool to slow down suddenly or stop. In such a situation, some or all of the rotational force is transferred to the powerhead and handle frame of the earth auger which can cause the auger powerhead and handles to rotate suddenly in a counterclockwise direction.
- Do not operate in bad weather, such as dense fog, heavy rain, strong wind or intense cold. Working in bad weather is tiring and often brings added risks such as unstable ground and unpredictable falling direction.

14.53.5 Storing Earth Auger

- Drain and clean the fuel tank in a well-ventilated area.
- Drain all fuel from tank into a container approved for gasoline. Run engine until it stops. This will remove all fuel-oil mix which could become stale and leave varnish and gum in the fuel system.
- Clean all foreign material from the earth auger. Keep away from corrosive agents such as garden chemicals and de-icing salts.
- Remove the spark plug and pour a small amount of oil into the cylinder. Using the starting rope, rotate the crankshaft to distribute the oil. Put the spark plug back in.
- Allow the exhaust to cool before transporting or storing.

14.53.6 Fuelling

- Never refuel the machine while the engine is running, always stop the engine and let it cool for a few minutes before fuelling.
- Move the machine 3 meters from the fuelling point before starting.
- Avoid all skin contact with fuel. Fuel is a skin irritant.
- Do not smoke while handling fuel or while operating the earth auger.
- Store fuel in a cool, dry, well-ventilated area.
- Tighten fuel cap securely after refuelling. Unit vibration can cause an improperly tightened fuel cap to loosen or come off and spill quantities of fuel.

14.53.7 Transporting

- Switch off the engine before moving to another area.
- Allow the exhaust to cool before transporting or storing.
- When working, transport the earth auger from one place to another with the engine idling. Fit a transport guard before carrying or transporting the equipment any distance.
- When transporting in a vehicle, properly secure the earth auger to prevent turnover, fuel spillage and damage to the earth auger.

1. Starter Handle
2. On/Off Switch
3. Throttle Trigger
4. Grease Cap
5. Bit Stop Pin
6. Bar
7. Fuel Tap
8. Muffler Guard
9. Fuel Tank Cap
10. Purge Bulb

11. Idle Speed Screw
12. Air Filter Cover
13. Half Throttle Lock
14. Throttle Trigger Lockout
15. Spark Plug
16. Choke Lever
17. Bit
18. Boring Tip
19. Combination Wrench

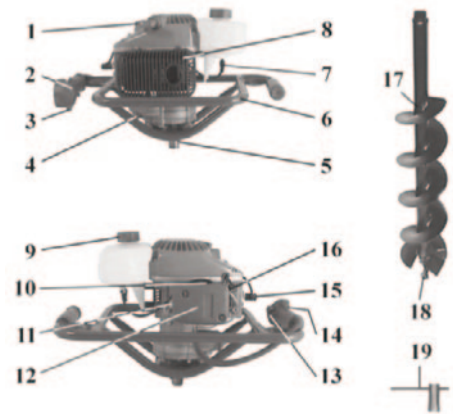


Figure 14.8 Earth Auger Components

14.54 Leaf blowers

Hazard:	Noise, dust, hot parts, flying debris, fuel & fumes
Level of Risk:	Medium
Controls:	See details outlined below

- Read and understand the operator's manual before use.
- Ensure the working area is level and ground is solid under foot.
- Do not operate in poorly lit conditions.
- Hearing protection, goggles and gloves must be worn while operating the leaf blower. A dust mask should be worn where excessive dust is generated. Anti-vibration systems and gloves should be worn if used on a regular and sustained basis.
- Avoid wearing loose fitting clothing or jewellery.
- If you have a pacemaker consult with your doctor before first use as electromagnetic field of low intensity is produced.
- The blower should not be fuelled near sources of ignition and should not be used in close proximity to flammables. Move at least 3m from the fuelling spot before starting the engine.
- Check the fan wheel housing is in good condition before each use.
- The blower should not be used in slippery/wet conditions. Avoid walking backward while operating the machine.
- The blower must not be operated within 15m of animals or bystanders.
- Never operate in poorly ventilated spaces or indoors.
- Never let the tool run unattended.
- The muffler is extremely hot while the blower is running and after it has stopped. The same applies when the blower is running at idling speed. Be aware of the danger of fire, especially while operating the blower near flammable materials and/or where flammable fumes are present.
- Always switch off the blower before taking it off.
- When fitting the blower tube and nozzle the engine must be switched off.
- Ensure maintenance schedules are adhered to per the manufacture's recommendations detailed in the user manual.

To reduce the effects of vibration:

- Wear gloves and keep hands warm.
- Maintain a firm grip at all times, but do not squeeze the handles with constant, excessive pressures.
- Take frequent breaks.
- Continual and regular users should monitor the condition of their hands and fingers closely as the above precautions do not guarantee that white finger disease or carpal tunnel syndrome will not be sustained. If any of the above symptoms appear, report it to manager and complete incident report form.

Construction, Development & Maintenance Activities

14.55 Safe System of Work Plans (SSWP)

Safe System of Work Plans must be completed and retained for any construction work. This includes but not restricted to the construction, maintenance or removal of angling stands, stiles and similar facilities.

14.56 Legal Requirements Concerning Construction Work

Any construction work carried out which exceeds a duration of 30 days or 500 man/days will require notification to the Health and Safety Authority using an AF1 forms. As a client Inland Fisheries Ireland is legally required to make particular Safety & Health appointments for the construction project. If you are acting as the principal officer for an IFI project, you should complete the checklists and templates provided under the Construction Safety Partnership to ensure compliance.

Construction work carried out which exceeds a duration of 30 days or 500 man/days, involves particular risk or where there is more than one contractor requires the client to appoint a Project Supervisor Design Phase (PSDP) and Project Supervisor Construction Stage (PSCS).

A safety plan may also be legally required. The health and safety executive should be contacted if clarification is required. All construction work must comply with the regulations. A non-exhaustive list of work deemed to fall under the construction regulations is as follows:

Building a structure	Maintenance	Installation of service
Altering a structure	Demolition	Repair of service
Fitting out	Dismantling	Removal of service
Conversions	Excavation	Repair
Commissioning	Renovation	

Staff involved in construction must hold a valid safe pass card.

Staff are required to hold a construction skill certificate scheme ticket to operate the following equipment or engage in the following activities:

180 Degree Excavator	Tractor Dozer
360 Degree Excavator	Site Dumper
Mini Digger	Articulated Dumper
Tower Crane	Slinger Signaller
Self-erect Tower Crane	Scaffolding & Advanced Scaffolding
Mobile Crane	Roofing
Locating underground services	Road signing, lighting & guarding
Crawler Crane	H&S at roads
Telescopic Handler	Shot firing
Confined spaces C1, C2 & C3	Mobile access tower scaffold

Table 14.1 Construction Skill Certification Courses

PPE required may include hi-vis clothing, hard hats, safety goggles, safety boots, respiratory protection, hearing protection and gloves.

14.57 Basic False & Form Work (Shuttering)

Hazard:	Material collapse, work at height, chemical handling, manual handling, house-keeping, vehicles, noise, dust
Level of Risk:	High
Controls:	See details outlined below

- Before false work and form work can be erected plans must be drawn up by a competent person covering: details of what is to be supported and what methods are required as well as how long the false work and form work will be in use. A method statement should be used for this work.
- Particular consideration should be given to the following: stability requirements, lateral restraint and wind uplift on untied decking components.
- Designing false work that can be erected, inspected and dismantled safely including how striking will be achieved (it may be craned into position in one piece but could have to be removed piecemeal).
- PPE must be worn and shall include include hi-vis clothing, hard hats, safety goggles, safety boots, respiratory protection, hearing protection and gloves.

14.57.1 Materials

- False work and form work must be constructed, or adapted, so as to be suitable for the purpose for which it is used.
- It should be strong enough and stable in use.
- Damaged components should not be used; and different proprietary components should not be mixed, unless expressly approved by the designer.

14.57.2 Erecting the false work or from work

- Before erection begins a risk assessment should be carried out and a safe system of work developed.
- A method statement, which includes how all the hazards are to be managed, should be prepared.
- This should be read and understood by those doing the work.
- To ensure safety, false work/form work should be stable at all stages of erection and be regularly checked. Only 'Working Drawings' and not 'Preliminary Drawings' should be used.
- Erectors should be competent and have the necessary information training and supervision.
- A competent person must carry out checks and issue permits as required.

14.57.3 Loading

- Once complete, all false work should be inspected and certified as ready for use (a written permit-to-load procedure is strongly recommended).
- The frequency of subsequent inspections will depend on the nature of the temporary works.
- They should be carried out frequently enough to enable any faults to be rectified promptly.

14.57.4 Striking and dismantling

- The competent person should agree the time of striking for each section of the false work.
- During dismantling, ensure that workers can work safely and cannot be injured by falling objects. A sequence for dismantling should be agreed and detailed.

14.58 Block Laying

Hazard:	Work at height, falling objects, dust, noise, chemicals, manual handling
Level of Risk:	Medium
Controls:	See details outlined below

- Staff carrying out block laying must be of good general health.
- Staff involved in construction work must hold a Safe Pass card.
- Manual Handling techniques must be employed when block laying.
- Equipment such as wheelbarrows should be used to limit manual handling as much as possible.
- Tidy up loose block straps, broken blocks etc. to avoid slips, trips and falls.
- Beware of broken, cracked blocks when unloading blocks.
- Block layers should be made aware of any other work been carried out near them which may be hazardous.
- Caution must be exercised when using construction equipment such as cement mixers which have moving parts which pose an entanglement hazard.
- When making up concrete avoid handling cement lime or other chemicals, ensure protective gloves are worn.

14.58.1 Personal protective equipment should be worn and include:

- Hard hats
- Gloves
- Hi visibility clothing
- Safety footwear
- Protective eyewear (when cutting blocks etc.)
- Respiratory Protection (where there is exposure to excessive dust)
- Hearing defenders (where there is excessive noise in the working environment)

14.59 Work in Excavations

Hazard:	Burial, falling objects, manual handling, underground services
Level of Risk:	Medium
Controls:	See details outlined below

- Excavations and trenches can cause serious accidents from the collapse of their sides, resulting in the burial or crushing of workers inside the excavation. Where excavations exceed 1.25m one of the following controls must be implemented: batter back, use of trench boxes or shoring.

14.59.1 Batter Back

- Battering back requires the sides of the trench to be sloped back to a safe angle, making the sides of the excavation stable and thereby preventing their collapse.

14.59.2 Trench Box

- A Trench Box is a proprietary support system. These trench supports can be put in place without requiring people to enter the excavation. When in place people can work safely inside the trench box.

14.59.3 Shoring

- Shoring gives temporary support to the wall of a trench by placing sheeting along its walls with sufficient props both vertically and horizontally to support the length of the excavation exposed. Adequate shoring is often completed with sheet piles, and these are particularly used for very deep excavations where space is restricted, e.g. on or close to streets and busy roads.

14.59.4 General Requirements

- Staff must not work within the working radius of an excavator boom. People should be kept at a safe distance from working plant and barriers should be used where possible.
- All underground services must be identified and marked prior to commencing excavation works e.g. water mains and electrical cables.
- Maps of utilities can be obtained from the ESB prior to breaking ground. Send site plan/area and your contact details to dig@esb.ie a map will be sent back to you within 10 working days.

Bord Gais Leaks 1850 20 50 50

Safety Checks: 1850 79 79 79

ESB Emergency 1850 372 999

Safety Checks: 1850 372 757

- The ground area surrounding the excavation should be inspected using the AF3 Form.
- Where applicable ensure that the ground is capable of taking the weight of any load applied, e.g. plant or equipment which may be used.
- Before excavating, the adjacent area should be checked to ensure that the excavation work will not cause other structures to become unstable or collapse. Underpinning and propping may be required to stabilize such structures prior to the commencement of excavation - related works.
- All material removed from the excavation should be stored away from the excavation site to prevent loose materials falling back into the excavation.
- Chocks are required where vehicles may be working close to the excavation. A chock is a block, which prevents a vehicle from approaching too close to the side of an excavation which could cause the sides of the excavation to collapse or the vehicle to roll into the excavation.
- Workers must be able to get in and out of excavations safely. Generally, ladder access is used. All ladders should be secured to prevent slipping/sliding and must lend themselves to safe access onto and egress off, the ladder.
- Designated pedestrian walkways must be in place to separate site traffic from people entering or leaving tunnels.
- A competent person should inspect excavations at least once a day. The support systems and ground conditions should be examined, and any remedial work should take place immediately and a report of the inspection should be recorded on the approved form.
- Suitable barriers should be placed around excavations and be sufficiently strong and high enough to prevent people falling into the excavation. Suitable covers (e.g. metal decking) can be used where necessary to prevent persons from falling into excavations.
- Persons must be given advance warning when approaching excavation work. The warning signs must be suitable and appropriate for the danger it is referring to.
- Pipes and other materials should be stacked in a safe manner using wedges to prevent pipes and other materials from falling or rolling on to people. Large circular sections, e.g. manhole sections, should be stored flat not on their circular sides.
- Propping is any temporary structure used to support a permanent structure while it is not self-supporting. In the case of tunnels, adequate and sufficient propping must be in place to prevent the collapse of the walls and ceiling of the tunnel.
- Where tunnelling is necessary, a supply of fresh air may be required. Competent advice should be sought.
- Sufficient lighting, including emergency lighting, should be installed to allow work to take place safely and to allow safe access and egress.

14.59.5 Personal protective equipment should be worn and include:

- Gloves
- Hard hats
- Hi visibility clothing
- Safety footwear
- Protective eyewear
- Respiratory Protection
- Hearing defenders
- Protective eyewear

14.60 Works at Height

Hazard:	Work at height, unsecured objects, chemicals, manual handling, noise, dust, incomplete scaffold, wind, rain and poor weather.
Level of Risk:	Medium
Controls:	See details outlined below

14.60.1 Roof works

- Adequate investigation of the roof and its stability will be carried out prior to commencement of work.
- Crawling ladders or crawling boards will be used on all roofs that slope.
- If there are no such ladders or boards, the roof batons will provide a safe handhold and foothold provided that all workers are harnessed to a fixed location.
- There will be adequate barriers or other edge protection to stop persons or materials falling from sloping or flat roofs.
- Crawling boards will be provided where people work on fragile materials such as asbestos, cement sheets or glass. Warning notices will be posted.
- Suitable guardrails, covers etc., will be provided where people pass or work near such fragile materials.
- Roof lights will be properly covered or provided with barriers.
- During sheeting operations, precautions will be taken to prevent people falling from the roof.
- Precautions will be taken to prevent debris falling onto others working under the roof works.
- Only employees with suitable experience/training will be assigned to work on roofs involving high risk.
- Roof works will not take place during periods of hazardous weather.

14.60.2 Scaffolding

- Scaffolding shall only be erected by competent persons or under the strict supervision of a competent person (holding the relevant CSCS. Qualification).
- A GA3 form of inspection must be issued by the competent person prior to first use, every 7 days or when the scaffold is modified, damaged or subject to adverse weather conditions.
- Staff working on a scaffold must be made aware of its load capacity.
- Staff must not interfere or misuse any part of a scaffold.
- Staff must promptly report defects to those in control of the scaffold.
- Scaffold must not be erected near overhead power lines.
- Staff must wear protective footwear, Hi-vis clothing and hard hats.
- Fall arrest systems should be worn where a fall is or is likely to cause serious injury or death.

- Access must be prevented to areas where falling objects are likely.
- Where scaffolding is incomplete a sign stating that it is dangerous and incomplete must be clearly visible.
- Work from the scaffold will not take place during periods of hazardous weather.

14.60.3 Tower Scaffolding

- Tower scaffold shall only be erected by a competent person.
- A GA3 form of inspection must be issued by the competent person prior to first use, every 7 days or when the scaffold is modified, damaged or subject to adverse weather conditions.
- Where the conditions of use or the wind forces are likely to be different from those covered by manufacturer's instructions or the tower is erected in a location exposed to high winds, the overturning forces should be calculated by a competent person.
- The ground surface should be suitable for the type of tower to be used. Where castors are to be used the surface should be even and holes, ducts, pits or gratings should be securely fenced or covered.
- Where the surface is sloping, the tower should be prevented from slipping. Base plates and sole boards should be used where the ground is soft.
- Castors should be fitted with adequate brakes, and they should be securely fixed to each leg of the tower to prevent accidental uncoupling.
- The deck units or boards should be securely fixed to the frame. Toe-boards and guard-rails should be provided.
- The platform should not be over-loaded.
- Access should be provided to the tower by using vertical or integral ladders, inclined internal ladders or stairways erected in accordance with the manufacturers' directions. Ladders should be attached to the shorter side of rectangular towers and within the base area of the tower. External ladders should not be used with aluminium towers.
- Access to the platforms should be through a hatch which is capable of being closed and secured.
- Mobile access towers should not be used adjacent to overhead power lines. Contact the ESB for further advice. Where mobile access towers are being used in the same general area as overhead electricity lines, physical barriers and warning notices should be provided to prevent them coming close to the lines.
- Prefabricated towers such as aluminium alloy towers may only be erected by workers with adequate skills and training. Workers should be provided with adequate and comprehensible instructions both for the erection and checking of the tower. Competent supervision should be provided to ensure that towers are safely erected, checked and used.
- Work from scaffold will not take place during periods of hazardous weather.

14.60.4 Mobile Elevated Work Platforms (MEWP)

Prior to use the GA3 form must be completed by a competent person. Forms GA1 and GA2 may also have to be completed.

- The form GA3 must be completed every 7 days, and when exceptional circumstances arise which may jeopardise safety.
- The equipment shall not be made available for use when it is deemed unsafe following inspection.
- Completed forms shall be retrained for 5 years.
- Report of the thorough examination of a MEWP every 6 months.
- Required training shall include Safe Pass (where used on construction sites) and formal MEWP operation.
- Mandatory devices shall include a safety harness and it must be used when working from a MEWP.
- Level indicators and alarms should also be fitted.
- Over reaching must be avoided, re-position the MEWP as necessary to prevent this.
- Ensure parts of the MEWP do not protrude onto roads or other transport routes.
- Check work area for localised features e.g. manholes, service ducts, potholes, etc. (e.g. a hole 75mm deep can cause an overturn)
- Check any temporary or permanent covers are strong enough to withstand the applied pressure.
- Establish a load bearing capacity (general and point loading) when working inside a building or on a structure.
- Have agreed systems of communication (e.g. between banksmen and MEWP operators during steel erection work).
- The MEWP must be positioned on flat level ground.
- Ensure full emergency procedures are in place and widely known.
- If the vehicle platform can safely move when occupied it should be first lowered.
- When fitted, stabilisers or outriggers must always be positioned before the platform is raised.
- The Safe Working Load of the platform must be clearly marked and observed taking into account tools and equipment.
- Ensure any levelling indicators are clear and in working order and any 'out of level' alarms are functional.
- Do not use the platform when wind speeds exceed the manufacturer's specifications.
- Always keep feet flat on the floor of the platform.
- MEWPs should never be used as cranes.
- All MEWP vehicles should be inspected by the operator at the start of the shift.
- MEWP works will not take place during periods of hazardous weather.

14.60.5 Ladders

- Always use a ladder or stepladder in good condition to reach any item above your extended arm height. Never use a makeshift device, such as a desktop, file cabinet, bookshelf, or box, as a substitute for a ladder. Follow these guidelines when using ladders:
- A GA3 form of inspection must be issued by the competent person prior to first use, every 7 days or when the scaffold is modified, damaged or subject to adverse weather conditions.
- Ensure footwear is clean and dry to avoid slipping.
- Ensure that every ladder used is in good condition and free from obvious defects such as cracks and loose rungs. A damaged ladder must never be used.
- Ensure the ladder is erected correctly with the gripped part of the rungs available to increase the grip of your footing.
- Ladders should only be used for access, inspection and for light work.
- Set ladder at a slope of four vertical to one horizontal. (4 metres up, 1 metre out).
- Ensure that the ladder projects one metre above the place of landing.
- Do not overreach from a ladder. Dismount and relocate the ladder.
- Ladders which are no longer in use should be removed and should be made inaccessible at the end of each working day.
- Ladders rising above a vertical distance of over 9m must not be used without an intermediate landing place at least every 9m.
- Secure all ladders at the top and ensure it is secured at the bottom, either weighted or footed by another operator or approved patented device.
- Place ladders on slip-free surfaces even if they have slip-resistant feet. Secure the ladder if a slip-free surface is not available.
- Avoid placing ladders in walkways. Keep areas around ladders clean and free of debris.
- Do not use a ladder in front of a door unless the door is locked and barricaded.
- Do not load a ladder above its intended weight capacity.
- Ladders must be clear of overhead power lines.
- **Never over-reach from a ladder, or work with your back to a ladder.**
- Ladder works will not take place during periods of hazardous weather.
- Please also review the safety video “safe use of ladders” available from the IFI safety hub website. If you have difficulty accessing this online contact the H&S Executive. Dermot Broughan, 087 2595286.

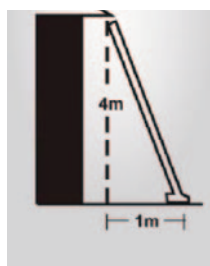


Figure 14.9 Safe Extension Ladder Use

14.61 Work in Confined Spaces

Hazard:	Oxygen depletion/enrichment, chemicals, fire, explosion slips, trips and falls, falls from height, engulfment/drowning, toxic atmospheres, biological agents, manual handling, high temperatures, free flowing solids/liquids, increasing levels of liquids.
Level of Risk:	High
Controls:	See details outlined below

Confined space work is not currently carried out by IFI. If confined space works are carried out in future the following controls along with training and a site-specific risk assessment must be completed.

Confined spaces may occur when cleaning tanks, drains or sewer systems. If you plan to work in a confined space, you must contact the health & safety executive well in advance to design a site-specific risk assessment and method statement.

Confined Space refers to any place, including any vessel, tank, container, pit, bund, chamber, cellar or any other similar space which, by virtue of its enclosed nature, creates conditions that give rise to a likelihood of an accident, harm or injury of such a nature as to require emergency action due to:

- the presence or reasonably foreseeable presence of:
 - flammable or explosive atmospheres
 - harmful gas, fume or vapor
 - free flowing solid or an increasing level of liquid
 - excess of oxygen
 - excessively high temperature
- the lack or reasonably foreseeable lack of oxygen

The hazards associated confined spaces include:

14.61.1 Toxic Atmosphere

A toxic atmosphere may cause various acute effects, including impairment of judgment, unconsciousness and death. A toxic atmosphere may occur due to the presence or ingress of hazardous substances. These substances may be present in the Confined Space for various reasons such as:

- remaining from previous processing or storage
- arising from the disturbance of sludge and other deposits
- the presence of a fire or flames within the space
- seepage from improperly isolated adjoining plant
- formation during the work processes carried out in the space
- being released from under scale and in brickwork as a result of the work process

14.61.2 Oxygen Deficiency

Oxygen can be lacking in a confined space for the following reasons:

- displacement of air by another gas
- various biological processes or chemical reactions (such as rotting of organic matter, rusting of metals, burning, etc.)
- absorption of air onto steel surfaces, especially where these are damp.

14.61.3 Oxygen Enrichment

An excess of oxygen, in the presence of combustible materials, results in an increased risk of fire and explosion. Some materials, which do not burn in air, may burn vigorously or even spontaneously in an enriched oxygen atmosphere.

14.61.4 Flammable or Explosive Atmospheres

A flammable atmosphere presents a risk of fire or explosion. Such an atmosphere can arise from the presence in the confined space of flammable liquids or gases or of a suspension of combustible dust in air. If a flammable atmosphere inside a confined space ignites, an explosion may occur, resulting in the expulsion of hot gases and the disintegration of the structure.

14.61.5 Flowing Liquid or Free Flowing Solids

Liquids or solids can flow into the confined space causing drowning, suffocation, burns and other injuries. Solids in powder form may also be disturbed in a confined space resulting in an asphyxiating atmosphere.

14.61.6 Excessive Heat

The enclosed nature of a confined space can increase the risk of heat stroke or collapse from heat stress, if conditions are excessively hot. The risk may be exacerbated by the wearing of personal protective equipment or by lack of ventilation.

14.61.7 Controls

Where possible entry into confined space must be avoided.

Where it cannot be avoided staff implement the following controls: They must complete confined space training.

Staff must not carry out work in confined spaces if it is reasonably practicable to complete the work without entering the space.

Specific hazard identification and risk assessment must be carried out prior to any confined space work.

A safe system of work must be created before working in the confined space.

Staff entering a confined space must be provided with appropriate information, training and instruction, appropriate to the particular characteristics of the proposed work activities.

Staff shall not enter a confined space unless suitable emergency arrangements have been made which are appropriate to the confined space in question.

When carrying out a risk assessment it is important to ensure that all risks associated with the hazards above are evaluated and controlled. When carrying out a risk assessment the following questions should be asked:

- What could be inside the space that would pose a risk?
 - Contents?
 - Oxygen Deficiency?
 - Previous Contents?
 - Oxygen Enrichment?
 - Residues?
 - Structure and Layout?
 - Contamination?
- What will be created due to the work carried out in the space?
 - Sources of Ignition?
 - Flammable Substances?
- What's outside the space that might pose a risk during the proposed work?
 - Inadequate Isolation?
 - Inadvertent Operation of Plant?
 - Nearby Work Activities?

The key elements to be considered when drawing up a safe system of work are:

- Competence, training, supervision and suitability
- Permit-to-work procedure
- Gas purging and ventilation
- Dangerous residues
- Testing and monitoring of the atmosphere
- Mechanical, electrical and process isolation
- Respiratory protective equipment
- Other personal protective equipment
- Safe use of work equipment
- Communications
- Access and egress
- Flammable or explosive atmospheres
- Combustible materials

14.62 Safe Use of Hydraulics

Hazard:	High pressure oils (injection), hot oils, flailing lines, fire
Level of Risk:	Medium
Controls:	See details outlined below

- Read and follow manufacturers operating manual for safe operation and maintenance.
- Prior to use, always inspect hydraulic hoses and fittings for defects or leaks and to ensure they are securely attached at connection points. Confirm that low-pressure hoses or fittings are not connected to a high-pressure hydraulic system or pump.
- If a hydraulic system fails the pre-use inspection, notify your supervisor and remove the equipment from service. Attach a tag that states "DO NOT USE." Complete tag with appropriate information.
- Before operating the hydraulic equipment, look to see that people and obstructions are clear of the equipment.
- Never walk beneath any implement or component that is supported by hydraulics.
- Always shut off and relieve all hydraulic pressure before disconnecting hydraulic hoses or performing maintenance or repairs.
- Prior to initiating maintenance or repairs, always use supports, jacks, stands, or blocks to prevent movement of hydraulic implements or components.
- When hydraulic systems are operating, hydraulic fluid temperatures range from 74° to 85°C (165° to 185°F) due to the high pressure and represent a potential burn hazard.
- Hydraulic oil is a fire hazard and when ignited can cause severe burns or fatalities. A suitable fire extinguisher must be stored close to the equipment.
- Never search for a pinhole leak by running your hand or finger along a hydraulic hose. Hot hydraulic oil at high pressure can puncture gloves and penetrate several inches into soft tissue. Search for pinhole leaks using a piece of cardboard or wood.
- Always lower hydraulic components to the ground before shutting off the engine and dismounting the equipment.
- Before disconnecting oil lines, relieve all hydraulic pressure and discharge the accumulator (if used).

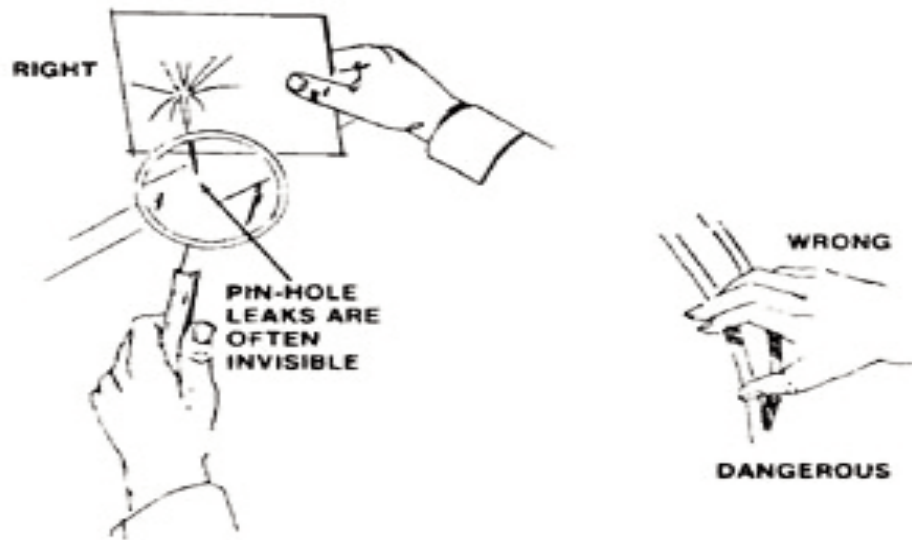


Figure 14.10 Testing Hydraulics for Leaks

Remember never use your hand to find or stop leaks in a hydraulic hose.

14.63 Painting

Hazard:	Work at height, falling objects, chemicals, manual handling, fumes
Level of Risk:	Low
Controls:	See details outlined below

- Consult the Material Safety Data Sheet before painting.
- Wear personal protective equipment as specified in the material safety data sheet.
- Ensure paints are used in ventilated areas, where ventilation is insufficient respiratory protective equipment must be worn or forced ventilation fitted.
- Wear overalls when painting. Gloves and goggles should also be worn. Wash hands before eating or drinking. Store paints and solvents away from food.
- Do not smoke when painting. Ensure work areas are well ventilated to minimize inhalation of vapours especially vapours of paint removers. Exclude sources of ignition from work areas.
- Wear goggles and gloves when handling paint removers.
- Do not clean hands with paint solvents or thinners.
- Wear respiratory protective equipment to guard against dust created in surface preparation work or when spraying paints.
- Ensure that steps are taken to provide adequate ventilation in confined spaces.
- Refer to the following controls detailed in 14.60 Work at Heights.

14.64 Maintenance of Fish Counters

Hazard:	Work on or adjacent to water, manual handling, power and hand tools, electricity
Level of Risk:	Low
Controls:	See details outlined below

14.64.1 General Safety Precautions

- Fish counters can only be maintained during periods of low water.
- Personal flotation devices must be worn.
- A throw rope should be available on site.
- Lone working is prohibited when maintaining fish counters.
- Local area forecasts should be obtained prior to commencing work.
- Conduct a visual inspection of the counter.
- Avoid physically moving debris or large obstructions; allow flood waters to wash obstructions downstream. Where obstructions are likely to cause flooding alert the Local Authority.
- Where obstructions must be removed mechanically a specific risk assessment must be completed for the activity.
- The Logie fish counters only require cleaning for camera verification.
- Standing on the white plastic area of a fish counter must be avoided.
- Traversing the Logie fish counter should be done via the concrete edge and not by the plastic board.
- Long handled tools should be used from the downstream side of the Logie counter when cleaning. Deck scrubs and scrapers should be used instead of power washers.
- The use of cabled electric power tools is prohibited.
- Abrasive wheels must only be used by trained staff.
- If staff have to enter on to the electrode area to carry out repairs, they must kneel to lower their centre of gravity and avoid slipping. Knee pads can be provided. A helmet with chinstrap must be worn.
- Where eyebolts are fitted at the counter, a safety rope must be used during maintenance work.
- Where fish counters are bridged, fall arrest systems must be worn.
- Life rings should be fixed at the counter.
- VAKI Counter maintenance is limited to wiping a non-abrasive cloth/mop on the unit. VAKIs must not be removed during periods of high water.
- When maintenance involves construction work and not just cleaning, suitable PPE must be worn. For example, using a con-saw will require safety boots, goggles, dust mask and hearing protection.

14.64.1 Rescue Procedure

- It is recommended that staff working on fish counters complete swift water rescue training.
- Where a staff member slips into the water, they should adopt a defensive swimming position and scan for hazards. An aggressive swimming position should be taken to avoid hazards which cannot be fended off with the feet. An aggressive swimming position may also be used to reach areas of safety such as an eddy or shallows or swimming to a throw rope.
- Where possible a colleague at the scene should raise the alarm and provide assistance using the throw rope.

14.65 Maintenance & Safe Access to Weirs

Hazard:	Work on or adjacent to water, manual handling, power and hand tools, hydraulics
Level of Risk:	Medium
Controls:	See details outlined below

14.65.1 General Safety Precautions

- Maintenance of weirs pose a number of risks to staff including slippery surfaces, fast flowing water, risk of falling into deep/turbulent waters. As the design of individual weirs may differ greatly site-specific risk assessments should be conducted. Lone working is prohibited.
- Staff must wear a personal flotation device.
- Where practicable hand railing should be provided.
- Depending on the individual nature and design of the weir security fencing and warning signs should be used.
- Lifebuoys should be available at all weirs.
- The provision of a footbridge is not always possible. An alternative for maintenance personnel is the provision of eyebolts in the abutments, to which a safety harness can be attached.
- Where obstructions are likely to cause flooding alert the Local Authority.
- Lifting equipment should be provided so far as is reasonably practicable to remove unwieldy and heavy blockages. Where possible allow rising waters of a flood to remove blockages naturally.
- To ensure safe access and egress vegetation and over hanging trees should be cut back. Silt may need to be removed where it causes an obstruction.
- It is important that inspections are recorded. Inspections should take place at regular intervals e.g. during/after flooding.

14.65.2 Rescue Procedure

- It is recommended that staff working on weirs complete swift water rescue training.
- Where a staff member slips into the water, they should adopt a defensive swimming position and scan for hazards. An aggressive swimming position should be taken to avoid hazards which cannot be fended off with the feet. An aggressive swimming position may also be used to reach areas of safety such as an eddy or shallows or swimming to a throw rope.
- Where possible a colleague at the scene should raise the alarm and provide assistance using the throw rope.

14.66 Construction of Angling Stands, Stiles, Bridges, Walkways & Similar Structures

Hazard:	Work on or adjacent to water, manual handling, power and hand tools, excavations, heavy machinery, noise dust, vibration, fumes chemical handling, work at height.
Level of Risk:	Low – Medium
Controls:	See details outlined below

- This section should be read in conjunction with the *Guide to the Design and Construction of Accessible Angling Facilities*.
- Records should be kept of the construction and maintenance or removal of angling structures and updated on a regular basis.
- Staff involved in any form of construction or development work must hold a valid Safe Pass card and up to date manual handling.
- Staff operating machinery must where applicable hold the relevant Construction Skills Certification Scheme (ticket) card.
- A Safe System of Work Plan (SSWP) must be completed prior to commencing work.
- Personal protective equipment must be worn.

General	Work on or adjacent to water	Chainsaws & Polesaws
Work Gloves	150N & 275N lifejackets	Protective gloves
Safety Goggles	Life ring/ throw rope	Chainsaw jacket
Dust Masks	Drysuits	Chainsaw trousers
Safety Boots	Safety Waders	Chainsaw boots
Hearing protection	Safety Wellingtons	Chainsaw waders
Hard hat		Chainsaw chaps
Hi Vis clothing		Chainsaw combi-helmet

Table 14.2 PPE Requirements

- For work on or adjacent to water a personal flotation device must be worn.
- Cutting plastic wood or natural wood may generate harmful dust and respiratory protection should be worn.
- The transport and assembly of angling stands, bridges and walkways is physical work. Staff must have completed manual handling training and use mechanical aids where practicable to reduce the risk of back injury.
- Care must be taken when carrying loads and traversing lands. Routes should be planned. Where feasible quad bikes and trailers should be used to transport material off road.

- Machinery, power and hand tools may create a noisy environment in which hearing protection must be worn. Contact the Health & Safety Executive if you wish to have noise monitoring conducted at your workplace.
- If chemicals are used safety data sheets must be obtained and safety precautions followed.
- Staff operating lorry loaders (e.g. HiAb) arms for loading/unloading lorries must have completed training in safe use and operation.
- When working on farmland care should be taken to identify any signs warning of hazards such as a bull on the land. Refer also to Section 14.180 Traversing Lands.
- Good hygiene must be practiced wash hands with soap or use disinfectant wipes before eating drinking or smoking/vaping.
- Take care to cover any cut, scratches or abrasions. A first aid kit must be readily available.

14.66.1 Nail Guns

- Read and follow manufacturers operating manual for safe operation and maintenance.
- The tool must be checked before use, it must be loaded only before it is used. When not in use remove the battery/cartridge & remaining nail magazine.
- Never point the gun at anyone. If you have to move when it is in use the gun must be pointed downward with finger off the trigger.
- Always keep cartridges away from heat sources.
- At the moment of firing the operator must be in a stable position, holding the tool as far as possible at right angles to the base material.
- The operator must ensure nobody is working close to the firing area.
- Always shoot the gun away from your body.
- Check lumbar surfaces before nailing. Look for knots, nails, straps, hangers etc. These can cause recoil or ricochet.
- If the tool malfunctions, keep the tool on the work surface and fire again. If it fails, remove the battery and examine the tool. If several incidents occur, you must inform the manufacturer.
- The user and others working in the area must wear PPE. This includes goggles, and hearing protection.
- The condition of the tool must be checked at least once a year by the manufacturer or their authorised agent. The tool should be regularly maintained (cleaning and greasing) to keep it in good operating condition.

14.66.2 Securing Posts/Structures

- PPE must be worn including gloves, safety goggles, safety boots and a hard hat where appropriate.
- When securing posts where practicable they should be set in a post hole with the post reinforced using rebar before setting in concrete. Augers and/or hand tools should be used to dig the holes.

- Where this is not practicable (e.g. due to unsuitable ground conditions) the pole may be driven into position using a manual fence post driver.
- Posts should not be driven into the ground by striking the top directly with a sledgehammer. Striking directly can cause the post to crack and flying debris may cause injury. Where there is a risk of a pole, stake etc. splintering or cracking when struck, then the top should be covered using a handheld post driver or similar protective cover.
- Where powered post drivers are used, read and follow the manufacturers user manual for safe use. Hearing protection, safety glasses gloves and safety boots should be worn. Rotate the user to reduce the risk from vibration exposure. Let the tool do the job. Use a firm, but minimum hand grip, consistent with proper control and safe operation. When in use avoid contact other than with the hands on the handles.

14.67 Removal of Structures

Hazard:	Work on or adjacent to water, manual handling, power and hand tools, excavations, heavy machinery, noise, dust, vibration, fumes, chemical handling, work at height, pinch points, moving parts.
Level of Risk:	Low – Medium – High
Controls:	See details outlined below

- Records should be kept of the removal of angling structures and updated on a regular basis.
- Staff involved in any form of construction or development work must hold a valid Safe Pass card.
- Staff operating machinery must where applicable hold the relevant Construction Skills Certification Scheme (ticket) card.
- A Safe System of Work Plan (SSWP) must be completed prior to commencing work.
- Manual handling training must be up to date.
- Personal protective equipment must be worn.

General	Work on or adjacent to water	Chainsaws & Polesaws
Work Gloves	150N & 275N lifejackets	Protective gloves
Safety Goggles	Life ring/ throw rope	Chainsaw jacket
Dust Masks	Drysuits	Chainsaw trousers
Safety Boots	Safety Waders	Chainsaw boots
Hearing protection	Safety Wellingtons	Chainsaw waders
Hard hat		Chainsaw chaps
Hi Vis clothing		Chainsaw combi-helmet

- For work on or adjacent to water a personal flotation device must be worn.

14.67.1 Site Access & Inspection

- Staff should liaise where applicable with landowners regarding access and potential hazards on the land.
- If the site visit is an initial inspection erect the standard IFI structure closure signage when it is found to be in a state of disrepair. Erection of this signage should also be recorded.

14.67.2 Removal by Hand

- A Safe System of Work Plan (SSWP) must be completed prior to commencing work.
- In some instances, structures are seriously rotted or collapsing; great care should be employed when working on them. Testing support posts, joists and battens by striking with a lump hammer will give an indication of solidity and stability of the structure. Timber structures are most vulnerable in areas which are intermittently submerged in the water.
- Hand tools used typically include hammers, saws, sledgehammers, nail bars and hack saw (See also Section 14.35)
- Battens should be removed first using hand tools. Protruding nails or screws must be clinched against the batten before stockpiling adjacent to the work area.
- Where large supporting posts and beams can be worked free, they should be tied for retrieval by hand or with the use of a quad (where available).
- Where staff wade in the water throw ropes must be to hand and personal flotation devices worn.
- Chainsaw use in the water should be avoided.
- Where pole saws are used other staff should remain 15m from the work area.
- Pole saws and chainsaws must never be used from a boat.

14.67.3 Removal with Winches (See also 14.39 Winching Operations)

- A Safe System of Work Plan (SSWP) must be completed prior to commencing work.
- Staff using winches must be trained and competent.
- Operators must wear gloves.
- The winch cable must be in good condition (look for kinks, fraying etc.) and the rating must never be exceeded. Winches must have a minimum load rating of 4 tonne.
- Never wrap the chain onto itself. Use a rated strap or choker. Ensure your tensioned cable has a winch blanket before attempting to move fixed structures/objects.
- Ensure staff and onlookers remain a safe distance from the winching operation.
- Do not submerge the winch when recovering material.
- Never use the winch as a lifting hoist.
- Clean muddy winches after use.
- Ensure the winch is correctly tensioned and respooled after use.

14.67.4 Removal using Heavy Plant (See also Section 14.92)

- A Safe System of Work Plan (SSWP) must be completed prior to commencing work.
- Staff operating heavy plant such as excavators to remove angling structures must have a valid ticket (CSCS Card) and safe pass.
- Staff working on the site must hold a valid safe pass card.
- Overhead powerlines must be identified and goal posts erected if required. Underground services must be clearly marked.
- Ground conditions must be inspected. Excavators should not be used if the machine could be bogged down.
- The work area shall be cordoned off to the public where appropriate.
- Staff shall only work in view of the excavator operator and never on the blind side of the boom.
- Staff must never work within range of the boom while the excavator is in operation.
- A banksman should be used when the operators view is obscured, and when digging deep excavations. Banksman shall give direction signals, watch for undercutting and look out for services when present.
- Spoil and material should be discharged by the excavator clear of the water course and not causing an obstruction.
- Lifting equipment should never be attached to an excavator to pull loads. Winching cables with a minimum rating of 4 tonnes may be used. The winching area must be cleared of staff and bystanders. A winch blanket must be used.

14.67.5 Loading Material for Transport

- Ensure mechanical aids are used where practicable.
- Team lifting techniques should be deployed where appropriate.
- Material must be safely secured to trailers for transport (see section 14.95 Safe Securing of Loads for Road Transport).

14.67.6 Contract Removals

- Ensure contractors provide copies of public and employee liability insurance.
- Contractors must provide an H&S plan for the works.
- The HSA must be notified if the work will last longer than 30 working days or 500 person days.
- The contractor must issue a cert confirming that the material has been safely disposed of.

14.68 Maintenance of Riverbanks & Similar Environments

Hazard:	Work on or adjacent to water, manual handling, power and hand tools, heavy machinery, noise dust, vibration, fumes chemical handling.
Level of Risk:	Low – Medium – High
Controls:	See details outlined below

- Staff involved in any form of development work involving construction must hold a valid Safe Pass card.
- Staff operating machinery/equipment must where applicable hold the relevant Construction Skills Certification Scheme (ticket) card.
- Personal protective equipment must be worn. Equipment may include, high visibility clothing, safety boots, safety wellingtons, safety waders, gloves, hearing protection, safety glasses, hard hat and respiratory protection.
- For work on or adjacent to water a personal flotation device must be worn.
- Material handling may include handling fencing, rock, wood etc. Staff must have completed manual handling training and use mechanical aids where practicable to reduce the risk of back injury.
- Machinery, power and hand tools may create a noisy environment in which hearing protection must be worn. Contact the Health & Safety Executive if you wish to have noise monitoring conducted at your workplace.
- If chemicals are used safety data sheets must be obtained and safety precautions followed.
- Staff operating HiAb arms for loading/unloading lorries must have completed training in safe use and operation.
- When working on farmland care should be taken to identify any signs warning of hazards such as a bull on the land. Refer also to Section 14.180 Traversing Lands.
- Good hygiene must be practiced wash hands with soap or use disinfectant wipes before eating drinking or smoking/vaping.
- Take care to cover any cut, scratches or abrasions. A first aid kit must be readily available.

14.68.1 Fencing

- Check the proposed fence line for underground utilities.
- Wear protective gloves and safety glasses & safety shoes.
- When stake driving do not support the stake by hand – use a stakeholder.
- When using a maul/mallet, ensure that no one is close in line with the swing.
- Where possible use treated timber and check that the preservative is dry.
- Wear chemical resistant-gloves to handle timber still wet with preservative.
- Use dispensers when unrolling line wires to avoid kinking/twisting.

- Ensure that the wire is secured firmly on the dispenser.
- When using ratchets, ensure that the wire always has at least two full turns on the ratchet barrel.
- Ensure wire strainers are securely attached and anchored before tensioning.
- Do not stand on or astride, wire while it is being tensioned.
- Never over tension the wire.
- To avoid recoil, always ensure that the exposed ends of wire are secured.
- Always secure wire on each side of the cutting point before cutting.
- Exercise care to avoid spiking hands on loose ends.
- Always wear protective gloves when handling barbed wire.
- Take care to avoid breakage and recoil.
- When dispensing barbed wire, keep it taut.
- See also Section 14.66.2 Securing posts and structures.

14.68.2 Rock Armouring

- Rock armouring is rock used to protect riverbanks, streams and other shorelines against erosion.
- Staff operating excavators must hold a construction skills card (ticket) for the type used.
- Staff must hold a safe pass card.
- Staff must always work beyond the range of the excavator boom arm.
- Staff must not stand under suspended loads.
- Staff may only approach an excavator when they have signalled the operator to shut down, have received acknowledgement and the machine is shut down.
- Personal protective equipment must be worn. This may include high visibility clothing, gloves, hearing protection, safety boots, goggles and respiratory protection.

14.68.3 Tree Clearance

- Working in water with chainsaws should be avoided and so far as is reasonably practicable hand saws should be used instead. A specific risk assessment is required for chainsaw work in water. Contact the H&S Executive.
- Full chainsaw PPE must be worn.
- See sections 14.41 Pole Saws, 14.42 Chainsaws and 14.43 Petrol Strimmer/Brush cutter for additional controls.
- Protective helmets must be worn. Helmets should have a chin strap.
- Where a block and tackle is being used it must be fixed using a strap which has a safe working load. Unidentifiable safe working load chains or ropes are not suitable.
- Any lifting equipment must have a valid inspection record. Inspections must be carried out by the insurance appointed engineer.
- The use of lifting equipment which is overdue a service must be securely stored. The use of such equipment is strictly prohibited.
- Mechanical aids should be used to reduce manual handling wherever practicable.

14.69 Control & Management of Traffic on Public Roads

Hazard:	Fast moving vehicles, noise & dust.
Level of Risk:	Medium - High
Controls:	See details outlined below

- Staff involved in any form of development work involving construction must hold a valid Safe Pass card.
- Staff involved in control and management of traffic on public roads must complete the signing, lighting & guarding (SLG) at road works training course. The Department of Transport Temporary Traffic Management Design Guidance document shall be followed.
- Any construction work which obstructs the roadway or where pedestrians, people with disabilities or cyclists are directed onto the roadway because of construction, there must be at least one person who has been issued with a valid construction skills card relating to signing, lighting and guarding on roads at the site location at all times when road signing, lighting and guarding is being installed, modified or removed.
- When work activity is being carried on and the SLG CSCS card holder (person provided) is not on site, there must be on each site at least one person who has successfully completed the Health and Safety at Road Works Construction Skills Certification Scheme and who possesses a valid and relevant registration card. This course gives a broad overview of road work safety and will raise site awareness on: signing, lighting and guarding, excavation safety, underground services, plant and equipment, handling and storage of materials, and emergency procedures. One of the main roles of this person will be to make minor repairs to the signing, lighting and guarding as necessary.
- The staff involved in such work must implement the guidance for the control and management of traffic at road works document.
- Where there is exposure to high noise levels hearing protection shall be worn.
- Where applicable roads should be dampened to reduce dust. Dust masks may also be provided.

14.70 Working on Roads

Hazard:	Fast moving vehicles, noise & dust.
Level of Risk:	Medium - High
Controls:	See details outlined below

- Staff involved in construction, development, maintenance or inspection work on the road side must wear a high visibility vest.
- Where there is exposure to high noise levels hearing protection shall be worn.
- Where applicable roads should be dampened to reduce dust. Dust masks may also be provided.
- Care must be taken when crossing the road and the safe cross code must be applied.

14.71 Construction on or Adjacent to Water

Hazard:	Fast moving vehicles, noise & dust.
Level of Risk:	Medium - High
Controls:	See details outlined below

- When conveyed on water for construction work, staff must wear a suitable personal flotation device. Boats shall be suitably constructed and maintained.
- The boat operator must have completed powerboat training.
- The boat must never be overcrowded or overloaded.
- When construction work is ongoing on or adjacent to water a personal flotation device will be worn.
- Life rings and or throw ropes will be kept on site.
- So far as is reasonably practicable where there is a risk of falling from the edge of a structure or adjacent lands into the water ensure that secure fencing is provided to prevent such a fall.

Hazardous Materials

14.72 General Chemical Safety

Hazard:	Chemical handling, dusts, vapours fumes, gases, flammables, toxins, irritants, sensitizers
Level of Risk:	Low – Medium – High
Controls:	See details outlined below

14.72.1 Chemical handling

- For every chemical used a safety data sheet must be obtained from the supplier. Follow all safety instructions provided and inspect labelling carefully.
- Take note of hazard statements and risk phrases, safety phrases or precautionary statements.
- The PPE recommended in the safety data sheet must be worn.
- Ensure third parties are not exposed when handling the chemical.
- Contact the Health & Safety Executive for guidance on risk assessment.

14.72.2 Chemical Storage

- Avoid storing large quantities of harmful chemical on site. Try to order as required to reduce the quantity stored.
- Flammable chemicals must be store separately to oxidising or corrosive chemicals.
- Chemical should be stored securely with restricted access.
- Liquid chemical stores must be bunded.

14.72.3 Chemical Labelling

- The new chemical classification, labelling and packaging signage is as follows:



Explosive
Self Reactive
Organic Peroxides



Oxidising



Flammables
Self Reactives
Pyrophorics
Self Heating
Emits flammable gas
Organic Peroxides



Irritant
Dermal Sensitiser
Acute Toxicity (harmful)
Narcotic effects
Respiratory Tract infection



Acute Toxicity
(Severe)



Gases Under Pressure



Carcinogen
Respiratory Sensitiser
Reproductive Toxicity
Mutagenicity
Aspiration Toxicity



Environment Toxicity



Corrosives

Figure 14.11 Chemical Labelling Explained

14.72.4 Chemical Disposal

- Refer to Section 13 of your Safety Data Sheet to confirm the correct disposal procedure for your chemicals.
- If you are in doubt as to the safety of any chemical disposal procedure, contact the Environmental Protection Agency for further advice.
- Only use a licensed hazardous waste disposal contractor, when one is required.

14.73 Pesticides

Hazard:	Work on or adjacent to water, manual handling, dust, fumes, mists and vapours, chemical handling.
Level of Risk:	Low
Controls:	See details outlined below

You must be registered with the Department of Agriculture as a professional user to apply pesticides.

If these products are used the operator must receive training including PA1 and PA6 courses to ensure competence.

If pesticide product labels have become illegible and the content is unknown e.g. faded, the pesticides should be disposed of safely.

Read and follow pesticide manufacturer's instructions and Safety Data Sheet for safe use.

Pesticides should be stored in a suitable chemical storage area, which ensures:

- reduced risk of physical damage.
- prevention of rapid spread of fire or smoke or liquid or molten substances.
- prevent incompatible chemicals being mixed e.g. by spillage, damage to packaging or by wetting during firefighting.

During the selection of personal protective equipment, the following shall be considered as the basic requirements:

- A face shield, complying with EN 166.
- Respiratory protective equipment. For potential dusts/particles a disposable respirator complying with EN149 with P2 filter efficiency or reusable respirator to EN 136 or 140 (or equivalent) fitted with a P2 filter; for potential airborne spray/vapour, a reusable respirator to EN136 or 140 (or equivalent) fitted with a P3 vapour filter suitable for the pesticide been used.
- Protective gloves (minimum 0.5mm thickness,) complying with EN374.
- Wellington boots with good grip.
- A coverall selected on the following basis:

Purpose	CEN Type Rating	General Description
Protection against liquid jets	Type 3	Chemical protective clothing with liquid tight connections between different parts of the clothing
Sprays	Type 4	Chemical protective clothing with spray tight connections between different parts of the clothing
Solid particles	Type 5	Reusable and limited use 'particle tight' protective clothing.
Splashes of liquid and solid	Type 6	Reusable and limited-use protective clothing offering limited performance against splashes and aerosols of liquid and solid particulate chemicals.

Table 14.2 PPE Selection Criteria

- Use personal protective equipment appropriate for the pesticide in use.
- Depending on the specific pesticide and how the pesticide is being used, use chemical protective clothing when there is a chance of spilling or splashing liquids or contact with spray.
- Always wear clean protective clothes that are free of holes or other defects.
- Wear loose-fitting protective clothing - a size slightly larger than needed in order to reduce stretching at seams.
- Secure protective pants outside of boots.
- Wear an apron that extends below boot tops when mixing and loading liquid pesticides.
- Wear boots made of appropriate chemical-protective material, not leather.

14.73.1 Personal Protective Equipment

- Choose a suitable respirator according to fit, chemical and amount of likely exposure. Your supplier can advise you.
- Wear waterproof, washable material. Do not use leather or cloth sweatbands.
- Wear chemical goggles and a face shield when mixing or spraying pesticides.
- Wear durable, chemical protective gauntlet gloves which extend up the forearm. Follow the manufacturer's guidelines regarding suitable glove material.
- Do not wear leather, paper or fabric gloves. These materials absorb and hold liquids and dusts and can become a serious source of exposure.

14.73.2 Reducing the likelihood of contamination

- Stand upwind of all spraying operations.
- Follow manufacturer's instructions to prevent getting pesticides on your hands when removing contaminated gloves.
- Wear a light pair of disposable protective gloves under the outer gloves. Discard the disposables after each use.
- Wear relatively loose-fitting outer gloves for easy removal.
- Store contaminated clothing separately from personal clothing.
- Launder professionally or according to manufacturer's recommendations (if not disposable).

14.73.3 What to do if my skin or clothing becomes contaminated?

- Remove all contaminated clothing immediately.
- Follow the safety data sheet (SDS) or label first-aid advice for skin/eye contact.
- Scrub the contaminated area vigorously with soap and water.
- Wash entire body, including hair with water.
- Use a chemical shower where available.
- Rinse with clean water for at least 15 minutes.
- Rinse eyes if pesticide irritates them, use eye-wash station or clean water and obtain medical attention.
- Any co-workers who help you should wear gloves and rubber boots and take precautions to prevent contaminating themselves.
- Contaminated clothing should be bagged and tagged, indicating which pesticide product was used.
- Clean contaminated clothing, or discard if contaminated with a very toxic pesticide, as recommended by the pesticide manufacturer.
- Leather products (e.g. shoes, boots, and belts) cannot be decontaminated and should be discarded in an approved manner as hazardous waste.
- Read the label information and SDS before using the pesticide product to find out if it can be absorbed through intact skin and be able to recognize toxic effects you may experience if you are exposed. Some acute or short-term effects can start right after exposure; other effects can be delayed from several hours to several days.
- Obtain medical attention if you feel unwell, or if recommended in the SDS or in other manufacturer information. Take the SDS or other manufacturer information with you. Medical staff will need the information to treat you correctly.
- Further information can be obtained from **Poison Control 01 8379964 or 01 8092566**

14.73.4 Key factors to remember when using pesticides

14.73.4.1 Safe Handling

- Be trained in the correct use and handling of pest control products - some products can be used by specially trained and certified personnel.

- Become familiar with regulations that apply to pesticide use and follow all regulatory requirements.
- Minimize use of pesticides where possible.
- Choose correct pesticide for the job.
- Wear appropriate personal protective equipment and clothing when handling and spraying pesticide products.
- Keep products in their original labelled packages.
- Follow the precautions that appear on the label.
- Inspect pesticide containers for leaks before handling.
- Learn to recognize the typical signs of poisoning and the correct first aid procedures.
- Stop work and seek medical attention immediately if you feel ill during pesticide use.
- Have washing facilities as close as possible to mixing and loading sites.

14.73.4.2 Mixing

- Mix pesticides using equipment reserved only for that purpose. Mixing and loading areas should be designed to contain any spills and facilitate clean-up.
- Fill mixing tanks one third full of water before adding pesticide concentrate.
- Tap sides of containers to ensure that any remaining wettable powder falls into the spray tank.
- Keep containers below eye level to minimize splashes to the face.
- Use proper tools to open a container. Work in a well-ventilated area.
- Stand upwind of all opening, pouring and mixing operations, if working outdoors.

14.73.4.3 Application

- Ensure that all spraying equipment is in good repair and properly calibrated.
- Use the proper nozzle for the job. Control sprays angle and droplet size. The wider the angle and the smaller the droplets, the greater the potential for drift.
- Stand and apply so that the wind blows the pesticide away from you.
- Rinse empty liquid containers three times and pour contents into spray tanks. Rinse as soon as the container is empty since dried residue is much more difficult to remove. Puncture and crush container for disposal.

14.73.4.4 Post Application Procedures

- Follow environmental guidelines and regulations regarding disposal.
- Familiarise yourself with disposal arrangements.
- Ensure effective storage.
- Wash face and hands thoroughly after completing mixing operation.
- Wash hands before eating, drinking, smoking/vaping or using the toilet.
- Shower thoroughly, with special attention to hair and fingernails, after each pesticide application or at the end of the work shift.
- Change clothes daily and more often if any contamination occurs.

14.73.5 What should I not do when working with pesticides?

- Do not work alone when handling pesticides.
- Do not handle containers roughly.
- Do not guess at the amount of pesticide to mix or apply.
- Do not stir pesticides with your hands.
- Do not keep food, beverages, tobacco, cigarettes, cups or cutlery near work areas or in work clothes.
- Do not rub eyes or touch your mouth with hands while working with pesticides.
- Do not use mouth to siphon liquid materials or to blow out a clogged spray nozzle.
- Do not fill tanks completely when spraying hilly areas using spraying equipment pulled by a tractor.
- Do not make sharp turns.
- Do not spray if wind speed is more than 8 km/h (5 mph) or if air temperature is above 30°C (86°F).
- Consult manufacturer's instructions as ultra-low volume spraying may have different requirements.

14.73.6 Using compressed air sprayers

- Check hoses and connections for leaks.
- Ensure that the material the strap is made from does not absorb chemicals.
- Secure sprayer lid before lifting.
- Place the unit on a waist-high surface before slipping shoulder straps on or off.
- Walk upright to avoid any leakage through filling caps or air-bleed holes.
- Check clothing periodically, especially the back of pants, for pesticide deposit.
- Do not walk backwards while carrying compressed air sprayer.
- Pesticides should be stored in a suitable chemical storage area, which ensures:
 - reduced risk of physical damage
 - prevention of rapid spread of fire or smoke or liquid or molten substances
- Prevent incompatible chemicals being mixed e.g. by spillage, damage to packaging or by wetting during firefighting.

14.74 Flammable Substances

Hazard:	Fumes, vapours, mist, liquid chemical handling, fire.
Level of Risk:	Medium – High
Controls:	See details outlined below

- Refer to the Safety Data Sheet before use. Ensure the PPE detailed in the safety data sheet.
- So far as is reasonably practicable only hold minimum quantities of flammable liquids required for immediate use. Large quantities of flammable substances must be stored externally in a well-ventilated fuel store.
- Seal containers immediately after use.
- Keep flammable liquids away from open flame, sources of ignition or hot surfaces.
- Where possible, work involving the use and release of highly flammable vapours should be carried out in a fume cupboard.
- Recognise flammable liquids by labelling clearly.
- Change clothing that has been in contact with flammable liquid.

14.75 Petrol

Hazard:	Fumes, vapours, mist, liquid chemical handling, fire.
Level of Risk:	Medium – High
Controls:	See details outlined below

14.75.1 Storage of Petrol

- Petroleum stores containing in excess of 60 gallons (273 Litres) of petrol must be licensed (note the Dangerous Substances Act, 1972 and Dangerous Substances Regulations, 1979).
- Petrol must be stored in a suitable leak proof container of adequate strength and construction. The container must be securely closed by means of a suitable stopper preventing leakage.
- Containers must not be filled more than 95% of their capacity.
- Rubber seals/gaskets must be checked regularly and replaced if partially perished.
- Petrol must be stored away from buildings unless all means of separation (including walls, ceiling and doors etc.) are a minimum of one-hour fire resistant. The maximum quantity that may be stored in a building adjoining another is 20 litres not exceeding 10 litres in any one container.
- Storage must have a direct entrance to the open air and adequate ventilation. Ventilation must be at the bottom of the storage area (petrol is denser than air) but it is preferable to have top & bottom ventilation to increase the flow of air.
- Storage of petrol exceeding 20 litres must be detached from the main building. It must be at least 6m from any other storage place containing flammable substances, other buildings, (frequented by persons) timber stack or from any public place.
- Provision must be made in the storage area for the retention of petrol in the event of a leak.
- A suitable fire extinguisher to extinguish burning petrol must be kept in the store or conveniently adjacent.
- All petrol containers must be marked with the words "Petroleum –Spirit, Highly Inflammable" Do not transfer petrol into other containers unless they are clearly labelled.
- No repairs on large fuel tanks may be carried out unless the vessel is thoroughly cleaned and purged. IFI employees should not undertake hot work e.g. welding, on containers.
- A person should not use or expose petrol in the presence of fire or artificial light, which would be liable to ignite petrol vapour. Ex rated lighting is necessary where high levels of petrol are stored. According to the Health & Safety Authority, 60 gallons is below the level at which you must have this lighting.
- Petrol may not be disposed of in drains, sewers or watercourses. Waste petrol must be disposed of through appropriate channels e.g. chemical disposal companies, waste management companies or the local authority facilities.

14.75.2 Transportation of Petrol

- Petrol may be transported in limited quantities in vehicles under the exemption to the ADR Regulations.
- Petrol containers must be securely closed by means of a suitable stopper so as not to allow any leakage or evaporation.
- A Gerry can is an example of a suitable container.
- The maximum quantity of fuel in portable fuel containers is 60 litres.
- Containers should never be filled beyond 95% capacity.
- Petrol being transported should be secured in the trailer/boat or enclosed boot.
- Smoking/vaping is prohibited near petrol which is being transported.
- All persons should wash any petrol splashes, which land on their body or clothing immediately. Personal Protective equipment should be checked if it receives a splash.
- Petrol should not be used on skin or clothing to remove other substances.
- The small load exemption allows for the transportation of fuel in a boat not exceeding 333 litres.

14.76 Diesel

Hazard:	Fumes, vapours, mist, liquid chemical handling, fire.
Level of Risk:	Medium
Controls:	See details outlined below

- Diesel must be stored in approved containers with a secure means of closing.
- Do not fill container beyond 95% of its capacity.
- Diesel may be transported in limited quantities in vehicles under the exemption to the ADR Regulations.
- A Gerry can is an example of a suitable container.
- The maximum quantity of fuel in portable fuel containers is 60 litres.
- Ensure containers are closed when in storage.
- Store diesel away from combustible materials such as nets and ropes.
- Use a funnel when transferring from one container to another.
- Display "No smoking, naked flames or sources of ignition" signs at entrance to store.
- Wipe up spillages immediately.

14.76.1 Diesel Tanks

- Diesel tanks must be bunded to prevent leakage and pollution.
- Install shut off valve at bund outlet to drain rainwater periodically.
- Handrails, non-slip catwalks and non-slip stepladders should be provided as appropriate to ensure safe access and egress.

14.76.2 Transportation of Diesel

- Diesel may be transported in limited quantities in vehicles under the exemption to the ADR Regulations.
- Diesel containers must be securely closed by means of a suitable stopper so as not to allow any leakage or evaporation.
- A Gerry can is an example of a suitable container.
- The maximum quantity of fuel in portable fuel containers is 60 litres.
- Containers should never be filled beyond 95% capacity.
- Diesel being transported should be secured in the trailer/boat or enclosed boot.
- Smoking is prohibited near fuel which is being transported.
- All persons should wash any diesel splashes, which land on their body or clothing immediately. Personal Protective equipment should be checked if it receives a splash.
- Diesel should not be used on skin or clothing to remove other substances.
- The small load exemption allows for the transportation of fuel in a boat not exceeding 333 litres.

14.77 LPG Cylinders & Gas Cylinders

Hazard:	Fumes, vapours, mist, liquid chemical handling, fire & explosion.
Level of Risk:	Low
Controls:	See details outlined below

14.77.1 For all installations

Whether the cylinders are fixed in position or not, there are a number of precautions to take. You should:

- Keep rubbish and anything combustible well away from the cylinders and keep weeds and grass in the vicinity cut down. Don't use a chlorate-based weed killer, as it can be a fire hazard.
- Not allow any electrical equipment, vehicles, bonfires, barbecues or other sources of ignition near the cylinders.
- Not smoke when changing cylinders.
- Keep people not involved with the installation well away from it.
- Keep vehicles well away from the installation.
- Ensure that the pipe work or flexible hose from the cylinders to the point of use is protected against accidental damage and is properly supported.
- For underground piping, make sure you know the route it takes, and avoid putting anything in the ground which may damage the pipe work.
- Report any equipment failure or damage to your supplier without delay and ask LPG supplier for advice about what you should do.

14.77.2 If a fire or leak occurs

In the event of a fire or a leak, take the following action:

- Dial 999 or 112 to call the fire brigade. Tell them LPG cylinders are on the premises.
- Tell everybody to leave the premises and go to a safe place well away from the installation. If you have a fire alarm, activate it.
- If it is safe to do so, turn off all the LPG appliances.
- If an LPG appliance is leaking or is not working properly, ask a competent gas fitter to check it.
- If the leak is indoors, open all the doors and windows.
- Do not switch any lights or electrical equipment on or off, as this may cause a spark.
- A leak in the pipe work can be stopped by closing the valve on the cylinder or on the piping manifold, but only do this if you can approach the cylinders safely.

14.77.3 Fire fighting

- Don't try to put out a fire involving LPG - leave it to the fire brigade. It is safer to evacuate everyone from the area. An overheated cylinder can explode.
- Always call the fire brigade first. If the fire is near the cylinders or pipe work, or if you can't put it out quickly - leave it.

14.77.4 Storage

- Store in a well-ventilated area away from direct sunlight.
- Restrict quantities stored in buildings. NEVER store in basements.
- Empty cylinders still contain vapours and should be regarded as hazardous as full cylinders.
- Do not site storage area near underground drains.
- Where storage in the open is not practicable, the maximum storage quantities shall be:
 - 12kg (1 cylinder) in building with residential accommodation.
 - 70kg (10 cylinders) in building without residential accommodation.
 - 50kg for demonstration area of shop or office.
- Any gas required in excess of 50kg should be piped into the building from outside. Store cylinders well away from windows doors and drains.
- Store cylinders well away from windows doors and drains.
- Do not store combustible materials near cylinders.
- Do not allow the temperature of the cylinder to exceed 40°C.
- Within the storage area oxygen cylinders should be stored well away from fuel gases e.g. dissolved acetylene, LPG, hydrogen etc.
- Full cylinders should be stored separately from the empties and empty oxygen cylinders should be segregated from empty fuel gas cylinders.
- Other products should not be stored in the gas storage area, particularly oil or corrosive liquids.
- Store all cylinders upright so that they are secured to prevent them falling using a safety chain.
- Acetylene and propane must never be stacked horizontally in storage or in use.
- Your storage arrangement should ensure adequate turnaround of stock.
- Don't let anyone work on the installation unless they are suitably trained and competent to do the work.
- Contact your supplier for further information.

14.77.5 Cylinder Hosing

- Only use approved flexible tubing, nozzles and connections. Propane attacks natural rubber. Special tubing is required.
- Flexible tubing must be clipped to the approved nozzle by a jubilee or similar type clip.
- Examine all hoses frequently. Replace damaged hoses.
- Limit the length of low-pressure hose to 2.4m (8ft).
- Do not use tools on cylinder valves; they are designed for hand operation only.

- Do not open the valve on the cylinder connected to an appliance before checking that the taps of the appliances are all closed.
- When lighting up a Bunsen, the match should always be lit before the tap is turned on.

14.77.6 Oxygen Cylinders

- Read and follow the supplier's safety data sheet.
- Ensure cylinders are maintained by the supplier regularly.
- If cylinders have to be temporarily transported in enclosed vans or cars, they must be adequately secured upright and ensure good ventilation at all times. Transporting vehicles must be suitably labeled.
- Cylinders must be secured upright so that they cannot move in transit and do not project beyond the side or end of the vehicle.
- Do not carry oxygen cylinders in the same compartment as toxic gas cylinders.
- With the exception of oxygenating fish tanks in transport, avoid transporting cylinders with equipment attached to the valves.
- Never smoke while carrying cylinders or near cylinders.
- Unload the cylinders as soon as possible and move them to a secure well ventilated storage area. Do not use cylinders in an enclosed vehicle.
- If at any time you suspect a cylinder is leaking, park the vehicle in a safe place, investigate the fault and, if necessary, ring the supplier for advice.
- If you are involved in a road accident and the emergency services are called, advise them that the cylinders are being carried and the gases they contain.
- Carry the relevant gas Material Safety and Data sheet in the vehicle when carrying cylinders.
- Ensure at all times that proper moving and handling techniques are employed.

14.78 Liquid Nitrogen

Hazard:	Asphyxiant, extreme cold temperature vapours/liquid
Level of Risk:	Low
Controls:	See details outlined below

14.78.1 Properties and Hazards of Nitrogen

14.78.1.1 Properties

- Nitrogen is colourless, odourless, and tasteless. It constitutes around 78% of normal, atmospheric air. It is classified as non-toxic and does not support life or combustion.

14.78.1.2 Asphyxiation

- Nitrogen can produce local oxygen-deficient atmospheres, which will cause asphyxia if breathed. This is especially true in confined spaces and areas of little air movement. In this case risk assessment in accordance with the confined spaces regulations will be required.
- Entry into atmospheres with oxygen content of less than 19.5% is not recommended.
- Asphyxia due to oxygen deficiency is often rapid with no prior warning to the victim. Attempts to rescue persons from oxygen deficient atmospheres should only be made by trained persons using breathing apparatus.

14.78.1.3 Cold (cryogenic) burns

- Severe damage to skin may be caused by prolonged contact with liquid or cold gaseous nitrogen. For this reason, protective clothing should always be worn.

14.78.1.4 Effect of cold on lungs.

- While transient and short exposure produces discomfort in breathing, prolonged inhalation of vapour or cold gas can produce serious effects on the lungs.

14.78.2 Labelling

- Liquid nitrogen dewars shall be clearly and adequately labelled. A typical label is shown below. A label includes:

Basic safety information
Transport labelling information
Gas supplier contacts

- Keep the vessel upright at all times, except when pouring liquid from dewars specifically designed for that purpose.
- Handle with care at all times as rough handling can cause serious damage to the dewar and spillage. Do not 'walk', roll or drag dewars. Always protect the vessel from severe jolting and impact. Do not allow the dewar to come into contact with chemicals or other substances which could promote corrosion.

Be careful to avoid spillage during handling. This could lead to cold burns or oxygen depletion. Even small spillages will damage labelling. Do not attempt to lift or move large, heavy vessels without assistance. Trolleys and tipping trolleys should be considered and are recommended for heavy dewars.

14.78.3.1 Protective clothing

- Eye protection: Full face visor provides effective personal protection.
- Hand Protection: Non-absorbent, insulated gloves, made from a suitable material such as leather. The gloves should be loose fit for easy removal.
- Sleeves should cover the ends of the gloves. Gauntlet gloves are not recommended because liquid can drip into them.
- Protective shoes: Safety shoes with reinforced toe protection are recommended.
- Body Protection: Protective cover all clothing should be worn. They should be made preferably without open pockets or turn ups where liquid could collect. Trousers should be worn outside boots for the same reason. Where dewars are being carried over uneven ground or on stairways at chest height, the user should consider additional splash protection. A splash resistant apron may be appropriate.

14.78.3.2 Filling Equipment and location

- In all cases the dewar fill location shall be suitably ventilated to prevent oxygen depletion; ideally this will be a covered external location.
- The supply vessel shall be fitted with appropriate decanting equipment. This shall include a device for venting excess gas before it reaches the dewar.

14.78.3.3 Fill Procedure

- Dewar filling shall be carried out by properly trained personnel wearing appropriate protective clothing. The filling procedure shall include the essential elements listed below.

14.78.3.4 Pre-fill checks

- Check that the supply vessel is in an appropriate location and at the correct operating pressure. If the pressure is too high, ensure that someone trained to do so vents the tank.
- Check that the dewar is labelled for liquid nitrogen service. Do not fill a dewar which is labelled for another substance.
- Check that the filling equipment is clean and free from damage. Do not attempt to use blocked or damaged filling equipment.
- Check the dewar is in good condition. Ensure that there is no neck damage or twisting. Ensure that the insulating bung under the protective cap has not detached. If it has, fit a new cap before filling. If the bung has fallen into the dewar then it must be removed. Do not fill a dewar which is damaged or has the bung inside.

- Do not fill the dewar if
 - there is water inside,
 - there is ice inside
 - there is excessive frosting around the neck

14.78.3.5 Filling

- Staff must be trained in procedures to safely fill dewars by the chemical supplier. Any safety procedures directed by the supplier must be strictly followed.
- The procedures below are taken from the British Compressed Gas Association (BCGA) code of practice.
- Purge the hose to clear any excess atmospheric moisture or dust. This can be done by securing the hose and cracking the decant valve slightly for a short period. Close the valve as soon as frosting appears.
- Insert the fill hose into the dewar and ensure it is secure.
- Initiate the fill slowly cracking open the fill-valve. If the dewar has warmed the liquid will boil and turn to gas immediately on contact.
- When the dewar has cooled the fill –valve can be opened to establish a steady flow of liquid. If liquid is spitting back out of dewar then flow should be reduced.
- For dewars with neck tubes, stop the fill when the liquid reaches the bottom of the neck. The “sound” of the fill will change, indicating that it has happened. Do not fill past the bottom of the neck.
- For dewars that do not have neck tubes, stop the fill when the liquid reaches the required level, which shall be a level below that which the insulating bung will reach when placed onto the dewar after filling. **Never overfill a dewar.**
- When it is full, replace the protective cap. If it rattles, this is evidence that the dewar is over filled and liquid is boiling at a greater rate than is normal. Leave the dewar in the open air until there is no excessive boiling.
- If fitting a liquid withdrawal device, fit it immediately after the fill, ensuring that the dewar has not been overfilled. (Rapid gas boiling should indicate overfilling.) Check the pressure indicator on the device to ensure the pressure rise has stabilised at 0.1 – 0.2 barg (2-3psig). If the pressure rise rising towards 0.5 barg, open the vent-valve on the device and reduce the pressure. Check the pressure indicator again and repeat the venting cycle as many times as is necessary to obtain a steady pressure reading. Inability to achieve a steady pressure reading is an indication of loss of vacuum from the insulating jacket. Test that the liquid line is clear of ice blockage by operating the liquid valve momentarily, allowing liquid to issue out.
- Check that the labelling has not been damaged by liquid spills during the fill. Replace as necessary.

14.78.4 Use

14.78.4.1 Outdoor use

- When using dewars outdoors there is an increased risk of ice plugs forming in the neck due to condensation of atmospheric moisture or rain freezing on the neck. It is essential that, except when pouring or handling the

storage racks, the cap is kept on the dewar. It is also essential that the cap be in good condition with the insulating bung in place. If possible, the dewar should be sited in a sheltered but well-ventilated location, e.g. under a canopy.

14.78.4.2 Ice Plugs

- Always wear protective clothing when handling dewars. If ice blocks form, they may be ejected at high velocity due to pressure build up. This can result in serious injury. In the worst case, ice plugs can build up sufficient pressure in the dewar to cause catastrophic failure of the dewar, which could lead to serious injuries, even fatalities.

In order to prevent ice plugs forming:

Always ensure that the dewar is fully emptied after use.

Always fit protective caps and ensure the caps are in good condition.

14.78.4.3 Ventilation

- The paragraphs below deal with the general ventilation of rooms containing nitrogen dewars. However, cold nitrogen gas is heavier than air and will accumulate at a low level. Users should therefore take extra precautions in basement rooms, rooms with ventilation at high level and rooms with pits, ducts or trenches in the floor where the nitrogen can be trapped. Consideration shall be given to the use of oxygen monitors where ventilation is poor. Where possible, the use of such rooms should be avoided.
- A room shall be sufficiently ventilated for the two, normal conditions not to cause a reduction in oxygen concentration below 19.5%:

the normal evaporation of all dewars and liquid nitrogen containers within the room

the filling losses from filling the largest dewar from a warm condition.

- Additionally, the complete spillage of the contents of the largest dewars shall not cause the oxygen concentration to fall below 18%.

14.78.4.4 Storage of full or part-full dewars

- Full or part full dewars should be stored in designated areas that meet the same criteria as dewars in use. There shall be adequate ventilation; dewars should be stored in a dry area, sheltered from the rain. The caps shall always be fitted in storage. dewars shall be securely stored to prevent access by unauthorised personnel.
- If storage rooms have forced ventilation an alarm to indicate its failure is recommended. If storage rooms have reduced ventilation when occupied, then an alarm to indicate oxygen deficiency is recommended. Alarms should be situated outside the room so that operators are aware of the hazard before entering the room.

14.78.4.5 Storage of Empty Dewars

- Always ensure that a dewar is completely empty before putting it into storage. Dewars shall be emptied in a safe, well-ventilated area. If possible, allow the dewar to warm to ambient temperature. Always store the dewar with the dust cap in place. Store dewars in dry areas.
- Handle empty dewars as full. It may be that they still have some residual content.

14.78.5 Transportation of Dewars

- Dewars must always be fitted with caps to prevent the ingress of moisture, whether full or empty. Only caps designed for use with the dewar type shall be used. Caps shall not be secured down unless securing methods are integral to the manufacturer's design of the cap. Some caps may come loose during road transportation. Consideration should be given to the addition of a retaining device if the dewars are to be transported. This device should be a chain or wire which will keep the cap in place but not seal the cap as the dewar must be free to vent.
- Dewars should be checked for damage before transportation. Do not transport a full damaged dewar or a full dewar that has lost vacuum.
- Dewars must be transported separately from the driver or passengers. Flat-back vehicles, vehicles with a separating bulkhead that gas cannot leak through, or trailers should be considered. Dewars shall not be transported in cars.
- Dewars shall be adequately secure during transportation to prevent spillage or mechanical damage.
- Dewars shall be checked for adequate labelling before being transported by road.
- Drivers shall be adequately trained in the handling of dewars and the properties of liquid nitrogen.

14.78.6 Spillage

- Evacuate all personnel from the area likely to be affected by the liquid and the evolved nitrogen gas.
- Pay particular attention to pits, basements, cellars and stairwells because the cold gas will collect in those areas. Try to prevent the gas flowing along the ground into such areas by closing doors.
- Take appropriate action to ensure that the ventilation system does not spread the nitrogen to other areas.
- Open exterior doors and windows to encourage evaporation of the liquid and safe dispersal of the nitrogen gas.
- Allow the liquid to evaporate naturally.
- The evolved gas will be very cold and will create clouds of condensed water vapour restricting visibility. Do not allow anyone enter this cloud.
- Do not allow anyone to enter the area until you are sure that the nitrogen gas has all dispersed and that the air is safe to breathe. If in doubt, use an oxygen monitor to check oxygen levels.

14.79 Gravel Analysis (Peat Separation)

Hazard:	Hot surfaces, dust, noise, steam
Level of Risk:	Low
Controls:	See details outlined below

- Hearing protection should be worn when carrying out gravel analysis.
- Ensure signage is visible stating that hearing protection is mandatory.
- If dusts are generated respiratory protection must be worn.

14.79.1 Ashing Furnace

- Ashing furnaces must be labelled warning of hot surfaces.
- Before using the furnace, check to make sure no items were left inside by the previous user that could pose a hazard.
- Load the furnace properly as per manufacturer's recommendations.
- Individual containers must be heat resistant.
- Make sure the furnace door is fully closed and latched.
- Wear heat resistant gloves when operating the furnace door and handling contents.
- If the door must be opened, stand behind the door and be aware of the possibility of steam being released. Be sure to wear eye/face protection.
- Allow the material to cool prior to touching it with ungloved hands.
- Never leave removed contents unattended while still hot.
- At a minimum, when removing items from the furnace, wear a protective apron and heat resistant gloves.
- NEVER put solvents, volatile or corrosive chemicals or other reactive materials in a furnace.

14.80 Disinfection Kits & Stations

Hazard:	Chemical handling, dust, vapours and liquids
Level of Risk:	Low
Controls:	See details outlined below

Disinfection kits are used by staff to treat nets and other equipment to prevent the spread of invasive species. Some disinfection stations are provided to anglers to allow them to treat their equipment before leaving a watercourse.

- Refer to the Virkon aquatic safety data sheet before use. Follow the safety measures detailed.
- Personal protective equipment including gloves, respiratory masks and safety goggles should be worn when making batches of virkon for use in disinfection kits.
- Staff should reduce the quantity of Virkon powder into smaller units for use at the disinfection stations. Staff transferring Virkon into smaller containers must wear the following Personal Protective Equipment. The containers must be labelled as Virkon and include the hazardous symbol for an irritant. Rubber gloves must be worn. Safety glasses must be worn. Dust mask must be worn. The following mask is recommended 3M 9322+ Aura 9300+ Foldable Disposable Dust/Mist Respirators (Valved) - FFP2.
- Staff must wear gauntlet style rubber gloves. Staff must open the small container of Virkon under the water to avoid generating a dust. Gloves should be available at the station.
- If angling clubs or third parties are to be involved, they must be given the safety data sheet and the relevant protective equipment as outlined above. The same controls apply.
- Care must be taken when opening stations and ensure the lid is secured in the open position.
- Report faulty or unsafe disinfection stations.

14.81 Pyrotechnics (Safe Use of Flares)

Hazard:	Explosive, Heat, Fire
Level of Risk:	Medium – High
Controls:	See details outlined below

14.81.1 Safe Storage

- Pyrotechnics when stored in buildings or transported by road or water should be kept in a sealed, dry weatherproof container.
- If stored in the building to guard against fire pyrotechnics should be stored in a cupboard, cabinet or caged area in a sealed, dry and weatherproof container away from sources of ignition and chemicals.
- Rules are stricter if you store many kilos of explosive equipment. The weight of explosive material in a flare is considered to be 25% of the overall weight of the device. If have any concerns regarding the storage of large quantities of pyrotechnics contact the H&S Executive.
- Small quantities of pyrotechnics can be stored in either the boat or towing vehicle provided they are stored in a sealed, dry and weatherproof container and there are no sources of ignition or chemicals.
- Personal flares be removed from lifejackets when not in use and issued prior to patrolling. They should be stored in a sealed, dry and weatherproof container.

14.81.2 Safe Use & Safe Disposal

- Safe operation varies from product to product. Carefully read the instructions on the flare container.
- Ensure all flares are not beyond their expiration date.
- Expired flares should be disposed of in accordance with Marine Notice 13 of 2000.
- Where possible handheld flares should be activated on the downwind side of the vessel. Your arm should be fully extended.
- Ensure all others and the vessel super structure are clear of the operation.
- Handheld flares emit extreme heat, act with extreme caution, keeping away from face and body.

Red Hand Flare

- Pull out red end until telescopic tube is fully extended and engaged.
- Unscrew red end cap and point away.
- Pull ball out sharply to fire.
- Hold at arm's length and point downwind. The end plug ejects after a 2 second delay.

Parachute Flare

- Hold signal firmly by ribbed handle. Unscrew the WHITE bottom cap.
- Do not point at people or property.
- Hold rocket vertically above the head pointing away from body.
- Ensure hands remain clear of the top. To fire – pull the red ball sharply down.

Orange Hand Smoke

- Unscrew bottom brown end cap and point away from body.
- To ignite - pull toggle down sharply.
- Hold at arm's length, downwind and over the side.

Pedestrians, Vehicles & Mobile Equipment

14.82 Driving for Work

Hazard:	Weather conditions, vehicle road worthiness, vehicle suitability, use of mobile phones, alcohol & substance abuse, driver fitness, driver experience.
Level of Risk:	Medium – High
Controls:	See details outlined below

This section should be read in conjunction with the IFI Driver Handbook Manual.

Driving for work includes any person who drives on a road as part of their work (not including commute to and from work) either in:

- (a) a company vehicle; or
- (b) their own vehicle, receiving an allowance for miles driven.

Where an employee is using their own vehicle, they must be satisfied that they have permission from their line manager to use their own vehicle. Use of an employee's vehicle is subject to the condition that the vehicle is in roadworthy condition, taxed for road use and appropriately insured for business use and will continue to be insured, for the purpose of the Road Traffic Acts during the course of work-related journeys. The driver will be required to complete a declaration.

IFI must manage the risks that may arise when employees drive on roads for their work.

Driving for work involves a risk not only for the driver, but also for their fellow workers and members of the public, such as pedestrians and other road users.

Staff driving for work must complete a licence declaration form annually.

The following must be considered before taking a journey for work:

Driver Attributes - Experience, training, fitness and health.

Vehicle Types - Road worthiness, vehicle suitability.

Journey Types - Long or short, speed limits, rest areas, day or night, route familiarity, time allocation.

14.82.1 General Vehicle & Driving Safety

- All drivers of IFI vehicles must have a valid driving licence and be physically fit to drive.
- Drivers must comply with the requirements detailed in the IFI Driver Manual.
- Daily checks must be completed prior to first vehicle journey and recorded using the app on your work smart phone. If there are issues to record in the comment box include your name and mobile number.

- Seatbelts must be worn at all times.
- Drivers when using or summoned on the mobile telephone must secure a safe parking area before he/she responds and conducts a conversation with the other person involved. Never put your safety or that of other persons at risk.
- Do not attempt to operate a vehicle or mobile equipment unless you have been trained and authorised to do so.
- Before a vehicle is operated the driver must complete the IFI walkaround inspection of the vehicle and record the walkaround App.
- Do not operate a vehicle which you know to be defective and likely to cause danger to you or others. Report all vehicle defects on IFI's App.
- Items to be checked include, (e.g. brakes, lights, steering, tires, transmission/hydraulic leaks etc.).
- Mount and dismount using the hand and foot holds provided, and always be conscious of the ground you are stepping onto.
- All vehicles must be operated with due regard for its limitations and the conditions in which you are working. Only use the vehicle for its intended purpose.
- No vehicle should be operated on unstable ground where a collapse could occur, or the vehicle could overturn or cause danger to the driver or others.
- The maximum number of persons on-board is determined by the number of seatbelts or by the number specified in the vehicle manual.
- All vehicles must carry a first aid kit, warning triangle, hi-vis vest and hand torch.
- Smoking is prohibited in all IFI vehicles (this includes electronic vaping cigarettes).
- It is essential that when a driver becomes tired, they switch with a colleague or take a short break. If you are unable to switch with a colleague they should stop and park in a safe place, consider getting out of the vehicle and stretching, taking a caffeinated drink and take a short rest.
- Suitable footwear must be worn. Avoid wearing flip flops or other unsuitable footwear.
- Staff on shift work must ensure that they are suitably rested before starting work.
- Where reversing cameras are fitted to the vehicle ensure they are kept clean.

14.82.1.1 Grey Fleet

- Private vehicles which are used in the course of work must be roadworthy having a valid NCT or CVRT where applicable. It is the responsibility of the insured to provide proof that they are safe and have suitable insurance for business use where applicable.

14.82.2 Vehicle & Trailer Checks

- Drivers should carry out a visual check on the vehicle (and towed trailer) daily. The laminated checklist provided in your vehicle can be used as a

- guide. Record the details in the vehicle daily check phone app.
- Any defects should be recorded using the app and reported immediately to a member of Fleet management team through the IFI app, or line manager and rectified as soon as possible.
- Vehicles must be checked after any impact/accident.
- Vehicles shall not be overloaded i.e. more than their capacity. This information is contained in the vehicle manual.

14.82.3 Road Traffic Accidents

- Ensure that anyone who is injured receives medical attention if safe to do so.
- Organise control of traffic to avoid further accidents if safe to do so. Contact the Gardaí.
- Contact the emergency services if required.
- Take note of the registration number of the other vehicles involved and the names of their owners and drivers.
- Take note of the other persons insurance details (you can usually get this information from the windscreen disc on the car).
- Ask for the name and address of anyone who is involved, including witnesses.
- Don't admit or discuss liability for the accident or sign any statement. Don't enter into an argument.
- Complete the incident report form and report to your line manager.
- Do not move your vehicle unless it is a hazard to other traffic users.

14.82.3.1 Complying with the law

- If you are involved in an accident in which a person or animal is injured, or a vehicle or property is damaged you must do the following:
Stop!
- Give your name, address, the registration number of your vehicle, and your insurance details to anybody who requires the information.
- If anybody other than you is injured, you must show your insurance certificate to the local Gardai within 24 hours.
- You must also show it to anyone who asks if you have damaged their vehicle or property.
- If you are involved in an accident, you should tell the insurance company as soon as possible and send all correspondence relating to the accident.
- If you are involved in an accident, you can take photos of the scene, showing the positions of the vehicle and any damage done. This may be done using a mobile phone (alternatively it may be a good idea to include a disposable camera in the glove box). It is much easier than trying to remember or explain circumstances later. As an alternative make a sketch plan of the accident scene showing the positions of the vehicles, road markings etc.

14.82.4 Use of mobile phones

Handheld use of mobile phones whilst driving a mechanically propelled vehicle is prohibited under the Road Traffic Act 2006.

In relation to a mobile phone, "hold" means holding the phone by hand or supporting or cradling it with another part of the body.

The use of hands-free, blue tooth and earpiece devices are acceptable.

14.82.5 Towing Trailers:

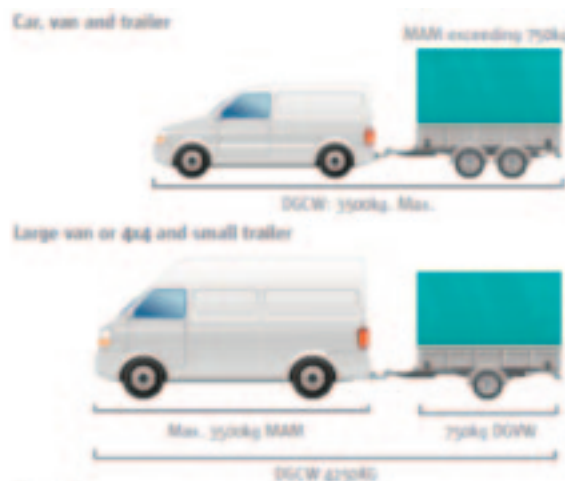
When towing a trailer using a 4x4 vehicle consult the vehicle manual regarding the correct setting for towing.

When towing never exceed the vehicle towing capacity. This is detailed in the vehicle manual or can be calculated from the VIN plate.

If you have a B licence you can tow a trailer with:

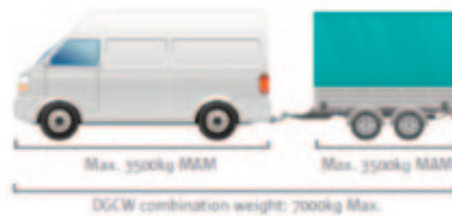
A Maximum Authorised Mass (MAM) no greater than 750kg, and/or

Where the MAM of the trailer exceeds 750kg but where the MAM of the vehicle and trailer does not exceed 3500kg.



If you have a BE licence you can tow a trailer:

- In all cases where the MAM of the vehicle and trailer combination is greater than 3500kg but less than 7000kg. C1E and CE licences are required for larger combinations.
- In cases where the MAM of the trailer is greater than 750kg.



- For towing O3 and O4 trailers The licence required will depend on what type of vehicle is being used and the trailer size.

14.82.5.1 Trailer categories:

- **O1 Trailers** = DGVW less than 0.75 tonnes. This includes small car trailers.
- **O2 Trailers** = DGVW between 0.75 and 3.5 tonnes. This includes larger trailers, horseboxes and most caravans.
- **O3 Trailers** = DGVW between 3.5 and 10 tonnes.
- **O4 Trailers** = DGVW over 10 tonnes. This includes heavy trailers and articulated or semi-trailers.

Note that in all instances the manufacturer's rated towing capacity of your towing vehicle (for trailers both with/without brakes) must not be exceeded. Always check the vehicle manual.

14.82.5.2 Brake requirements

- For O1 Trailers (DGVW not exceeding 0.75 tonnes) O1 trailers with a single axle are not obliged to have brakes provided that their DGVW is less than half the DGVW of the towing vehicle.
O1 trailers that have a DGVW greater than half of the DGVW weight of the towing vehicle or that have two or more axles must have brakes fitted.
- For O2 Trailers (DGVW between 0.75 & 3.5 tonnes) All O2 trailers must also have brakes fitted. The braking system must include a parking brake. If the O2 trailer does not have an automatic breakaway device that activates its brakes should it become detached from the vehicle, then it must be fitted with a secondary coupling consisting of a chain or wire rope.
- O3 & O4 trailers must be licenced for use on the public road, plated and undergo an annual roadworthiness test, fitted with brakes, a secondary or emergency brake and a parking brake, all of which are checked during the roadworthiness test.

14.82.5.3 Reflectors and lighting

- Vehicle and trailer combinations require two triangular reflectors at the rear.
- Side markings are required when the vehicle and trailer exceed 11m in overall length.

- Where a load projects more than one metre beyond the rearmost part of a vehicle or trailer, a warning device shall be carried at the rear of the load during the daytime. In this case a warning device means a red flag or cloth at least 300 millimetres square, or a rigid device having a surface of a similar area coloured red or in two colours, one of which is red, and the other is lighter than red.
- At night time the Lighting Regulations, stipulate that where a vehicle is used in a public place during lighting-up hours (i.e. in the period from half-hour after sunset on any day and expiring one half-hour before sunrise on the next day) while carrying a load projecting more than a metre to the rear of its rear lamps, such vehicle shall be equipped with a rear projecting load lamp. The load must not project more than 3 feet and 6 inches beyond the lamp to the rear.
- A projecting load reflector is also required which is rectangular in shape, each side of which shall be not less than 12 inches in length and shall be either red or red and a lighter colour, provided that the portion of the surface having the lighter colour shall not be reflectorised.
- If the load that you are carrying projects more than 16 inches to the side of your trailer; make sure you mark it with a light showing a white light to the front and a red light to the rear if travelling when it is dark.

14.82.5.4 General Trailer Safety

14.82.5.4.1 Trailer Roadworthiness

- If you're towing a trailer, it is your responsibility as the driver to ensure that both the towing vehicle and trailer are safe and mechanically sound, fit for purpose, and legally compliant with all relevant Road Traffic legislation, i.e. tyres have adequate tread depth and are free from defects, lights and brakes are working and the hitch is in good condition. Remember, to be fully compliant, your towing vehicle must be taxed, insured and have passed its roadworthiness test – that is, the NCT or Commercial Vehicle Roadworthiness Test (CVRT) as appropriate.

14.82.5.4.2 Coupling & Uncoupling

- Before coupling a trailer, make sure you read the relevant sections of your vehicle and trailer's owners' handbooks. Do not try coupling or uncoupling a trailer on your own until you are fully familiar with all the steps and can complete them safely. All drivers towing trailers are responsible for learning how to couple/uncouple a trailer safely. The breakaway cable or chain should be fitted at a separate safe anchor point rather than on the tow ball itself. If this is not possible make sure the secondary coupling fits tight around the tow ball.
- As with any manual handling task, proper training and instruction, along with common sense and using proper techniques, will reduce the risk of personal injury. For example, should you load the trailer before or after you hitch it to the drawing vehicle? If possible, it makes sense to hitch an empty trailer to the drawing vehicle. Before attempting to couple the

trailer reverse the vehicle in line with the trailer to within 0.5m of the hitch. Then check and make sure the level of the tow ball ride height is relatively level with the trailer hitch. If the trailer is not braked make sure it is chocked. Reverse the vehicle closer to the trailer. Adjust the height of the hitch if necessary, using the winding handle on the jockey wheel. Connect the secondary coupling and gently release the trailers handbrake. Position the hitch over the tow ball. Open the safety clasp on the hitch and lower onto the ball using the winding handle lower it into place. You will see the hitch locking into place. If there is a lock on the coupling handle, lock it into place. Then rotate the winding handle so that the trailer starts to rise. If coupled correctly the rear of the vehicle will also begin to rise. Then safely secure the jockey wheel in its raised position and connect the lighting cable.

- Select level, solid ground in a location not causing obstruction to uncouple a trailer. Apply the trailers handbrake or fit wheel chocks.
- Remove the light cable and stow safely. Lower the jockey wheel to the ground and lock into position. Where relevant open the lock on the hitch coupling handle. Open the safety clasp and lift the safety handle. Use the jockey wheel raising mechanism to raise the trailer off the tow ball. Disconnect the secondary coupling and stow safely.

14.82.5.4.3 Loading & Unloading

- Ensure manual handling training has been completed.
- Mechanical aids and team lifting shall be employed for loading and unloading where appropriate.
- Ensure the trailer is secured in good condition and covered if necessary.
- Loads must be evenly distributed and securely tied down.
- Ensure that the weight of the trailer plus the load being carried do not exceed the towing capacity of the drawing vehicle (check vehicle manual) and within the limits of your licence.
- Ensure the trailer is fit for purpose; know the weight of the trailer and the maximum load that can be carried safely. Always consider the weight of the load to be carried and try to spread the load evenly over the axle(s). Unevenly distributed loads will reduce the stability of the vehicle combination and increase the likelihood of an accident.
- Loads should also be positioned in such a way as to keep the nose weight (that is, the weight exerted by the trailer drawbar down on the hitch) within the limit specified by the manufacturer of the drawing vehicle.
- Know the maximum towing capacity of the towing bar. This must never be exceeded. Make sure you are familiar with safe loading practices and always follow them. All loads must be safely loaded and properly restrained.
- The load must be safe, secure and cannot become loose or fall onto the road when in transit.
- Different loads will require different types of restraint ensure the restraint is suitable for the load. For example, some may require netting, tarpaulin, ropes or ratchet straps.

- Unloading should take place on a flat level surface. Ensuring that brakes are applied, or wheels are chocked. Always assess the load, noting the weight, size, content of the load. Also assess the nature of the task and environmental factors.

14.82.5.4.4 Anticipating Hazards

- Remember that your vehicle will handle differently when you're towing a trailer, especially when the trailer is loaded. Therefore, you need to take special care and drive more defensively, anticipating the effect of the trailer. For example, you need to ask yourself has your stopping distance increased – in most cases, the answer will be yes.

14.82.5.4.5 Trailer Security

- If possible, you should store your trailer on a property or in a building with security features. You should keep a record of the vehicle identification number (VIN) which is visible on the manufacturer's plate. This number is also usually stamped on the trailer chassis. You should also consider putting your own unique marking on your trailer to help you identify it if it is stolen. This can be an effective deterrent. Remember to photograph your trailer, including the manufacturer's plate and any unique marking you put elsewhere on it.

14.82.5.4.5 Trailer Maintenance Schedules

- Competent third-party contractors have been engaged to carry out maintenance on IFI trailers.
- Do not attempt to tow if you do not have adequate unobstructed vision in both car door / wing mirrors. Fit extension mirrors if necessary.
- All trailers must be visually inspected prior to use and pre use checks completed on the IFI App.
- Any defects must be reported to your line manager in a timely manner. if you can rectify a minor defect immediately do so.
- Trailers must be maintained and serviced as per manufacturer's instructions.
- All trailers must be fitted with lights, indicators and brake lights. A trailer board may be used if adequately visible and secured. Hitch balls should be visually inspected periodically.
- The safe working load of the trailer must not be exceeded.
- The maximum legal towing speed is 80km per hour however it may be safer to travel at a lower speed depending on the nature of the load.
- Exercise extreme caution when towing particularly with adverse weather or poor road conditions.
- Where possible request assistance when reversing with trailers.
- Avoid reversing on acute slopes or swampy ground.
- Use jockey wheels where supplied to adjust draw bar height.
- Do not attempt to push laden trailers alone, obtain assistance and use a mechanical aid or team handling techniques if appropriate.
- Avoid placing drawbars on stones, blocks or timber to accommodate hitching.

- Report trailers with defective taillights and missing reflective warning strips.
- Report defective tailgate and side gates.
- Report missing locking pins.
- Do not ride in moving trailers.
- Keep feet and hands clear when hitching tow bar.
- Ensure parking brake is applied when parked or wheels chocked.
- Ensure all equipment in the trailer is securely lashed down.
- Chocks should be used on trailers where applicable.

14.82.6 Pedestrians and Vehicular Movement

- Where pedestrian routes are provided, they must be used.
- No running is permitted.
- Parking is not permitted in areas reserved for deliveries & (un)loading.
- Due care must be taken when parking, reversing, loading vehicles & trailers.
- When reversing with a load one employee should direct the driver and should keep pedestrians and onlookers at a safe distance. If necessary, use a third person to assist.
- Speed limits must be adhered to.

14.82.7 Cyclists Safety

- Give cyclists the space to ride safe when overtaking them. (1 metre in speed zones up to 50 km/h and 1.5 metres in zones over 50km/h). Cyclists can be thrown off course by sudden gusts of wind or when having to avoid uneven road surfaces.
- Check mirrors regularly. Remember a cyclist could be in your blind spot, look carefully before making your manoeuvre or getting out of a parked vehicle.
- If you or passengers are getting out of the vehicle, make sure you check for passing cyclists before opening the door. Where pedestrian routes are provided they must be used.

14.82.8 Transporting Fuel

- ADR exemptions arise when dangerous goods (e.g. petrol and diesel) are required for specific work activities and therefore the transportation of those dangerous goods is not the main activity of that business.
- Use of portable containers. All containers used to store and transport petrol or diesel must be suitable, leak-proof, made of metal or other material of adequate strength and construction. Typical examples of appropriate containers made of plastics and metal "jerry cans."



- Look for a mark on the container indicating that it is a United Nations type approved container. Must be marked and labelled with a flammable hazard label.



Fig. Flammable liquid hazard warning label

and the words "PETROLEUM-SPIRIT Highly Flammable Capacity ____Litres"

Filling Containers.



Filling Containers:

- Avoid all sources of ignition, e.g. naked light, smoking, heaters, hot engines/exhaust, mobile phones etc.
- Persons under the age of 15 may not handle or dispense petrol.

When filling a suitable container on a retail or private store from a dispensing pump:

- the container must be less than 25 litres capacity.
- the container must be placed on the ground when being filled, taking care not to over fill the container. Do not use a funnel as this can lead to overfilling and spillage.
- insert the pump nozzle into the container maintaining contact between the container and the nozzle.
- fill slowly.
- always leave a space when filling a container. The maximum filling capacity for any petrol container is 95% (5% space left for thermal expansion).
- If you have carried a container in a vehicle, before filling, the container should be removed from the vehicle and placed on the ground. This will reduce the possibility of a static discharge that can ignite petrol vapour.

Refer to 14.75 & 14.76 for further information.

14.82.9 Driving in other Jurisdictions

- Staff driving in other jurisdictions must familiarise themselves with differences in and comply with the local road traffic laws.
- Be aware that some countries require winter tyres during part of the year.
- You may also require the following equipment for European driving:

Universal headlamp adaptors

Warning triangle

Hi Vis vest

IRL sticker

European DIN spec first aid kit

Bulb kit

Breathalyser (in date)

14.82.10 Use of Roof Racks

Hazard:	Vehicle unsuitability, overloading, poor load distribution, poor strapping/load securing.
Level of Risk:	Low – Medium
Controls:	See details outlined below

- Roof rack should be installed in line with the vehicle manufacturer's user manual and that of the manufacturer of the roof rack.
- When loading the roof rack do not exceed the maximum permissible design weight. There are two measurements to consider. The weight that can be carried on the roof rack and the overall weight that the vehicle is allowed carry i.e. the weight on the roof rack together with the weight in the vehicle combined should not be exceeded for the vehicle. This is known as the vehicle mass.
- Manual handling techniques should be deployed when loading and unloading the roof rack.
- A least one person loading and unloading the roof rack should have completed secure loading training and the load should be secured accordingly.
- All lashing straps should meet the standard EN 12195 / 2.
- Position the load so that it is evenly distributed across the roof bars keeping the centre of gravity as low as possible.
- Do not use an automatic car wash when items are attached to the roof rack.
- The overall height of the vehicle will have increased with the roof rack attached and will increase further when items are attached so care needs to be exercised when approaching low bridges, underpasses, carpark entrance with height restrictive barriers and door entrances.
- Be aware that depending on the load the driving characteristics of the car may change, resulting in the need for extra care.
- Roof racks will have an effect on the car's aerodynamics and fuel efficiency. Roof racks should be removed when not in use.

14.83 Pedestrian Safety

Hazard:	Weather conditions, speed limits, traffic volume, poor lighting
Level of Risk:	Medium – High
Controls:	See details outlined below

Although you can't be responsible for the way people drive, you can take a number of steps to make yourself safer as a pedestrian:

- Stop, look and listen.
- Don't try to cross the road between parked cars.
- If possible, cross at a pedestrian crossing or traffic lights
- Never cross at a bend
- If there is a footpath use it
- If there is no footpath, walk on the right-hand side of the road, facing oncoming traffic and keeping as close as possible to the side of the road
- Walk no more than two abreast and if the road is narrow or there is heavy traffic, walk in single file.
- Always use zebra and pelican crossing or refuge islands when present.

More than **two-thirds of fatal pedestrian collisions happen at night**. Although you can hear a car coming and see its lights, the driver may not see you (and certainly won't hear you).

To protect yourself make sure you:

- Always wear a pair of reflective armbands, high-visibility belt, vest or other reflective or fluorescent clothing which will help you to be seen from a distance.
- Carry a torch on country roads.
- IFI vehicles have a safety kit which includes a hi vis vest and torch.

14.84 Electric cars & e-charging

Hazard:	Weather conditions, vehicle road worthiness, vehicle suitability, use of mobile phones, alcohol & substance abuse, driver fitness, driver experience and training. Off road terrain Charging.
Level of Risk:	Medium – High
Controls:	See details outlined below

- If you are unfamiliar with the operation of the electric vehicle allocated, consult with colleagues who have experience prior to operating.
- Read and follow the manufactures operating manual for safe operation and maintenance.

14.84.1 Public Charging stations & Domestic Charging

- To safely charge, first position the vehicle close to the charging station.
- Turn off the ignition, apply the handbrake. Present the charge point access card to the reader (or by using the phone app).
- Choose the correct connector for your vehicle from the multi standard charge point. Plug the connector into the vehicle and follow the onscreen instructions. Check the vehicle is charging.
- You can stop charging by presenting the ESB charge point access card or by using the app.
- Remove the charge connector, taking care not to force it from the vehicle.
- Do not leave cables trailing on the ground as they may pose a trip hazard.
- Never attempt to unplug somebody else's car when they are charging.
- Never attempt to use an incompatible charger.
- Never use a domestic multi socket extension lead when charging your electric vehicle. If you do need to use an extension lead only ever use one that is suitable for outdoor use such as a reel cable.
- Never 'daisy-chain' extension leads. The method of plugging more than one extension lead into another in order to reach a greater distance increases the risk of an electrical fire as well as electric shock.
- Always buy your charging cable from a reputable retailer or directly from the manufacturer who will put such products through rigorous tests to ensure they meet safety standards.
- Ensure you frequently check your charging cable for wear and tear and replace it if any damage is evident.
- If you are charging from a 13A mains socket in your home, ensure the wiring in your property has been checked prior to doing so. Old wiring may not be able to cope with the demand from charging your vehicle overnight and risk a fire in your property.

- The safest and most convenient way to charge your vehicle at home is through a dedicated wall box charging point. Ensure this is installed by a qualified, registered and competent electrician only.
- At public charge points report faults or safety concerns to the ESB 01-2583799.
- At IFI charging points report any faults to the Logistics team in Citywest.

14.85 4X4 Off Road Vehicles

Hazard:	Weather conditions, vehicle road worthiness, vehicle suitability, use of mobile phones, alcohol & substance abuse, driver fitness, driver experience and training. Off road terrain
Level of Risk:	Medium
Controls:	See details outlined below

- Read and follow the manufacturers operating manual for safe operation and maintenance.
- Drivers using four-wheel drive vehicles must be initiated into its use.
- Be aware that the capacity of vehicles driving off road is seriously reduced.
- So far as is reasonably practicable staff operating vehicles off road must be competently trained to do so.
- When driving in unfamiliar terrain it is important to investigate uneven ground on foot. Training is recommended if off road driving in rough terrain.
- Where practicable get assistance if in any doubt about wheel placement or ground clearance.
- 4WD/centre differential lock is normally engaged whenever you leave a hard road – consult the vehicle operator's manual for detailed information.

Speed – As slow as possible, as fast as necessary.

- Generally, the higher gear the better – except when descending.
- Hold the steering wheel with both hands and your thumbs outside – or you may injure them (even with power steering). Do not cross your hands.
- Once committed either descending or ascending a hill – Do not change gear.
- Use the engine to brake the vehicle.
- Know the gears for your vehicle – use the correct one and do not use the clutch as a means of slowing too high a gear.
- Except for synchromesh transfer gearboxes, stop for all transfer box changes unless you have learned to do it on the move without any clunks.
- Remember you have twice the traction of a two-wheel drive to get you going – you do not have twice the braking.

14.85.1 Driving on hilly terrain

Ascending

- When ascending a hill, approach as square as possible.
- Climb in the highest gear possible.
- Lose momentum on the crest – then stop.

Descending

- Approach as square as possible.
- Avoid braking or clutching – let the engine do the braking.
- On a long slope you may need to accelerate if the wheels slide.
- Do not turn while descending.

The aborted climb (failed climb)

- The aborted climb is normally due to either:
- Stalled engine due to lack of power or lack of traction due to wheel slip (or it is obvious the engine will stall soon). If you find yourself in this position – Don't Panic.

Procedure for stalled engine (preferred action for all situations):

- Apply foot brakes and keep them on (you now have time to think and plan)
- Use clutch
- Select reverse gear (low range)
- Release clutch
- Look and check reverse route is clear
- Check direction of front wheels
- Release brakes carefully and check movement – be aware of possible 'bump' starting
- Feet off all pedals
- Turn key to start engine (be aware of initial engine surge with fuel injected engines)
- Keep feet off all pedals
- Hold steering (at top usually) to maintain straight line and allow machine to reverse downhill (be aware of reverse castor effect on steering)
- Be aware of probable need to use throttle to maintain traction/braking.

Procedure for second case (wheel slip):

- Ease off the throttle
- Apply foot brake and clutch together, select reverse gear (low range) as quickly as possible as vehicle halts
- Release clutch and brakes
- Feet off all pedals
- Look and check reverse route is clear and direction of front wheels
- Hold steering wheel (at top usually) to maintain straight line
- Allow machine to reverse downhill
- Keep feet off all pedals
- Be prepared to use throttle to maintain traction/braking
- Try again using a different approach, a different gear or more power.

14.85.2 Ruts and ditches, small obstacles

Vehicles without axle differential locks or Limited Slip Differentials (L.S.D.s)

- One wheel only to enter the rut or ditch. The other three must provide the traction to succeed in the manoeuvre.
- Normally first low (depending upon conditions).
- Watch the front bumper on opposite side of the rut.
- Steady throttle to prevent wheel spin.
- Anticipate vehicle sliding sideward and be ready to counter.

Note: Inspect the ditch first: if it is too large you may end up with two wheels in at once (e.g. front nearside and rear offside). When diagonally opposite wheels lift off the ground, traction is normally lost – this is called cross-axle, and you will become stuck.

Vehicles with axle differential locks and/or L.S.D.s

- Engage all differential locks in the correct order (refer to vehicle manual).
- Proceed as above, but cross axle situations should not be a problem.
- Obstacles such as tree stumps and rocks are often best approached by running a pair of wheels (e.g. Near Side N/S front and N/S back) directly over them rather than straddling them to avoid contact with the underside of the vehicle.

14.85.3 Ridges and larger ditches

Providing no parts of the vehicle contact the ground, the situation can be treated as a small hill.

- Always approach at right angles (square on) so that both front wheels and then both rear wheels cross together to ensure maximum traction/braking.
- If any part of the vehicle will contact the ground, treat these obstacles as smaller obstacles (previous section) and be aware of cross-axle situations, (where applicable) unless the vehicle is fitted with axle differential locks, LSDs, etc.

14.85.4 Rough Tracks

- Select four-wheel drive and differential lock. This is because if there is excessive suspension movement it may induce wheel spin.
- Ensure passengers are told to brace themselves when crossing rough ground.
- Use low range gear if necessary to preserve vehicle, comfort and load.
- It is often best to approach rocks etc. by running a pair of wheels (front and back) directly over them rather than straddling them, thus avoiding contact with the underside of the vehicle.

14.85.5 Rutted Tracks

- If possible, straddle ruts to maintain ground clearance. If it is not possible/practicable then walk route and clear debris.
- Avoid gear changing. Maintain a steady speed.
- Keep steering to a minimum – allow the vehicle a little freedom and permit some self-centring but keep a visual check. There is a tendency to over steer which should be avoided, or the vehicle could be thrown out of the ruts once traction is gained.
- You need to be aware of wheel alignment (the vehicle will go straight even on full lock if the ruts are deep or slippery – until it climbs out). To check alignment – either look out of the window and check or full left lock, full right lock counting the number of turns taken, back half the number (the centre point of the two) and the wheels should be correctly aligned.
- Remember the importance of maintaining ground clearance.

14.85.6 V shaped gullies

- Execute extreme caution and very slow speed; it is very easy to tip the vehicle on its side.
- Drive so as to keep vehicle level at all costs. Do not steer up or down slope and correct the vehicle from doing so on its own.
- If necessary, cut 'steps or wheel tracks inside of gully with a shovel to prevent wheels sliding down the slope.

14.85.7 Traversing (Driving Across a Slope)

This is a difficult manoeuvre to execute safely. If at all possible, AVOID especially in the wet. If there is absolutely no choice - take your time;

- Inspect the terrain:
 - Check slope.
 - Look for ruts, sheep tracks, etc.
 - Note pot holes, rocks etc.
- Remove passengers
- Check vehicle loading – position and security of load
- Proceed very slowly
- If vehicle starts to roll or become unstable, steer downhill, accelerate and get as square as possible.
- A high level of concentration is needed always consider the effects of the surface, load of vehicle, evenness of slope and weather conditions.
- These will all have an effect on the stability and performance of the vehicles.

14.85.8 Entering Water

- Prepare your vehicle
- Inspect the terrain very carefully

Note the type of water

- Stagnant – likely to have a muddy bottom; wash off to prevent ingress into working parts as soon as practicable afterwards.
- Salt – wash vehicle down as soon as possible afterwards, salt water can severely damage your vehicle.

Note flow rate

- Fast flow normally has a firm bottom (may also have rocks)
- Slow flow will often have deep mud or silt bottom
- Check depth of water – Note the position of vehicles air intake
- Check the condition of the river bed.
- Check entry and exit points carefully
- Enter slowly and build up speed gently.
- Avoid excessive engine revs.
- Never attempt a water crossing where the water depth is above the air intake height.
- Drive at a speed to form a bow wave. This creates a depression in the water behind the wave which coincides with the engine bay and so protects air intakes and electrics. Using a low range second gear at 1500 – 2000 rpm (for most vehicles) creates a bow wave.
- After exiting the water, dry out brakes by gently applying the footbrakes while driving a short distance. Try your brakes to check they work.
- Some vehicles have wading plugs to be inserted before entering water (e.g. Land Rover), others may have plugs to remove and drain water after wading (e.g. Nissan Terrano II) remember to re-insert after. Always consult your vehicle manual for specific guidance before entering water.
- Any crossing at axle depth or deeper necessitates a checking of the diff oil for water to contamination.
- Checking your diffs for water contamination. Water is heavier than oil and will collect at the lowest point where the drain plug is located.
- After allowing the engine to cool, loosen the drain bolt and run a small amount of the diff oil into a glass. If the glass contains water the diff oil must be drained.
- Bar mounted electric winches may seize up if submerged. If this is the case it is advisable to strip and grease it accordingly.

14.85.9 Sand and Mud (Soft under surface)

- Tyre pressures should be reduced (remember to keep your speed low until you have re-inflated them).
- Ensure you have a pump to re-inflate the tyres as driving on hard ground with deflated tyres may damage the sidewall of the tyres.
- Exercise great care when starting from rest as sudden power will result in wheel spin and cause the vehicle to dig into the sand.
- Steer straight and avoid sharp turns and braking.
- Select as high a gear as is practicable, check 4 WD/centre differential locks engaged. Too low a gear induces wheel spin.
- Attempt to maintain momentum and avoid wheel slip.
- When turning, make the turn as wide as possible to reduce the chance of bogging.
- Examine ground carefully.
- Choose stones, timber, etc. for extra traction.
- If stuck, check carefully and plan your reverse route to a safe point, you may only get one chance.
- If the ground was good enough to get you there – it is generally good enough to get you out – this holds true in many situations, but where possible avoid entering peat bog ground.

14.85.10 Crossing over sand dunes

- Steep sand dunes can be traversed only straight up or down.
- Driving at a slight angle, the weight transfer is to the downhill side wheels.
- If the vehicle starts to slip, the downhill wheels tend to dig in and make the angle of the dune even worse, leading to a potential rollover.
- If you are travelling straight down a steep dune and back end starts to slip sideways it is best to accelerate slightly to try and straighten the vehicle. Never use the brake, as this will cause weight transfer to the front wheels and can increase the back end movement.
- If travelling up a dune and you do not get to the top, reverse down the dune in gear, never coast down the dune and never attempt a U turn.

When you leave sandy terrain, it is important to hose down your vehicle to remove all traces of sand and salt.

Remember to re-inflate tyres if you have reduced the pressure.

14.85.11 Ice and Snow

- If possible, avoid driving in severe winter weather.
- If you must drive in snowy conditions, make sure your car is prepared (a shovel, tow rope jump leads and tool kit may be needed), and that you know how to handle road conditions.
- Consult your owner's manual for tips specific to your vehicle.
- When entering snow/ice covered terrain, decrease your speed and leave yourself plenty of room to stop. You should allow at least three times more space than usual between you and the car in front of you.

- Brake gently to avoid skidding. If your wheels start to lock up, ease off the brake.
- Turn on your lights to increase your visibility to other motorists.
- Keep your lights and windshield clean.
- Use low gears to keep traction, especially on hills.
- Don't use cruise control or overdrive on icy roads.
- Be especially careful on bridges, overpasses and infrequently traveled roads, which will freeze first. Even at temperatures above freezing, if the conditions are wet, you might encounter ice in shady areas or on exposed roadways like bridges.
- Don't pass gritting trucks. The drivers have limited visibility, and you're likely to find the road in front of them worse than the road behind.
- Don't assume your vehicle can handle all conditions. Even four-wheel and front-wheel drive vehicles can encounter trouble on winter roads.

14.85.11.1 Rear wheel skidding.

- Take your foot off the accelerator.
- Steer in the direction you want the front wheels to go. If your rear wheels are sliding left, steer left. If they're sliding right, steer right.
- If your rear wheels start sliding the other way as you recover, ease the steering wheel toward that side. You might have to steer left and right a few times to get your vehicle completely under control.
- If you have standard brakes, pump them gently.
- If you have anti-lock brakes (ABS), do not pump the brakes. Apply steady pressure to the brakes. You will feel the brakes pulse — this is normal.

14.85.11.2 Front wheels skidding.

- Take your foot off the gas and shift to neutral, but don't try to steer immediately.
- As the wheels skid sideways, they will slow the vehicle and traction will return. As it does, steer in the direction you want to go. Then put the transmission in "drive" or release the clutch and accelerate gently.

14.85.11.3 Stuck vehicles

- Do not spin your wheels. This will only dig you in deeper.
- Turn your wheels from side to side a few times to push snow out of the way.
- Use a light touch on the accelerator, to ease your car out.
- Use a shovel to clear snow away from the wheels and the underside of the car.
- Pour sand, gravel or salt in the path of the wheels, to help get traction.

14.86 ATVs (Quad Bikes) (For UTV see 14.171)

Hazard:	Weather conditions, vehicle road worthiness, crushing, entanglement, vehicle suitability, use of mobile phones, noise, alcohol & substance abuse, driver fitness, fatigue driver experience and training, speeding, off road terrain lone working.
Level of Risk:	Medium – High
Controls:	See details outlined below

From 20th November 2023, all ATV users by law will be required to complete a recognised training course and have received a certificate of competence which will be valid for five years. The wearing of a helmet with a chin strap and capable of use with suitable eye protection will be compulsory.

- Read and follow the manufacturer's operating manual for safe operation and maintenance. Implement lone working procedure where applicable.

14.86.1 The following personal protective equipment should be worn:

- Suitable head protection must be worn, e.g. motorcycle helmet which meets BS ISO6658:2017.
- Eye Protection (a visor or safety glasses to EN 166), against flying insects, dusts or branches.
- Protective boots with good grip and ankle support (complying with EN 345-1), when loading or unloading the ATV.
- Gloves for loading and unloading the ATV.
- Where noise levels exceed 80dB (A) hearing defenders must be made available.
- Where noise levels exceed 85dB (A) hearing defenders must be worn.
- Non-snap outer clothing. The use of high-visibility clothing may also be appropriate.

14.86.2 Pre-start checks:

- Check the brake operation – footbrakes/handbrakes.
- Check the tyre condition, for wear and visible damage.
- Check the tyre pressures, using a pressure gauge capable of reading low pressures accurately (1psi difference can cause control problems).
- Check the steering, for smooth and positive operation.
- Check the throttle, for smooth operation in all steering positions.
- Check the security of the wheel nuts.
- Check the security of the seat, carriers and loads.
- Check all lights including warning lights.
- Check the clutch (if manual), for smooth and positive operation.

14.86.3 Starting and Stopping:

- Do not run the engine for long periods when parked in enclosed spaces.
- Sit astride the ATV when starting the engine.
- Ensure the gearbox is in neutral when starting.
- Always park the ATV in a suitable position with the parking brake applied.

14.86.4 Driving:

- Drive with due care and attention at all times and be aware of other road users.
- Only select and use routes that are within the capabilities of the ATV and the operator.
- Drive with feet resting on the footrests at all times.
- Do not 'ride' the gear change lever as this can put the gearbox into neutral.
- Use speeds appropriate to the terrain and tasks.
- Position the body to increase stability on slopes.
- Avoid changing gear on slopes. Select a suitable low gear before negotiating the slope or obstacle.

Be aware that:

- Front wheel brakes are either omitted on some ATVs, or may have reduced efficiency when rolling back;
- On four-wheel drive machines, using any brake will operate both front and rear wheels;
- Some ATVs have hydrostatic drives with no engine braking at zero revs; therefore maintain slight revs on downhill travel.
- On ATVs without differential, the driving technique used should allow for the difference between inside and outside wheel speeds during turns:
 - At slow speeds, shift body weight to the footrest on the outside of the turn while leaning the upper body into the turn.
 - At faster speeds, shift body weight to the inside foot while leaning the upper body into the turn.
 - On paved surfaces, increased grip may prevent wheel slip on inside wheels and reduce turning efficiency – a sudden change in traction may cause a change in direction.
 - Sharp or quick application of the throttle in a low gear may cause the ATV to overturn backwards, especially when travelling up slopes.
 - If travelling behind another ATV/vehicle, ensure adequate separation to permit safe braking and to avoid any dust, spray or stones that may be thrown up.

14.86.5 Driving on difficult terrain:

- Only drive within the limits of visibility.
- Maintain an even throttle while negotiating slopes.
- Avoid side slopes and difficult obstacles by route planning.
- Where side slopes are unavoidable lean and steer slightly uphill.

14.86.5.1 To ascend slopes:

- Select the appropriate low gear at the foot of the slope.
- Keep your weight as far forward as possible (lean over the handlebars).
- Align the ATV directly uphill.
- Be competent in techniques to recover from a failed hill climb.

14.86.5.2 To descend slopes:

- Select the appropriate low gear at the top of the slope and use engine braking (if available).
- Keep your weight as far back on the seat as possible.
- Align the machine directly downhill.
- If needed, use only back brakes (be aware that on four-wheel drive machines, operating the rear brake may also have a braking effect on the front wheels).
- Be aware of the danger of brakes locking and causing a skid.
- Correct skids by releasing the brake and straightening the ATV.
- Very steep slopes need a run-out area at the bottom.

14.86.6 It is not possible to set a maximum safe slope. The ability to negotiate a slope safely will vary with:

- The competence of the operator.
- The type of ATV being used (e.g. two- or four-wheel drive);
- The load weight and distribution, including mounted or trailed equipment.
- The tyre type, condition and pressure.
- The ground conditions, including soil type, evenness and vegetation.
- The weather conditions – dry, wet, frosty etc.

14.86.7 In wet boggy areas;

- Do not ford water deeper than 250mm;
- Dismount from the upstream side of a stalled ATV;
- Test brakes after driving through water;
- Be competent in de-bogging techniques

14.86.8 Carrying loads

- The operator needs to know:
- The manufacturer's recommended carrying limits;
- The maximum front and rear load capacity;
- The maximum ATV load;

- How front and rear loads will affect stability.
- Loads must be properly secured and distributed to allow for difficult terrain.
- Heavy loads on the rear carrier must be counterbalanced using ballast on the front carrier.

14.86.9 Trailed Loads

When selecting trailed equipment look for:

- Overrun brakes;
- A swivel hitch drawbar;
- Bead lock rims on wheels;
- A low centre of gravity and a wide wheel track;
- A long drawbar;
- Attachment points for securing the load.

The operator must know:

- The maximum tow weight (trailer + load);
- The maximum tongue weight (weight on hitch point);
- The maximum combined weight and rear carrier weight.
- Attach all loads only to the towing hitch and no other part of the ATV.

Be aware that:

- It is very difficult to unhitch a loaded trailer on a slope;
- Turning may be restricted when towing a trailer;
- Turning across slopes should be avoided.
- When pushing an ATV/trailer combination no person should stand between the ATV and the trailer.

14.86.10 Transporting ATVs

- Before loading an ATV onto a transport trailer, check the trailer load capacity, lights brakes etc.
- After loading, ensure the ATV is securely restrained. Do not rely on the ATV brakes to prevent movement on the trailer.

14.86.11 Miscellaneous:

- Do not carry passengers on ATVs or in trailers
- The manufacturer's recommendations for operation must be followed at all times.
- Ensure the vehicle is maintained and safety checks completed as recommended by the manufacturer.

14.87 Tractors

Hazard:	Weather conditions, vehicle road worthiness, vehicle suitability, use of mobile phones, alcohol & substance abuse, driver fitness, driver experience and training, fatigue, moving parts, towing large loads, off road use.
Level of Risk:	Low
Controls:	See details outlined below

- Never operate a tractor unless you are trained and know how to use it safely.
- Never operate a tractor unless it is properly maintained.
- Keep away from moving machinery - remember that some machine components will continue to rotate or move even after the engine has stopped.
- Wear footwear with a good grip - safety boots are best.
- Wear clothes which will not snag on machinery - preferably fitted overalls.
- Keep long hair tied back.
- Remove any jewelry which might snag - don't forget watches and rings.
- Find and read the operator's manual - keep it handy.

14.87.1 Safe Access & Egress

- Always use access steps and handholds.
- Use the nearside cab door whenever you can.
- Keep floors, doors, pedals and your boots clean and mud-free.
- Do not keep tools, drawbar pins or top links on the cab floor.
- Before leaving the seat follow SAFE STOP.
- Make sure the handbrake is fully applied.
- Make sure all controls and equipment are left safe.
- Stop the engine.
- Remove the key.
- Get out facing inwards so that you have a good grip.
- Never get on or off a moving machine.

14.87.2 Seat belts

- Seat belts are a legal requirement on all tractors where there is a risk of overturning, and it is reasonably practicable to fit one.
- A seat belt will prevent you being thrown out of the cab in an overturn or road accident.
- Wear a seat belt at all times whether or not on public roads.

14.87.3 Hitching

- Make sure you use the right hitch system.
- Only use controls from the operating position.
- Take extra care when using external controls.
- Never stand between the tractor and other machines or behind them unless the tractor is stationary, and the driver is aware of your presence.
- Never stand with your feet under, on or near drawbars.
- Ensure that jacks, skids and other supports are used and maintained.
- Communicate clearly if you need help with hitching.

14.87.4 PTO Shafts

- Ensure guards are in place – check they are properly chained, lubricated and free from defects.
- Report any faults immediately.
- Do not use a machine with a damaged PTO shaft guard.
- Ensure the tractor is chocked or that there is a mechanical connection between the tractor and a stationary PTO-driven machine to ensure the tractor or machine does not move, causing the PTO shaft to separate.

14.87.5 Trailer Brakes

- Using tractors and trailers without an adequate braking system has led to loss of control, jackknifing and tractor-overturning incidents. Inadequate trailer brakes can lead to accidents when manoeuvring on slopes or slippery surfaces, as the tractor may be pushed sideways and slide out of control.
- If trailer brakes are inadequate (i.e. are not doing their share of the braking) the tractor braking system can be subjected to excessive wear. Ensure the system is repaired.
- Safe towing requires the use of a large enough tractor and selecting the most suitable gear to stop the combination within a safe distance.
- Properly maintain and adjust braking systems for tractor-trailer combinations. Testing on the move may be necessary after maintenance.
- Keep hydraulic brake couplings clean and avoid contamination.
- Make sure linkages are properly lubricated and operate freely and keep them maintained.
- After use clean mud and contamination from brakes (including parking brakes). Make sure the cleaning method does not lead to deterioration of the brakes (e.g. rusting caused by pressure washing).

14.88 Teleporter (Loadall) & Platforms

Hazard:	Weather conditions, vehicle road worthiness, vehicle suitability, use of mobile phones, alcohol & substance abuse, driver fitness, driver experience and training. Work at heights, off road use.
Level of Risk:	Medium – High
Controls:	See details outlined below

- Read and follow the manufacturer's operating manual for safe operation and maintenance.
- Staff operating the teleporter must have completed the teleporter construction skills certificate scheme (CSCS) before operating the machinery. Staff may not operate a mobile phone while driving the JCB.
- Passengers in or on the machine can cause accidents. The JCB Loadall is a one-person machine and is not designed to carry passengers.
- Staff must be aware of the load capacity of the teleporter and never exceed it.
- Decal (information labels) safety instructions must be obeyed. Replace illegible or missing decals with new ones before operation.
- Do not operate the loadall in confined spaces where there is flammable material, vapour or dust. Explosions and fire can be caused by sparks from the electrical system or exhaust.

14.88.1 Personal Protective Equipment

- Depending on the nature of the work involving the machinery the following PPE must be worn: hard hat, safety shoes, safety glasses, overalls, protective hearing equipment and gloves.

14.88.2 Lifting Equipment (Boom Operation)

- Operators must be aware of the maximum lift height and never operate the boom near overhead power lines.
- A raised boom can fall or be lowered accidentally. Do not walk under a raised boom which is not fitted with a safety strut.
- Ensure all lifting equipment is in good condition.
- Using the forks alone as a working platform is hazardous. Ensure a safe working platform is used and staff wear a fall arrest system.

14.88.3 Use of Teleporter with Non-integrated Platforms

- Non-integrated work platforms should only be used occasionally, where self-propelled work platforms are not available or unsafe to use. They may be used where it is safer than alternative use of ladders and for checking high level damage to equipment or structures which may pose a risk (refer to HSE UK Guidance Note PM28) This type of work activity should be a rare event.
- Read and follow manufacturers operating manual for safe operation and maintenance of the loadall.
- The loadall operator must have the relevant CSCS certification before operating the machinery.
- Staff must only be transported vertically in the platform. The platform must never be used to transport passengers.
- The safe working load of the platform must never be exceeded.
- The work at height must be carried out in areas of solid and level ground.
- Ensure the platform is hitched correctly to the loadall before been used.
- All staff must be informed of the work at height operation. The area in which the operation is carried out must have restricted access. When objects shall be dropped from a height; access to this area shall be prohibited and cordoned off.
- The staff member on the platform shall communicate to the loadall operator using two-way radios. Ensure both radios are set to the same channel prior to use. Staff must familiarise themselves with the radios before using. The staff member on the platform shall at all times instruct the loadall operator.
- The boom must not be extended unless the handbrake is applied. The boom may only be extended within the green zone of loadall control panel warning system. It must never be operated in the amber or red zones. The driver must monitor the system.
- The employee on the platform must wear a lanyard and body harness. The "D" ring of the harness must be located between the shoulder blades. The fall arrest system must be attached to the "D" ring and the platform rail.
- Harness and lanyard must be visually inspected for wear and damage prior to each use.
- Staff using the fall arrest system must note that the free fall distance of the system before use.
- The fall arrest system should be attached to the rear of the platform away from the work area.
- Fall arrest equipment must be serviced annually and records maintained.
- Only one staff member may use the platform if powered handheld equipment is been used. The staff member must have the relevant competency to use the piece of equipment (e.g. use of chainsaws).
- The relevant personal protective equipment must be worn.
- Powered equipment cannot be operated until the loadall handbrake is applied and the engine is switched off.

14.89 Vans & Light Goods Vehicles

Hazard:	Weather conditions, vehicle road worthiness, vehicle suitability, use of mobile phones, alcohol & substance abuse, driver fitness, driver experience and training.
Level of Risk:	Medium – High
Controls:	See details outlined below

This section should be read in conjunction with the IFI Driver Manual.

- Staff operating goods vehicles between 3,500kg and 7,500kg must hold a C1 category licence.
- All staff driving company light goods vehicles in a professional capacity must complete CPC training. 35 hours of training must be completed over a five-year period on an on-going basis.
- A daily check must be completed before first using the vehicle each day.
- Refer also to Section 14.82 Driving for Work.

14.90 Heavy Goods Vehicles

Hazard:	Weather conditions, vehicle road worthiness, vehicle suitability, use of mobile phones, alcohol & substance abuse, driver fitness, driver experience and training.
Level of Risk:	Medium – High
Controls:	See details outlined below

This section should be read in conjunction with the IFI Driver Manual.

- Staff operating heavy goods vehicles between must hold the relevant category of C licence.
- All staff driving HGVs in a professional capacity must complete CPC training. 35 hours of training must be completed over a five-year period on an on-going basis.
- Refer also to Section 14.82 Driving for Work.

14.91 Forklifts

Hazard:	Noise, vibration, overloading, vehicle traffic, forklift condition, speeding, pedestrians, awkward postures (strains/sprains)
Level of Risk:	Medium
Controls:	See details outlined below

14.91.1 Training

The forklift operator must have completed a FETAC approved training course. Read and follow the manufacturer's operating manual for safe operation and maintenance. Forklifts are subject to statutory examination by a competent person once every 12 months in accordance with S.I. 299 of 2007 (Safety, Health and Welfare at Work (General Application) Regulations 2007). This period becomes 6 months if the forklift is used to lift persons.

14.91.2 General Operation

- The forklift must never be operated in areas designated as a pedestrian route.
- Sound the horn at intersections and wherever vision is obstructed.
- Ensure that a seat belt is worn at all times.
- Ensure the tyres are inflated correctly and the brakes operate correctly.
- The forklift should be fitted with a flashing amber beacon.
- The forklift should be fitted with a reversing alarm.
- Operate a forklift only while in the seat or operator's station. Never start it or operate the controls while standing beside the forklift.
- Never allow passengers unless the forklift was designed for a passenger.
- Do not put any part of your body between the uprights of the mast or when traveling, outside of the forklift frame.
- Always look in the direction of travel and keep a clear view of the travel path.
- Travel in reverse if the load blocks your view.
- Always observe posted speed limits at your workplace. A forklift should not be driven faster than a quick walking pace.
- Never allow anyone to walk or stand under the elevated forks – even if the forks are not carrying a load.
- Check that there is adequate clearance under beams, lights, sprinklers, and pipes for the forklift and load to pass.
- Never engage in stunt driving or horseplay.
- The capacity detailed on the forklift decal must never be exceeded.

14.91.3 Lifting loads

- Assess load before lifting, check weight, size, load centre and security. Make sure pallets are in good condition.

- Ensure the load does not exceed the forklift's capacity.
- Move squarely into position in front of the load.
- Position the forks wide apart to keep the load balanced.
- Drive the forks fully under the load.
- Ensure bottom of the load is raised to the proper traveling height.
- Tilt the mast backward slightly to stabilize the load and lift.
- Before backing up, check behind and on both sides for pedestrians or other traffic. Use spotters when operating in congested areas.
- Never allow anyone to be lifted while standing on the forks or on a pallet lifted by the forks.
- Make sure load does not obstruct view. If it does, drive in reverse, looking in direction of travel.
- Travel slowly when going down slopes. Ensure the forks face uphill when travelling up or down slopes with a load. Ensure the forks face downhill when travelling up or down slopes without a load. Adjust the tilt (where fitted) to suit the gradient and raise the forks to clear the ground.
- Park the forklift in a safe place, on level ground; never on a slope. Leave the forklift with the mast tilted forwards and the forks fully lowered, with the tips on the floor.
- Apply the parking brake, select neutral, switch off the engine and remove the key. Return keys or other activating devices to their place of safe keeping.
- Report any malfunctions or defects immediately to a supervisor.

14.91.4 Charging/Refuelling Forklifts

- Do not smoke or allow any open flames or spark /arc generating equipment in the refuelling / charging area.
- Make sure there is adequate ventilation to disburse fumes.
- When charging and fuelling, set brakes and chock wheels.
- Wear personal protective equipment.
- Make sure there is a fire extinguisher nearby.
- Make sure there is a barrier that protects the pump or charger against vehicle damage.

14.91.4.1 Liquid Petroleum Gas (LPG) forklifts

- LPG gas is very cold. Wear gloves when changing LPG tanks. Apply manual handling techniques.
- Check for leaks before operating.

14.91.4.2 Petrol or diesel forklifts

- Turn the engine "OFF" and apply the hand brake before petrol or diesel refuelling.
- Clean up any spilled fuel before restarting the engine.

14.91.4.3 Battery operated forklifts.

- When charging batteries, keep the battery vent caps in place to prevent electrolyte spray. (Check that the vent caps are not plugged).

- Keep the battery compartment open to dissipate heat.
- Propane tank used to refill the forklift LPG tank is protected against vehicle damage by heavy posts.
- Keep tools and other metal objects away from the top of the battery to prevent an arc or explosion due to short, circuited terminals.
- When adding fluid to the battery, wear safety glasses and a face shield for protection against electrolyte splash or spray.
- Battery charging areas must have a way to flush and neutralize spilled electrolyte.
- Do not attempt to remove a battery from the forklift unless you have been trained and the charging station is equipped with a hoist designed for this purpose.

14.91.5 Safety maintenance

- To prevent injury or illness when doing maintenance on a forklift:
- Do not do repairs in an area with a potentially flammable or combustible atmosphere.
- Make sure there is adequate ventilation to prevent accumulation of exhaust or gas fumes.
- Do not use flammable solvent to clean a forklift. Use a non-combustible (flash point above 100° F) solvent.
- Never get under a forklift supported only by a jack or under any part supported only by hydraulic pressure! Install jack stands or other suitable secure support.
- To prevent the forklift from accidentally being started remove and keep control of the key or disconnect the battery while making repairs.
- If the electrical system will be serviced, you must disconnect the battery before starting repairs and chock the wheels.

14.92 360° & 180° Excavators & Mini Diggers

Hazard:	Vehicle suitability, use of mobile phones, alcohol & substance abuse, driver fitness, driver experience and training, overhead and underground utilities, off road terrain, hydraulics, maintenance, load transport
Level of Risk:	Medium – High
Controls:	See details outlined below

- Read and follow the manufacturer's operating manual for safe operation and maintenance.
- Keep a copy of the manual in the cab of the excavator/mini digger at all times.
- Ensure that drivers remain in the safety cab and wear safety belts in the event of an excavator overturning and that they do not attempt to jump clear.
- Allow only trained / competent (valid CSCS cards) workers to drive excavators.
- Operations should be prohibited near powerlines. Goal posts should be used where required.
- Allow only trained / competent banksmen (valid CSCS card) to give signals to excavator drivers.
- Do not use mobile phones while operating excavators.
- Do not wear loose clothing / jewelry / belts, etc. while operating excavators.
- No unauthorised riding on excavators - one seat, one person.
- Ensure that all excavators adhere to site speed limits and conform to site traffic control plans.
- No bypassing or interfering with safety devices on the excavators or buckets.
- Use hydraulics only within their design limit / as per supplier's instructions.
- Before adjusting / repairing / maintaining / leaving the excavator, always turn off the engine.
- Under no circumstances rely on the hydraulics to maintain raised equipment while working underneath.
- Keep other workers clear of the excavator boom swing area.
- Lower the boom / bucket when not in use.
- Adhere strictly to the SWL on the arm of the excavator.
- Secure excavator buckets to a quick hitch - using a locking pin to prevent the inadvertent dropping of the bucket. Operators should NEVER press the disengagement switch of a quick hitch before the bucket has been landed to a stable landing space, preferably its transport position. This space should be level and should be such that the bucket is not in danger of rolling or falling further.
- The operator should always refer to the instruction manual in order to operate these attachments in a safe manner.

- Secure all excavators when left unattended, to prevent unauthorised use, especially at the end of the working day.
- All 360° excavators must have the following equipment installed by law:
Movement alarm and flashing beacon with CCTV or convex mirrors or a combination of both to allow vision from driver's seat (without slewing).

14.93 Use of (HIAB) Lorry Loader Crane

Hazard:	Vehicle suitability, use of mobile phones, alcohol & substance abuse, driver fitness, driver experience and training, overhead utilities, hydraulics accidental operation, overloading, uneven ground.
Level of Risk:	Low – Medium
Controls:	See details outlined below

- Read and follow the manufacturer's operating manual for safe operation and maintenance.
- Staff operating lorry loader cranes such as a HIAB must receive training.
- New lorry loader cranes must be:
 - be CE marked in accordance with the relevant directives of the EC,
 - be accompanied by an EC Declaration of Conformity in accordance with the relevant directives of the EC,
 - be accompanied by information about the rated capacity for all boom configurations and positions, and
 - not have been reassembled since dispatch from the manufacturer.
- The loader must be thoroughly examined by a competent person every 12 months (every six months once 8 years old) and a report issued. Lifting accessories such as grabs and slings must be thoroughly examined every 6 months.
- A weekly inspection using the HSA GA2 form must be completed weekly.
- The safe working load of the loader crane must never be exceeded.
- The use of loader cranes near power lines is prohibited.
- Ensure the equipment is only operated on good ground conditions.
- Never operate if you suspect the loader is damaged.
- Ensure the supporting surface is stable before lifting a load.
- When lifting loads ensure that the location of the center of gravity of the load is known and the crane hook positioned directly above it.
- Has a qualified crane signalperson been assigned and method of communication between the crane operator and signal person established.
- Ensure the lifting and loading areas are clear of obstacles (including power lines, pipelines, and unnecessary personnel).

14.94 Multimover (for moving and positioning trailers)

Hazard:	Uneven surfaces, pinch points
Level of Risk:	Low – Medium
Controls:	See details outlined below

- Read and follow the manufacturer's operating manual for safe operation & maintenance.
- If you are unfamiliar with the operation of the multimover also request a demonstration from colleagues familiar with the device.

14.94.1 Pre operation checks

- Prior to towing check the multimover for obvious signs of damage.
- Check the tow eye and pin for signs of damage.
- Check the battery is sufficiently charged.
- Test the brake. Test manoeuvrability while operating slowly. Test the safety switch for the steering handle.

14.94.2 Coupling and uncoupling

14.94.3 Coupling

- Ensure the trailer is set on level ground.
- Position the multimover ball hitch directly below the trailer coupling.
- Use the jockey wheel to lower the coupling on to the ball. Take care when doing this as the coupling may drop suddenly.
- Note the green indicator which appears on the coupling when it is secured to the multimover.
- Raise the jockey wheel clear off the ground and secure tightly in position.

14.94.4 Uncoupling

- Lower the jockey wheel into position on the ground.
- Open the safety clasp and lift the handle on the coupling.
- Rotate the handle on the jockey wheel to raise the trailer away from the tow ball.

14.94.5 Moving the multimover when hitched to the RIB trailer.

- Ensure all vehicles and other obstructions are cleared prior to commencing the move.
- This task must be conducted with a minimum of two staff.
- The banksman must ensure third parties are kept clear of the moving equipment, watch the operator's blindside and give guidance as required.
- When operating on a gentle incline the operator must increase power to the multimover to maintain direction and control.

- When moving the Delta trailer into the store the multimover operator should ask for guidance from the banksman covering their blindside.
- The operators should hold the controls at arm's length to avoid accidentally activating the stop button during the move.

14.94.6 Towing a RIB into or out of Storage

- Where applicable ensure the roller door is opened sufficiently to provide enough over head room to avoid a collision with the RIB. Where applicable **Check that the open roller door yellow markings align thus giving enough clearance.**

14.94.7 Leaving the multimover unattended

- If for some reason the multimover must be left unattended during a towing procedure the handbrake must be engaged

14.95 Safe Securing of Loads for Road Transport

Hazard:	Vehicle & or trailer unsuitability, over-loading, poor load distribution, poor strapping/load securing.
Level of Risk:	High
Controls:	See details outlined below

- Loads must be secured even if the vehicle is only travelling a short distance or at low speeds. Loose items, even small ones such as laptops or tools, are potential missiles in a collision or other accident.
- Staff involved in the securing and transporting of loads shall complete training. If you have not received secure load training and load securing is required in the course of your work contact a member of the Human Resources Training Team to schedule this.
- On the road the driver is responsible for the load so the driver should know how the vehicle has been loaded and how it is secured. While carrying out the journey, the driver should check that the load is secure at regular intervals.
- Loads may be secured using rated chains, straps or wire rope.
- The lashing equipment must have a clearly legible label which specifies the Lashing Capacity (LC) in deca-Newton (daN) and the standard tension force (S_{TF}) and the Breaking Load.
- Straps and chains must be suitably rated to secure the loads they are used with.
- Chains must meet the standard EN 12195-3.
- Web lashing must meet the standard EN 12195-2.
- Wire rope must meet the standard EN 12195-4.
- Lashing points must comply with EN12640.
- Damaged lashing equipment must be removed from service, disposed of and replaced.
- Lashing equipment must be visually inspected before every journey.
- All lashings should incorporate some form of tensioning device.
- When securing items to a trailer the lashing equipment should be attached to the trailer's chassis or defined loading points. Lashing equipment must never be secured using trailer tie down hooks.
- Loads can be restrained by two basic methods, 'Tie-down' or 'Direct restraint'. Tie-down is when the load is prevented from moving by friction only, also called a 'frictional lashing'. It is an indirect method of restraint. Direct restraint is when the load is prevented from moving by containing, blocking or attaching it to the vehicle.

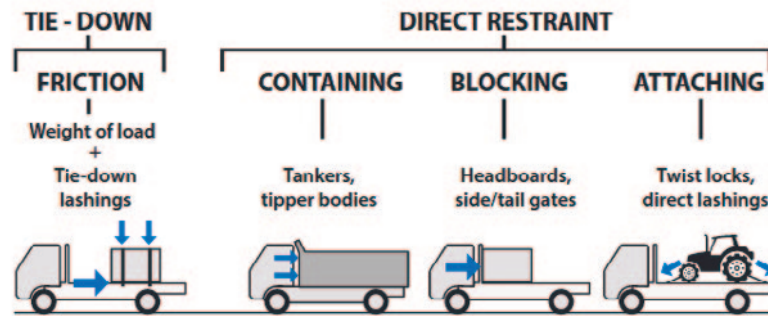


Figure 14.13 Securing methods for loads

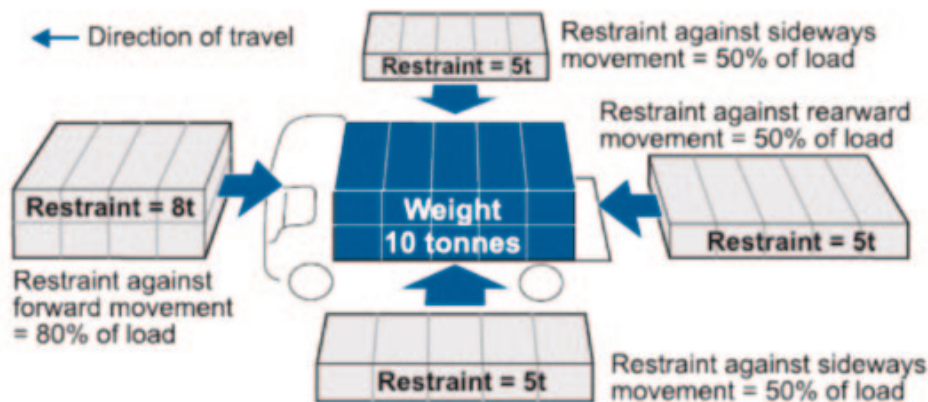


Figure 14.14 Min horizontal restraint to prevent movement of a 10-tonne load.

- The load restraint system should be able to withstand:
 - 80 percent of the payload weight in the forward direction,
 - 50 percent of the payload weight in the sideways direction, and
 - 50 percent of the payload weight in the rearward direction.
- Where there is a headboard, stack the load against the headboard with the centre of gravity as low as possible. Make sure it's stable without lashings to reduce the risk of it falling over during unloading.
- If the load isn't stable by itself, think about how you can support it: put it in a box, stillage or transport frame.
- If the load isn't against the headboard - or items could slide over it - think about other ways you can stop the load from moving forward. You may need extra lashings, sails, chocks or blocking.
- When transporting equipment of other loads in the boot of a vehicle or in a van the anchor points should be used to secure the lashing equipment.
- Keep the centre of gravity of the load low where possible. Spread the load evenly across the width and length of the vehicle, sharing the weight between axles.
- Use packing material or rubber matting to increase the friction on slippery loads.

Always remember, Dynamic forces are much higher than static forces. For example, more force is required to secure a load when it is moving (dynamic) than when it is stationary (static).

Personal Flotation Devices & Dry Suits

14.96 Personal Flotation Devices

Hazard:	Work on or adjacent to water, boats, and at sea.
Level of Risk:	High
Controls:	See details outlined below

14.96.1 Selecting the correct type for the working environment

- A SOLAS standard 275N personal flotation device is to be worn for all sea RIB patrol operations e.g. Delta patrols.
- It is a requirement that where staff wear drysuits on inland waters they wear a single chamber 275N.
- Staff working on or adjacent to water (other than at sea and in conditions when a dry suit is not required) must wear a personal flotation device with a minimum buoyancy of 150N.
- Staff using kayaks, jet skis or PWC's must wear a buoyancy aid.

14.96.2 Donning instructions

- Inflatable personal flotation devices must be worn over all clothing and not underneath. This is to ensure that there is sufficient space for the device to inflate and that the wearer's breathing is not restricted.
- Wear the lifejacket as a waistcoat.
- Close buckles at the front.
- Fasten the waist band to comfortable position.
- The crotch strap is an integral part of the lifejacket. Pass the strap between your legs and clip the buckle.
- Fasten the band to a comfortable position.

14.96.3 Training

- Safe donning is covered as part of H&S induction training.

14.96.4 Inspection & Testing

- The annual testing of personal flotation devices is a statutory requirement.
- The use of personal flotation devices which are overdue for statutory inspection is prohibited.
- Staff may carry out visual inspection on personal flotation devices. Inspection of red/green indicators should be conducted regularly to ensure the cylinder and firing mechanism are in the correct position. Visual checks for signs of damage can also be carried out on any zips, buckles, fasteners, lining and webbing straps. Note also the inspection schedule.

14.96.5 Storage

- Personal flotation devices should be stored in a well-ventilated room not subject to extremes in temperature or extended periods of sunlight. Storage conditions should not be damp or humid.
- Oil and dirt can be removed with a damp cloth and then a dry cloth immediately afterward. Allow to dry naturally.
- Do not expose to chemicals, paint or hydrocarbon fumes, oils grease or concentrated ozone.

14.97 Use & Maintenance of Dry Suits

Hazard:	Work on or adjacent to water/cold water temperatures/Sea going operations
Level of Risk:	High
Controls:	See details outlined below

14.97.1 Dry Suit Use

- A dry suit is available to all staff as required e.g. in cold waters (less than 10°C).
- The purpose of the dry suit is to reduce the risk of hypothermia due to immersion in the water and protection from wind chill.
- Bearing in mind the physical nature of many tasks associated with Fisheries work, it is acknowledged by Inland Fisheries Ireland that there are situations where the wearing of a dry suit could contribute to hyperthermia (heat exhaustion). Factors which may affect the need to wear a dry suit include:
 - Nature of work
 - Location of work, sea, lake inshore etc.
 - Water Temperature
 - Weather conditions
 - Number of persons present (available to assist in an immediate rescue situation)
- Dry suits must be worn in the following situations:
 - A dry suit must be worn by all personnel when In a RIB – at sea, in open water and in estuaries.
 - A dry suit must be worn where a staff member is on their own in a boat (however lone working should be avoided).
 - Dry suits should be worn when working on a boat on waters with low temperatures (less than 10°C).
 - A dry suit must be worn as specified by IFI bearing in mind the nature of the work and the local conditions.
- Where a dry suit is worn it must be fully donned up irrespective of the weather.

14.97.2 Maintenance

- When donning a dry suit inspect all seals. Seals are usually the first thing to break (typically due to rips, tears or cracking) on a dry suit. Any zips should also be inspected, and dirt or grit should be gently removed. Zips should be regularly waxed to ensure smooth operation. Damaged dry suits should be removed from service until they are repaired.
- Have the suit, valves and zippers on your dry suit inspected annually by a qualified repair technician to ensure proper function.

Activities involving the Air Corps

14.98 Cassa CN – 235 100M (Airplane)

Hazard:	Weather, mechanical failure, safe access/egress, fire
Level of Risk:	Low
Controls:	See details outlined below

The following procedures have been provided by the Air Corps of the Irish Defence Forces.

The purpose of this section is to give you an understanding and knowledge of the layout of the cabin of the CASA CN-235 100M Maritime Patrol Aircraft and the location of all the safety equipment onboard. The operator needs to be able to locate equipment for use as necessary in the event of an emergency and be fully coherent in its uses.

14.98.1 The safety equipment presently carried onboard the CASA MPA are as follows:

- Emergency Fire Axe (x1)
Location: - Cockpit (behind co-pilots seat).
- Fire extinguishers (x6), 3 halon 3 liquid.
Location: 1x Halon and 1x Liquid – Cockpit,
1x Halon & 1x Liquid in cabinet inside forward exit.
1x halon 1x Liquid on side of Radar Console beside Signals workstation.
- First Aid Kits (x2).
Location: 1 In cabinet inside forward entrance/exit
1 In cabinet inside rear entrance/exit.
- Life rafts (x2 6 man)
Location: 1 Behind forward seats in crew rest area.
1 Behind Flare launcher Starboard rear of Acft.
- Smoke Goggles (x6)
Location: In rear pouch behind each crewmember's chair.
- Oxygen (x7)
Location: 1 Mask in Cabinet beside SARO Workstation (main supply).
1 Bottle and 2 Masks on side of console at Signals workstation.
1 Bottle and 2 masks on top of flare stowage rear port of Acft.
1 Mask pilot cockpit, 1 bottle and mask Co-Pilot cockpit.

- Lifejackets

Location: 1 on each crewmember's seat. Spares in the Wardrobe.

- Quick Don Immersion Suits.

Location: Under seats in crew rest area, and in overhead stowage on SARO console.

- Torch (x1)

Location: In Ships Library.

14.98.2 Entrances/ Exits.

Locations:

- Cockpit – Window beside each pilot's seat (pushes out).
- Starboard Forward entrance/exit (pushes out).
- Port rear entrance /exit (pushes out).
- Port emergency exit (front) – between galley and wardrobe (pulls in).
- Starboard emergency exit (rear) – behind flare launcher.
- Bubble Windows Starboard and Port (opens inwards –locks into slot).
- Rear ramp (if Practical) at rear of Aircraft.

Notes: In the event of an emergency the nearest available emergency exit should be used

Remembering (i) Getting any passengers safely out.

(ii) Outward opening exits probably will not open under-water.

(iii) If the Aircraft settles nose down in water the rear exits should be used.

(iv) If the Aircraft fuselage is damaged all or many exits may be difficult to open.

Additional Safety Equipment carried.

Air Droppables.....Rafts and Flares.

14.98.3 Fire Extinguishers

- Halon suitable for fires involving flammable liquids or electrical apparatus. Should not be used in confined spaces.
- Liquid should be used on most fires except those involving liquids or electrical apparatus.

14.98.4 Fighting a Fire

In the event of a fire:

- Notify all crew members immediately.
- Ensure all electrical equipment is turned off.
- Locate appropriate fire extinguisher.
- Aim extinguisher at base of fire until extinguished (be aware of re-ignition).
- Halon gives off dangerous fumes causing possible damage to lungs therefore it is vital that the area is well ventilated if their use is imminent.

14.98.5 Rafts.

Rafts must be armed (tied down) immediately after take – off, and disarmed as soon as before landing when overland.

Once launched the raft should inflate when it reaches the end of its tether, if not a very sharp tug should do so, once inflated with all aboard the tether should be cut.

14.98.6 Smoke goggles

Before every flight each crewmember should check his seat for smoke goggles.

He/she should adjust goggles for his/her use, should it become necessary.

14.98.7 Oxygen

Used if cabin depressurisation is experienced above 30,000ft approx.

Or may be used if the cabin becomes smoke filled.

- Take mask(s) out of package attached to bottle.
- Remove oxygen outlet cover (by twisting).
- Insert mask attachment into outlet.
- Turn oxygen from the off to the on position by turning clockwise.
- Don mask and breathe as normal.
- Remove portable bottle if necessary, by unlocking clips.

14.98.8 Equipment

The following lists equipment used by Maritime Patrol crews in the course of their employment onboard the Maritime Patrol Aircraft. We would recommend that this equipment should be made available by individual agencies to frequent passengers on Maritime Patrols.

The personal safety equipment presently carried by SAROs onboard the CASA MPA are as follows:

- Thermal underwear, flame retardant.
- Immersion Suit. Made by Beaufort, individually tailored, Waterproof (if serviced regularly) Breathable material, Latex cuff and neck seals, attached socks, Knife holder.

- Personal emergency knife. For attachment to flying suit or immersion suit.
- Flying Suit. Flame retardant (if worn correctly).
- Flying Jacket. Air Spec, for additional warmth.
- Ray Ban Sunglasses. Not a fashion accessory, used when emerging from a dimly lit working environment into a brightly lit environment and when acting as observer for registrations, searches etc.
- Peltor headset. For use in the vicinity of the ramp.
- Hi visibility vests. To be worn in the vicinity of the ramp.

14.98.9 Non personal safety equipment supplied by 101 Squadron

- Lifejacket. Mk 44 Beaufort Contains Mini flares & SARBE (Search & Rescue Beacon Equipment).
- Quick Don Immersion Suit.

14.97.10 The purpose of this section is to make the student aware of possible emergency situations that may be encountered (and actions in the event of) onboard the Maritime Patrol Aircraft.

Among the most likely possible emergencies that may be encountered are:

- Aircraft malfunction.
- Aircraft or object conflict.
- Equipment malfunction.
- Human error.
- Sickness or injury to a crewmember or a passenger.

14.98.11 Aircraft malfunction.

Most likely causes:

- Engine Failure (the aircraft will still fly and be able to land on one engine).
- Damage to or loss of part of the airframe structure.
(If anything unusual observed notify flight crew (pilots) immediately)
- Bird strike (causing damage to the structure of the aircraft).

If the Aircraft malfunction causes a ditching or overland emergency landing the appropriate evacuation drill will be put into place immediately.

If you see, smell, hear or notice anything unusual about the Aircraft (no matter how seemingly trivial) notify the pilots immediately.

14.98.12 Equipment malfunction

The most likely scenario in relation to equipment malfunction in the rear area of the aircraft will be overheating leading to a possible fire, or the actual outbreak of fire in the area of the avionics rack, radar/data link console, or oven area.

If a fire or smoke is detected,

- Notify all crew immediately.
- Ensure all electrical equipment is turned off, and relevant circuit breaker pulled.
- Don smoke goggles if needed.
- Locate appropriate fire extinguisher.
(Water if the fire is nonelectrical, Halon if the fire is electrical or flammable liquid).
- Take up a position where access to the fire is unrestricted but where a quick and safe retreat is possible. For example, on the side of the fire nearest an exit.
- Crouching will help the operator to keep clear of the smoke and allow a closer approach to a fire.
- Aim extinguisher at the base of the fire until extinguished; be aware of the possibility of re-ignition.
- Be aware of the dangers of inhaling the fumes of the halon or dry powder extinguishers.
- The aircraft crew will be using the radio equipment to issue a mayday or pan pan call.

14.98.13 Sickness or injury to a crew member or passenger.

In the event of a crewmember or passenger becoming ill or injuring him/herself.

- Notify the pilots immediately (so they can divert to nearest airfield if necessary).
- Assess the injury or sickness and treat as appropriate using whatever first aid is available and your first aid training as per SARO course (remember location of first aid boxes on board).

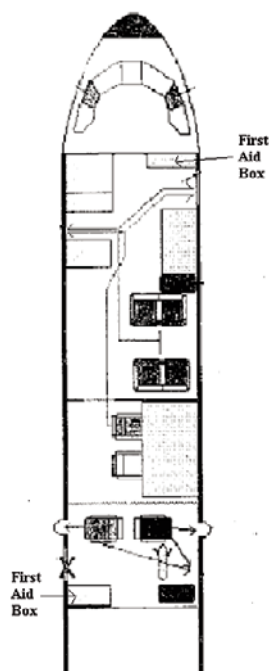


Figure 14.15 Location of first aid kits on the aircraft

14.98.14 Ditching Drills

The purpose of this section is to inform the student of the emergency ditching drill (in water) currently in place on board the Casa Cn 235 as used by Maritime Squadron.

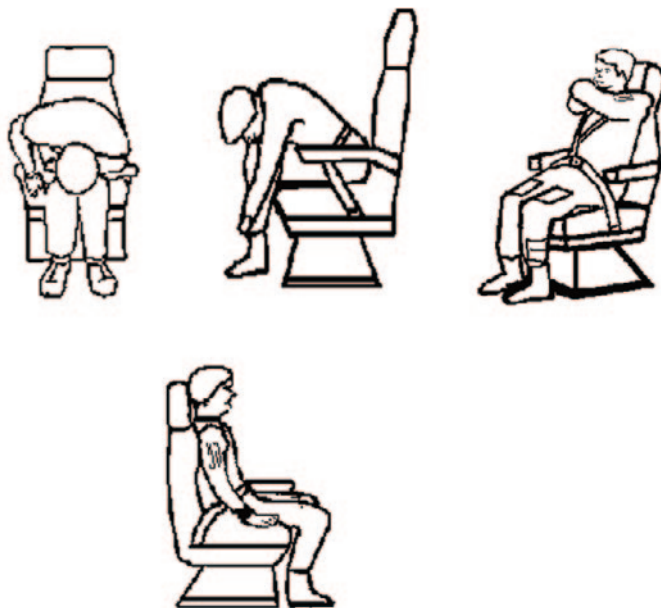
The first and most important thing to do with regard to any emergency drill is to formulate a plan (pre-flight) in the event of an emergency based on the amount of people travelling.

There are a couple of different scenarios with regard to a possible ditching,

- One where notification by the pilots is given as to the Aircraft ditching.
- One where there is insufficient time to give notification.

We will deal with the scenario where notification is given first.

- The pilot notifies the crew that a ditching is inevitable, He will then initiate the "Mayday or Pan Pan "call. Direct the Signaller or second SARO to do same.
- Consult P1/P2 re emergency ditching plans.
- Shut down all electrical equipment.
- Secure the Cabin. Stow All items i.e.: papers, cups, bags, spare life vests, baggage etc.
- Fully secure seat harness – seat rearward facing if possible.
- Run thru evacuation plan (verbally i.e.: you go to this exit, ill get the raft etc.).
- 1 minute to impact – adopt brace positions.



Forward facing brace position

Rearward facing brace position

Figure 14.16 Brace position in the event of an emergency landing

Note: In the absence of prior notification, the post ditching drill will apply immediately

14.98.15 Post Ditching

- Wait until the Aircraft stops completely.
- Open an unsubmerged exit- ensure the life raft painter is tied to a secure location. If the raft accidentally inflates in the aircraft, puncture immediately several times with a knife.
- Throw out the raft and pull on the painter until the raft inflates.

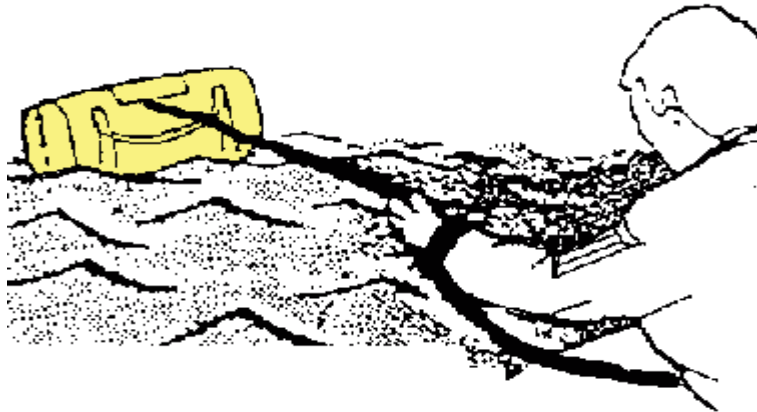


Figure 14.17 Procedure for launching life raft

- Jump into the sea and inflate life vest, swim to the raft –DO NOT pull the raft to the aircraft. DO NOT inflate the life vest whilst still in the aircraft.

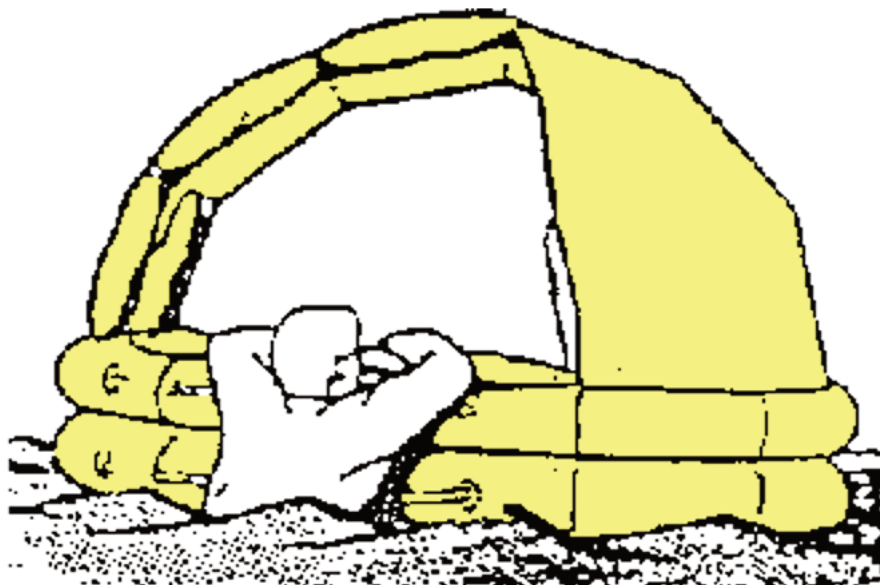


Figure 14.18 Procedure for launching life raft

- Once inside the life raft and everyone is onboard, cut the painter line to avoid being pulled down with the Aircraft if it submerges.
- Activate the search and rescue beacon equipment (SARBEs) one or two at a time maintain peak signal strength and conserve SARBEs for in the event a long wait for rescue.
- Move away from the Aircraft and prepare for a long wait.

14.98.16 Survival Drills – Once in the Life raft.

- Remove wet clothing (if immersion suit has leaked) – wring out and put on again.
- Take sea-sickness tablets immediately. (should be in the raft)
- Treat any obvious injuries.
- Bale out the raft as necessary.
- Secure all sharp objects.
- Activate 1 SARBE at a time for 1 hr or less.
- Huddle together to conserve heat and help the stability of the raft.
- The foetal position also conserves heat.
- Observe your companions for any signs of illness or hypothermia and treat accordingly.
- Ration water – If none available collect rainwater (it is recommended to keep eating to a minimum if there is no water available).
- Monitor raft for signs of leakage – patch and re-inflate where necessary (bungs and plugs in raft).
- Set-up a watch for aircraft, or shipping, rotate the watch frequently, pool flares and only set them off when an Aircraft or Ship is near.
- Use SARBEs on voice when an Aircraft or Ship is in sight.

If you end up in the water without a life raft all of the above still applies except a) and d) , Make sure you are all attached using your “buddy line” and splash hoods are used to help avoid exposure to the elements.

Notes:

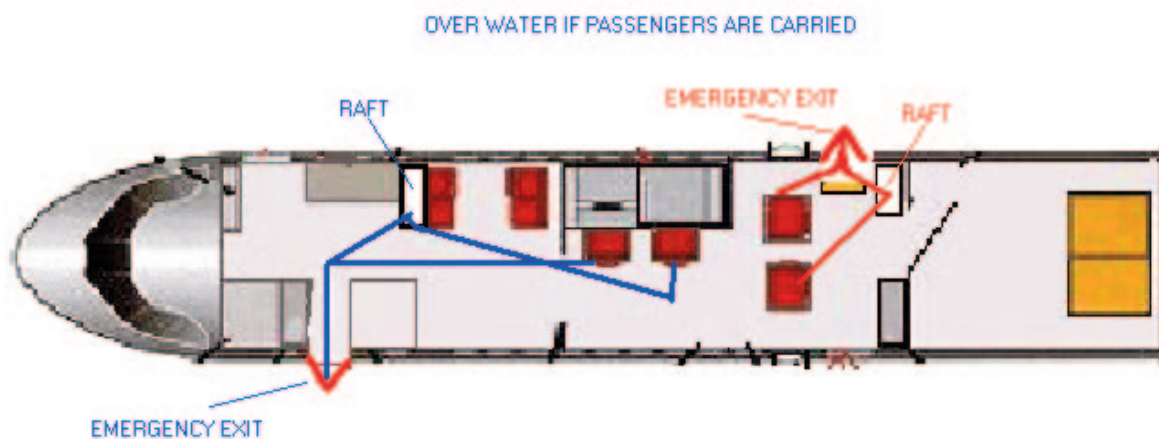


Figure 14.19 Location of life rafts on the aircraft

14.98.17 Depressurisation Drills.

The purpose of this section is to inform you of the drills to be carried out in the event of a cabin fire or cabin de-pressurisation on the Casa Cn 235 as used by Maritime Squadron.

If a fire or smoke is detected,

- Notify all crew immediately.
- Ensure all electrical equipment is turned off, and relevant circuit breaker pulled.
- Don smoke goggles if needed.
- Locate appropriate fire extinguisher. (Water if the fire is non electrical, Halon if the fire is electrical or flammable liquid)
- Take up a position where access to the fire is unrestricted but where a quick and safe retreat is possible. For example, on the side of the fire nearest an exit.
- Crouching will help the operator to keep clear of the smoke and allow a closer approach to a fire.
- Aim extinguisher at the base of the fire until extinguished; be aware of the possibility of re-ignition.
- Be aware of the dangers of inhaling the fumes of the halon or dry powder extinguishers.

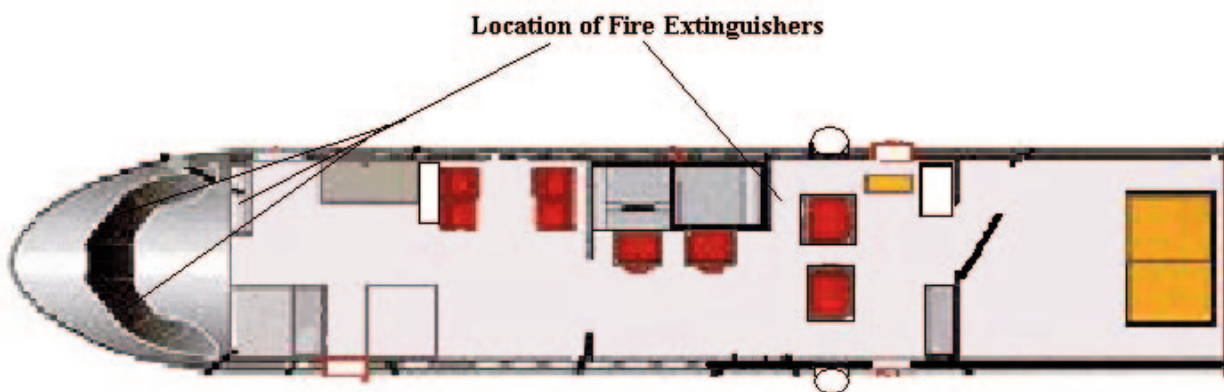


Figure. 14.20 Location of Fire Extinguishers

14.98.18 De-pressurisation drills.

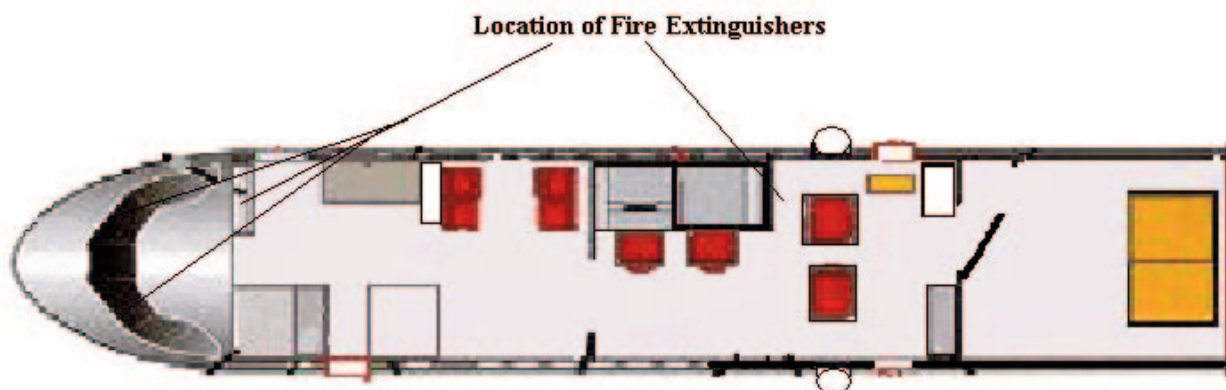
Always ensure when you are not moving about the cabin that your seatbelt is lightly fastened at all times in preparation for an emergency.
In the event of a cabin de-pressurisation

- Put on oxygen mask
- Remove oxygen outlet valve covering.
- Insert mask attachment into Oxygen outlet valve.
- Turn black top on Oxygen bottle to the on position.
- Breathe normally.
- Remove bottle from holder and carry with you as necessary.
- Assist anyone experiencing difficulty.

If using the Mask on the console or in the cockpit,

- Inflate head straps.
- Place mask over your face.
- Breathe normally.

Figure 14.21 Location of oxygen masks on the aircraft



14.99 Helicopters

Hazard:	Weather, mechanical failure, safe access/egress, fire, rotors
Level of Risk:	Low
Controls:	See details outlined below

14.99.1 Safety Precautions for Inland Fisheries Ireland Personnel Operating with Irish Air Corps Helicopters

General: Personnel scheduled to operate with Irish Air Corps helicopters must be aware of the following precautions prior to engaging in any activity, either internal or external to the aircraft.

Hazards: There are 5 main hazards of helicopters

Main Rotor: This spins extremely quickly and can be quite close to the ground. Personnel involved in flying in the aircraft must never enter under the rotor disc of the aircraft while the blades are moving unless supervised by qualified Irish Air Corps personnel or a member of the aircraft crew.

Tail Rotor: Found at the rear of the aircraft, this provides a severe risk of injury to unwary personnel. All personnel approaching a running helicopter MUST remain in the arc from the 10 O Clock position to the 2 O Clock position as viewed by the pilot until they are escorted to the aircraft as above. NEVER approach a helicopter, even a stationary one, from the rear.

Downwash: The air displaced by the helicopter blades in flight can be substantial, lifting debris and dust and throwing it some distance. There should be no unnecessary personnel exposed to this downwash. Personnel required to operate around hovering helicopters must ensure that they have taken precautions to protect their eyes and that they have no articles of loose clothing that may be caught in the airstream and blown into the engine intakes or rotor blades such as hats, scarves etc.

Noise: Helicopters are inherently noisy, both internally and externally. The crew will provide either a headset or hearing defence if you are due to be exposed to this noise. In order to prevent noise induced hearing loss, keep this protective equipment on your ears until the engine has stopped and the crew indicate that it is safe to remove it. Pay attention to the noise danger signs around aircraft manoeuvring areas and minimize your exposure to high levels of noise.

Heat: As with any vehicle, helicopters can produce significant heat, even when stationary. Never touch any part of a helicopter that you have not been cleared to. If in doubt, check with a member of the crew before touching anything.

Other Considerations

It is prohibited to smoke inside or within 50 feet of a military helicopter. In addition, at many landing sites, it is prohibited to smoke until you are in a designated zone, such as outside the terminal building of an airport.

Switch off all mobile phones before the engines start and keep them off until they have stopped again.

Once inside the aircraft, buckle your seatbelt immediately and keep it buckled until the aircraft has shut down completely or a crew member indicates that it is safe to undo it.

Once inside the helicopter, do not touch the pilot or any of the controls, or operate any switch, lever or handle without first being briefed on its operation and notifying the crew. This is particularly pertinent for photography, where a door or window may have to be opened in flight.

Where photographs are being taken, ensure that the area around the door is clear of loose articles such as personal bags and that the camera is secured to your person to avoid any item falling from the aircraft. Follow the crews' instructions at all times.

Emergencies:

A pre-flight briefing will be conducted to detail the actions to be carried out in the event of an emergency. Familiarise yourself with these procedures, the location of emergency exits and any equipment such as fire extinguishers that you may be required to use. Where you have been issued with a lifejacket, familiarise yourself with its operation. Never inflate the jacket inside the cabin, as to do so will impede your exit from the aircraft.

Where there is a threat of fire outside the aircraft after landing, look out before opening any exit to ensure that you will not be exposed to any danger.

Always wait until all motion has ceased before releasing your seatbelt and bear in mind that other connections such as a helmet or headset cable may also impede your exit. Remember to disconnect these connections before leaving your seat. Evacuate the aircraft towards the upwind direction and remain well clear of the blades.

Do not return to the aircraft under any circumstances until the all clear has been given by rescue personnel.

Diving Operations

14.100 General Requirements for Diving

Hazard:	Weather, access/egress to boats, boats, entanglement in submerged obstacles, working in water, oxygen partial pressure, carbon dioxide contamination, water pressure, cold water, biological agents, silt, diver fitness.
Level of Risk:	High
Controls:	See details outlined below

If you intend to dive you must contact the Health & Safety Executive in advance to develop a dive plan & specific risk assessment.

All relevant aspects of the Safety, Health & Welfare at Work (Diving) Regulations, 2018 must be complied with.

- Before diving commences an Health & Safety Diving Plan must be developed and implemented. Where applicable when IFI is a client they must appoint a Dive Contractor once satisfied that they are competent. Diving supervisors and an adequate number of dive team members must be appointed.
- Staff involved in diving operations must familiarise themselves with the Safety, Health & Welfare at Work (Diving) Regulations, 2018.
- An adequate number of the Dive team members must be trained in first aid. The risk assessment should identify the first aid equipment and training requirements. Divers must be medically fit.
- Each diver should be supplied with breathing gas which is to a recognised International, European or National standard which is adequate in volume and rate of supply for the specific diving operation. An alternative breathing gas source or secondary life support system should be provided for emergency use.
- The risk assessment should take account of the circumstances of the dive and identify whether there is a need for direct voice communication.
- Suitable thermal and safety protection equipment should be provided for all personnel involved in the diving project.
- When diving in polluted waters suitable decontamination/disinfection procedures should be in place before and after the project.
- The acceptability of the dive team size should be established from the risk assessment.

14.101 Diver Requirements

Hazard:	Weather, access/egress to boats, boats, entanglement in submerged obstacles, working in water, oxygen partial pressure, carbon dioxide contamination, water pressure, cold water, biological agents, silt, diver fitness.
Level of Risk:	High
Controls:	See details outlined below

If you intend to dive you must contact the Health & Safety Executive in advance to develop a dive plan & specific risk assessment.

All relevant aspects of Safety, Health & Welfare at Work (Diving) Regulations, 2018 must be complied with.

- Persons involved in Diving Operations must be competent and provide a copy of the relevant certification to the Health & Safety Executive.
- Written permission to carry out diving operations must be obtained from the CEO.
- Divers must have completed a medical with a doctor approved by the Health & Safety Authority.
- Permission requests should state the name of the supervisor, the names of the dive team, an outline of the dive objectives and the estimated project timeframe.
- All members of the dive team should be fully trained and familiar with any specialised items of equipment which they use, and if appropriate, hold a certificate of training or competency in the specialist equipment.
- Each diver must maintain a personal diver's logbook. The log must record the date, time and depth of dives, duration of dive and a short summary of the dive profile including the prevailing weather conditions and any other items of note.

14.102 Diving Supervision & Risk Assessment

Hazard:	Weather, access/egress to boats, boats, entanglement in submerged obstacles, working in water, oxygen partial pressure, carbon dioxide contamination, water pressure, cold water, biological agents, silt, diver fitness.
Level of Risk:	High
Controls:	See details outlined below

If you intend to dive you must contact the Health & Safety Executive in advance to develop a dive plan & specific risk assessment.

All relevant aspects of Safety, Health & Welfare at Work (Diving) Regulations, 2018 must be complied with.

- A diving operation supervisor must be appointed. All members of the dive team have a responsibility to co-operate with the supervisor and to follow any reasonable directions and instructions given by the supervisor.
- The diving supervisor must ensure that methods of communication (mobile phone, radio, EPIRB) are readily available and operational (battery power and signal) to alert emergency services in the event of an accident.
- A risk assessment must be carried out by the operation supervisor.

Risk assessment shall include:

- Water conditions, underwater visibility, pollution, depth, temperature.
- Access to and from the shore/boat/platform.
- Breathing gas mixture and the equipment needed.
- Experience and number of personnel (including people who are not at work but may be part of the dive team).
- Emergency procedures, including the location and proximity to emergency facilities, such as compression chambers and medical expertise.
- The methods and equipment used for the operation.

Note the above list is non-exhaustive.

- The members of the dive team should also be consulted during the risk assessment process.
- The supervisor should be familiar with the emergency arrangements for obtaining immediate assistance in the event of an incident; for example, it may be necessary to have another pair of hands to help rescue someone from the water or to go for help. Any additional persons must be included as members of the dive team and be under the direct control of the supervisor.

- The supervisor must brief the dive team comprehensively on the project and the related tasks.
- Supervisors may at any time postpone or end diving operations when they consider it to be unsafe.
- Supervisors must be appointed by management.
- The supervisor should have control of all safety aspects of the operation.
- The supervisor need not be medically fit to dive (unless he or she is diving); the supervisor should be competent to perform the role.
- The supervisor must not leave the dive site during an operation.

14.103 Divers' Medical Fitness

Hazard:	Weather, access/egress to boats, boats, entanglement in submerged obstacles, working in water, oxygen partial pressure, carbon dioxide contamination, water pressure, cold water, biological agents, silt, diver fitness.
Level of Risk:	High
Controls:	See details outlined below

If you intend to dive you must contact the Health & Safety Executive in advance to develop a dive plan & specific risk assessment.

All relevant aspects of Safety, Health & Welfare at Work (Diving) Regulations, 2018 must be complied with.

- Every person diving has a responsibility not to dive if by doing so they might present a risk to themselves or others. They must inform the supervisor immediately if there is any medical condition which prevents them from diving safely or rendering assistance to another member of the diving team. Before every dive they must ensure that they know of nothing which makes them unfit to dive including:

Any known medical condition.

Any effects of drugs or alcohol.

Any effect of medication whether prescribed or proprietary.

Any feelings of tiredness or a feeling of being unwell.

- All divers at work must have a valid certificate of medical fitness. The medical examination and assessment look at the diver's overall fitness to dive. This includes the main systems of the body – cardiovascular system, respiratory system and central nervous system – as well as the ears nose and throat, vision, dentition and the person's capacity for exercise.
- A certificate of fitness must be obtained from an HSA approved physician.

Inland Fisheries Ireland staff are prohibited from decompression diving.

14.104 Diving Equipment

Hazard:	Weather, access/egress to boats, boats, entanglement in submerged obstacles, working in water, oxygen partial pressure, carbon dioxide contamination, water pressure, cold water, biological agents, silt, diver fitness.
Level of Risk:	High
Controls:	See details outlined below

If you intend to dive you must contact the Health & Safety Executive in advance to develop a dive plan & specific risk assessment.

All relevant aspects of Safety, Health & Welfare at Work (Diving) Regulations, 2018 must be complied with.

- All plant and equipment must be checked by a competent person and recorded prior to use. The record should identify the item of equipment, show the date of the check and the signature of the competent person, any limitations as to use and any repairs or modifications carried out.
- Bottles and regulators must have a full-service record.

14.105 Snorkelling Surveys

Hazard:	Weather, access/egress to boats, boats, entanglement in submerged obstacles, working in water, contamination, cold water, biological agents, silt, diver fitness.
Level of Risk:	Low
Controls:	See details outlined below

- Staff involved in snorkelling must be competent swimmers and suitably trained. Training must be completed with the Irish Underwater Council before carrying out any snorkelling work.
- Snorkelling alone is strictly prohibited. Snorkelling must be conducted in pairs and shore back up must also be provided at all times.
- Shore back up staff must wear lifejackets and carry a throw rope and a first aid kit.
- Equipment should include a dry suit, mask, snorkel, fins, torches and weights.
- Staff must only conduct surveys in optimum weather conditions.
- Snorkelling staff must take great care to avoid hazards such as rocks in fast currents, and items which may cause entanglement e.g. barb wire or other man-made obstacles.
- So far as is reasonably practicable survey sites should be assessed for hazards prior to staff entering the water.
- Where because of the size of the river the snorkel team consists of more than three snorkelers the team leader will designate one of the snorkelers to be the in-water observer. S/he will carry out no survey work but will monitor the activities of the other snorkel team members and be responsible for safe practices and constant communication with the shore backup.

Boating, Netting, Angling & Field Activities

14.106 Fisheries Field Work

Hazard:	Weather, uneven/unstable ground, access/egress to boats, violence, working in water, cold water, fitness to work, livestock, biological hazards.
Level of Risk:	Medium – High
Controls:	See details outlined below

The diverse nature of field work exposes staff to a multitude of hazards which occur in the natural environment. For many of which, it is not reasonably practicable to eliminate. It is essential that staff working in the field (environmental, protection, research work etc.) familiarise themselves with the full content of the safety statement to reduce their likelihood of injury.

- Prior to commencing field work new staff must complete H&S induction.
- Staff must wear personal protective equipment as appropriate.
- Staff must complete training commensurate with the field tasks to be conducted.
- Staff unfamiliar with a field task or environment should consult with their colleagues regarding potential hazards and their control.
- A stick or walking staff is useful for support and to probe the ground ahead as you walk if the terrain is uneven, soft, marshy, wet or boggy. It is recognised that it is not reasonably practicable to use a stick or walking staff in all field work circumstances. Dynamic risk assessment should be deployed and walking aids shall be made available on request (contact the H&S Executive). In some instances, e.g., when carrying tools and equipment it is not reasonably practicable to also use a walking aid and therefore, it is not mandatory.
- Lone worker to follow buddy policy and agree with colleague arrangements for areas known to be black spots for tetra and mobile phone coverage.

14.107 Use of Small Boats (e.g. lake boats)

Hazard:	Weather, access/egress other boats on the water, working in water, cold water, physical fitness. Loading/unloading boats, swamping,
Level of Risk:	Medium – High
Controls:	See details outlined below

14.107.1 Training & Safety Equipment

- Staff operating the vessel must be competent having received powerboat training. Frequent operation is recommended to hone skills manoeuvring of boat, launch and recovery etc.
- Lifejackets must be worn at all times; dry suits must be worn in water temperatures of less than 10°C.
- The checklist of safety equipment to be carried is detailed in Appendix XI (refer also to P2 & P6 SOPs where appropriate).

14.107.2 Operation & Checks

- One person appointed in charge.
- A pre-check must be carried out by the crew, including the condition of the sponsons where applicable.
- Engine condition to be checked in advance, including propeller & cooling system.
- Equipment must be safely stowed or lashed down.
- Safe lifting techniques must be deployed.
- At least one crewmember on lookout for rocks, shallow water and items in water.
- One fire extinguisher on board every vessel with an engine.
- All personal safety equipment must be regularly checked & serviced.
- Do not open engine cover when running.
- Adequate fuel to be carried at all times.
- Weather forecast to be obtained prior to journey.
- Fuel tanks used should be specific to engines used and should be marked accordingly.
- Communication must be maintained using radios and mobile phones or Tetra.

14.107.3 Outboard Engines

- Ensure clamps or bolts secure the engine to the boat. Additional chain ties must be used for additional security.
- Ensure your fuel is fresh and uncontaminated and that you have enough for your intended trip, plus a generous reserve. Do not overfill.

- Some two-stroke outboards need oil mixed with their fuel. Make sure you use marine two stroke oil (labelled TCW3) and that you mix it in the right ratio (refer to the user manual if unsure of the correct ratio). Other two strokes have a separate oil reservoir. They also require proper marine two stroke oil.
- Four-stroke outboards have an internal sump like a car engine. Check the level with the dip stick, and top up if necessary with engine oil (not two-stroke oil).
- Controls. Turn the steering wheel from lock to lock and the throttle/gear control from ahead to astern to sure that the controls operate correctly.
- Make sure the propeller and drive leg are free of debris such as rope, weed, fishing line or plastic bags.
- Connect the fuel line to the tank and to the engine. Make sure it is in good condition and free of kinks.
- If the outboard is fitted with a water separator/filter, inspect the filter bowl for dirt or water and drain it off if necessary.
- On small engines with integral tanks, make sure the fuel tap is open.
- Ensure tanks vents are open.
- If your engine is connected to the boat's electrical system, make sure all the necessary switches and circuit breakers are switched on.
- If it is fitted with a primer bulb, squeeze the bulb until it is firm.
- The engine must be fitted with a kill cord, connected to the kill switch and clip the other end to your leg, wrist or lifejacket. Ensure that it is regularly tested.
- After starting immediately check that there is a good flow of water from the cooling water tell-tale. If not check that the tell-tale hole is not clogged.

The checklist of safety equipment to be carried is detailed in Appendix XI.

14.107.4 Use of small boats without engines

- Ongoing training in use of boats & rowing techniques.
- Lifejackets must be worn at all times.
- One person appointed in charge.
- Equipment must be safely stowed or lashed down.
- Safe lifting techniques must be deployed.
- Stability of the boat to be maintained by positioning of crew.
- Surplus water to be baled out before departing.
- At least one crewmember on lookout for rocks, shallow water and items submerged in the water.
- Ensure oars are in good condition.
- The crew must carry out a pre check.
- All personal safety equipment must be regularly checked & serviced.
- No smoking on board.
- Weather forecast to be obtained prior to journey.
- Mobile phones or a radio must be available for communication purposes.

The checklist of safety equipment to be carried is detailed in Appendix XI.

14.108 Naval Patrols

Hazard:	Weather, access/egress to boats, boats, working in water, cold water, physical fitness.
Level of Risk:	Medium
Controls:	See details outlined below

- Fishery officers participating in naval patrols are under the command of the captain of the vessel. They shall liaise with the captain in relation to area of operation, duties etc.
- Fishery officers are subject to the naval service standing orders which include safety statement. Fishery officers must familiarise themselves with these documents.
- Each fishery officer will be given a safety brief and ship familiarisation brief.
- They should familiarise themselves with the ships watch and quarter where they will have a designated life raft station for emergencies.
- On the first day of each naval patrol there are several drills carried out these include:
 1. Abandon Ship Drill
 2. Fire Drill
 3. Damage Control Drill

Familiarity with these drills will allow officers to react correctly in the event of an emergency.

- Each officer will be issued with standard naval service lifejacket, once only suit & respirator. Officers should familiarise themselves with all equipment.

14.109 Delta RIBs

Hazard:	RIB towing, obstructed slipways, weather, access/egress to RIBs, boat traffic, working in cold water, flammable liquids, propeller entanglement, physical fitness, loading/unloading RIBs noise, vibration.
Level of Risk:	Medium – High
Controls:	See details outlined below

This section should be read in conjunction with the Standard Operating Procedures for IFI Delta 7.8m HX rigid inflatable boat patrols at sea. Sea Patrol Boat Logs must be completed in full. Crew and coxswain must ensure the boat operations training & experience personal log is kept up to date.

14.109.1 RIB & Trailer Maintenance & Fuelling

- Trailers, vehicles and RIBs are inspected prior to departing from the base.
- Patrol Log checklists are completed and signed off.
- RIBS and trailers are serviced and maintained annually and as required.

Delta refuelling Should be read in conjunction with,
Section 14.75.1 Storage of Petrol
Section 14.109.2 Towing RIBS.
Section 14.75.2 Transportation of Petrol.

- Select a forecourt that has sufficient space to accommodate the jeep and RIB without interfering with other forecourt users.
- The combined length of the jeep and RIB can be over 40 feet. Select a pump that will allow refuelling without interfering with the entre or egress of other forecourt users.
- As much as possible have the boat level and ensure that there are no obstructions in front of the tank vents. Refuelling will take up to 45 minutes.
- Turn off all engines, electronics, radios, and mobile phones before refuelling starts.
- Close all hatches, doors, and ports. Petrol fumes are heavier than air and will sink into the lower parts of the boat, lying in wait for a spark, or just a rush of fresh air, to induce combustion.
- Rest the Boat for 5 to 10 minutes to allow the fuel in the tank settle before refuelling starts.
- Avoid rushing the refuelling operation, if blow back of fuel or fuel is escaping though the vents reduce the hand pressure of the nozzle trigger to reduce the fuel flow.
- Keep the fuelling nozzle in contact with the RIB's fuel tank filling point to prevent any possible build-up of static electricity.
- Only fill the tank to 90% of its capacity as fuel can expand.
- Clean any spillage with petrol absorbent pads and dispose of correctly.

Dealing with Leaks & Spills

- Ensure it is safe to approach the area and that there is no source of ignition present control the spill or leak by identifying the source and treating appropriately, e.g. secure the lid on an overturned container or drum.
 - Prevent the spread of the spill by using a suitable absorbent material, e.g. sand/earth or commercial spill kits and apply directly to the petrol and / or use as a barrier small spills (less than 100ml) may be left to evaporate naturally if safe to do so, i.e. the petrol / petrol vapour is not likely to enter drains or manholes, is away from sources of ignition and is away from other people who may be affected by it.
 - Dispose of used absorbent material safely. Contaminated material may be placed into a suitable container for safe disposal e.g. plastic container or heavy plastic bag securely sealed. Take the same precautions with contaminated material as for petrol itself.
 - The hazard remains while petrol vapor is present. If an oil interceptor is available (facility normally found on petrol service stations), wash any remaining petrol with water into the interceptor.
 - As petrol is also harmful to health, the following precautions should be taken if you come in contact with petrol. Wash any affected skin immediately with soap and water. If eyes are affected, immediately irrigate with water and seek medical assistance. If swallowed, do not induce vomiting, seek medical assistance at once. Avoid inhalation of petrol vapour as this can cause dizziness and headaches and may lead to respiratory problems.
 - Contaminated clothing should be removed immediately and disposed of safely If in doubt, call the emergency services. Tel. number: 999 or 112
- Further Information: Access further guidance on petrol storage and transport of dangerous goods at:
www.hsa.ie. Queries regarding legislation enforcement may be directed by e-mail to wcu@hsa.ie.

14.109.2 Towing RIBS

- Staff towing RIBs hold an BE category licence.
- The towing vehicle has the capacity to tow the RIB as detailed in the manufacturer's vehicle manual.
- Trailers are fitted with functioning lights. Lights are checked before each journey. Lights include two side lamps, two rear lamps, two rear reflectors, two stop lamps and direction indicators.
- Props are fitted with prop covers during transportation.
- Trailers are fitted with brakes.
- Extension wing mirrors are fitted to the towing vehicle when required.
- The maximum towing speed is 80km/h.
- First aid kit is kept in vehicle.
- The RIB is safely secured to the towing trailer. The load should and its lashings should be checked periodically during the journey.

14.109.3 RIB Patrols Coxswain & Crew Training

- The Coxswain must have completed Advanced Powerboat training, personal sea survival techniques, casualty care, personal rescue and capsize drills, VHF/DSC licence and radar.
- The Coxswain must hold a commercial endorsement to operate a passenger boat licenced vessel.
- All crew must have completed personal sea survival techniques, casualty care, personal rescue and capsize drills, and VHF/DSC licence.
- In addition to the Coxswain one member of crew must have completed radar training.
- All crew must successfully complete an approved medical before going to sea. Reassessment must be carried out every two years.
- All must wear a SOLAS approved 275N personal flotation device.
- Crew and coxswain must keep their boat operations training and experience personal log up to date.
- Ongoing training exercises regarding boat handling, man overboard procedures, coming alongside etc. must be carried out.
- Prevention of collision at sea regulations must be followed.

14.109.4 Personal Protective Equipment

Refer to IFI Delta 7.8m HX Sea Patrol Boat Log Checklist PPE/PPC Buddy Checks for details of requirements.

14.109.5 Prelaunch Planning

Refer to IFI Delta 7.8m HX Sea Patrol Boat Log prelaunch tasks and prelaunch planning details.

14.109.6 Launch Approval

Triple lock approval must be recorded in the Sea Patrol Boat Log Checklist.

14.109.5 RIB Safe Access & Egress

- The fixed ladder is used when the RIB is mounted on the trailer/in storage.
- When accessing/egressing at the slip at sea the fixed ladder must be used.

14.109.6 RIB Launch & Recovery

- A safe location (e.g. slip) must be identified for the launch and recovery.
- R.I.B.s should only be launched and recovered where there is an adequate level of water to do so.
- A suitable vehicle (e.g. 4WD with required towing capacity) must be used to launch and recover the R.I.B.
- Extra care should be taken on slips covered in seaweed, gravel etc. Report unsafe slipways to the relevant county council. A lookout must be kept for water users wading anglers at launch and recovery.
- Drive the jeep and trailer forward till it is at the correct angle to start the reversing manoeuvre to the slipway.

- Bring the jeep and trailer to a full stop.
- Engage the jeep in reverse and start the reversing manoeuvre slowly.
- If at this point the trailer brake engages, stop, go forward, and start the reversing manoeuvre again.
- As you reverse slowly avoid braking.
- When the trailer is in the correct position for RIB Launch or Recovery stop and apply the jeep parking brake.
- Once the RIB has been Launched or Recovered drive off the slipway.
- Never park the jeep and trailer on a slipway as other users may need access. If parking, select a location that will not interfere with other slipway users.

14.109.7 Communication & Backup

- Contact to be maintained with shore backup (and second RIB during twin RIB patrols). The shore backup will record radio contact in the log.

14.109.8 Sea going operations

- The RIB is operated by a trained coxswain who has completed navigation theory, boat and passage planning, night passage and advanced powerboat training.
- The RIB is fitted with an EPIRB and self-righting bag.
- The RIB is fitted with marine grade fire extinguishers.
- The RIB is fitted with emergency flares, Cat C first aid kit and emergency rations.
- The RIB is fitted with a life raft.
- Communications are maintained with shore backup.
- RIB operations are prohibited above Force 5 conditions.
- Coxswain to use navigational aids and knowledge of local waters and currents to avoid grounding.
- International regulations for preventing collisions at sea are implemented.
- Staff to keep on the lookout for obstacles which may cause fouling.

14.109.9 Weather Exposure

- Staff are provided with UVA/UVB high factor sun cream. Fresh water is carried on board to maintain hydration.
- Staff are issued with dry suits which must be fully donned to protect against hypothermia in the event of a man overboard or RIB capsize.
- Coxswain to use navigational aids and knowledge of local waters and currents to avoid grounding.
- International regulations for preventing collisions at sea are implemented.

14.109.10 Fire or Electrical Fault & Mechanical Breakdown

- RIB electrical wiring, engines and fuel tanks maintained in good condition.
- Staff are trained in firefighting techniques.
- Fire extinguishers maintained and kept on board.
- Backup equipment kept on board as per patrol log.

- Radio and mobile communication to raise alarm with shore back up and or emergency services.
- Flares and smoke canisters kept on board to raise an alarm.

14.109.11 RIB Capsize, Abandonment, Distress or Emergency Situations

- Sea survival, RIB capsize, and first aid training is completed by staff.
- RIBs are fitted with emergency location indicating beacons EPIRB and self-righting bag. RIBs have a unique MMSI number stored in the DSC function of the radio.
- Staff carry personal location beacons and personal flares.
- Staff are trained in marine VHF radio use.
- Coast guard can be alerted on Channel 16.
- Staff are trained in first aid.
- Staff have completed an approved medical before participating in sea going operations.
- Staff have thermal wear, drysuits and 275N personal flotation devices.

14.109.12 Conflict with other crews

- Staff are trained in conflict resolution techniques.
- Staff should avoid serious/imminent dangers and request support from colleagues/Gardaí.

14.109.13 Manual Handling & Handling Seized Nets

See also Section 5 procedure for hauling nets in the Delta SOP document.

- Safe lifting techniques must be deployed.
- Staff hauling nets should be rotated.
- A kidney belt should be worn.
- Equipment must be safely stowed or lashed down.
- When hauling nets they must be secured.
- The stability of the boat must never be put at risk; the boat should never be overloaded.
- One knife must be at hand on the deck (in the appropriate storage area).
- At least one crew member on the lookout for the approach of hostile vessels and items in water likely to foul propeller.

14.110 Small RIB Patrols (e.g Estuaries & Sheltered Bays)

Hazard:	RIB towing, obstructed slipways, weather, access/egress to RIBs, boat traffic, working in cold water, flammable liquids, propeller entanglement, physical fitness, loading/unloading RIBs noise, vibration.
Level of Risk:	Medium – High
Controls:	See details outlined below

- Single RIB patrols may be conducted in estuarine & sheltered waters (refer also to P2 & P6 SOPs where appropriate).
- A Coxswain with powerboat training may operate in daylight hours in fair weather.
- Coxswain and crew must have completed sea survival and RIB capsizing training.
- Staff must wear a dry suit.
- Staff must wear protective helmet with visor.
- Staff should wear a minimum 275N personal flotation device.
- Staff must wear a personal EPIRB.
- Staff should carry a safety knife and radio.
- Staff complete an approved medical before being assigned to RIB Operations.
- Staff are trained in first aid and a Category C first aid kit is kept on board.
- Radio contact to be maintained with shore backup at all times.

14.111 Whaly 500R Professional

Hazard:	Towing, obstructed slipways, weather, access/egress, boat traffic, working in cold water, flammable liquids, propeller entanglement, physical fitness, loading/unloading, noise, vibration.
Level of Risk:	Medium
Controls:	See details outlined below

14.111.1 Operational Safety

- To be read in conjunction with Section 107 Use of Small Boats (refer also to P2 & P6 SOPs where appropriate).
- Read and follow manufacturers operating manual for safe operation and maintenance.
- The vessel is classified as design category C and is considered to be designed for a wind force up to, and including, 6 and significant wave heights up to and including, 2m.
- In bad weather, hatches, valves and entrances should be closed to prevent the risk of flooding. Where water is taken on board use the bilge or bailer to remove water.
- The Max occupancy 10 persons but must never exceed the maximum load.
- Maximum load is 1170kg and must never be exceeded.
- The boat is not fitted with navigation lighting and use at night should be avoided.
- The minimum operating mass is 635kg.
- The max outboard for use with the vessel is 60HP.
- Weight added to the vessel will affect its behaviour and performance on the water.
- Place heavy objects close to or beneath the water level.
- Do not put too much weight in the centre or aft.
- Ensure that any load does not obstruct the view from the main steering position.
- Anchoring and mooring lines should be attached to the towing eye on the front of the boat.

14.111.1 Towing

- Staff towing hold an EB category licence.
- The towing vehicle has the capacity to tow the vessel as detailed in the manufacturer's vehicle manual.
- Trailers are fitted with functioning lights. Lights are checked before each journey. Lights include two side lamps, two rear lamps, two rear reflectors, two stop lamps and direction indicators.
- Props are fitted with prop covers during transportation.
- Trailers are fitted with brakes.
- Extension wing mirrors are fitted to the towing vehicle when required.
- The maximum towing speed is 80km/h.
- First aid kit is kept in vehicle.
- The vessel is safely secured to the towing trailer. The load should and its lashings should be checked periodically during the journey.

14.112 Pioner Multi Boats

Hazard:	Towing, obstructed slipways, weather, access/egress, boat traffic, working in cold water, flammable liquids, propeller entanglement, physical fitness, loading/unloading, noise, vibration.
Level of Risk:	Medium
Controls:	See details outlined below

14.112.1 Operational Safety

- To be read in conjunction with Section 107 Use of Small Boats
- Read and follow manufacturers operating manual for safe operation and maintenance (refer also to P2 & P6 SOPs where appropriate).
- The vessel is classified as design category C/D and is considered to be designed for a wind force up to and including 4/6, X and significant wave heights up to and including, 0.5/2m.
- The Max occupancy 8 persons but must never exceed the maximum load.
- Maximum load is 972/1160kg and must never be exceeded.
- The boat is not fitted with navigation lighting and use at night should be avoided.
- The max outboard for use with the vessel is 50-80HP.
- Weight added to the vessel will affect its behaviour and performance on the water.
- Ensure that any load does not obstruct the view from the main steering position.

14.112.1.1 Using the bow door

- Remove safety "R" clip and disconnect clasp.
- Fold back clasp and re insert "R" clip so it is locked.
- Open winch locker, insert handle in to winch and rotate anticlockwise keeping a foot on the door.
- Once the door is at the desired height turn the winch anticlockwise to prevent it going down any further.
- To close carry out steps in reverse.
- The bow door must always be secured in the closed and locked position while the vessel is under way.

14.112.1.2 Launching

- Release all straps and winch strap by approximately 50cm.
- Attach a safety rope from one the bow eyes to the handle on the winch post with approximately 50cm of slack.
- Preferably of on the slipway. Reverse back and brake hard. The boat should slide up on to the swing cradle.
- Reverse the trailer into the water until the water is nearly up to the hubs.

- Winch the boat slightly forward to release the pressure on the safety rope then untie the safety rope.
- Push the boat off the trailer by hand using the winch and safety rope to stop the boat sliding off too fast.
- When launching on a very flat slipway you may have to winch the boat back off the trailer. This can be done by:
 - Disconnecting the winch strap and put it round the first beam and back up to link rope.
 - Winch in the strap.
- When launching on a very flat slipway it is possible for the stern to ground. If this occurs:
 - Attach a long rope to one of the bow eyes with the other end either tied to the back of the trailer or held by an assistant.
 - Release the winch strap completely.
 - Drive forward slowly in a straight line until the boat is clear of the trailer.

14.112.1.3 Recovery

- Reverse the trailer into the water until the water is nearly at the hubs.
- Bring the bow up to the swing cradle.
- Attach the winch strap.
- With the winch in high gear
- When the full weight of the boat is on the winch swap to low gear
- If recovering on a very flat slipway the stern may ground. If this occurs:
- Reverse the vehicle back slowly whilst winching at the same time.
- Once the stern is off the ground stop reversing the vehicle

14.112.1.4 Towing

- Staff towing hold an EB category licence.
- The towing vehicle has the capacity to tow the vessel as detailed in the manufacturer's vehicle manual.
- Trailers are fitted with functioning lights. Lights are checked before each journey. Lights include two side lamps, two rear lamps, two rear reflectors, two stop lamps and direction indicators.
- Props are fitted with prop covers during transportation.
- Trailers are fitted with brakes.
- Extension wing mirrors are fitted to the towing vehicle when required.
- The maximum towing speed is 80km/h.
- First aid kit is kept in vehicle.
- The vessel is safely secured to the towing trailer. The load should and its lashings should be checked periodically during the journey.

14.113 Rigiflex Boats

Hazard:	Towing, obstructed slipways, weather, access/egress, boat traffic, working in cold water, flammable liquids, propeller entanglement, physical fitness, loading/unloading, noise, vibration.
Level of Risk:	Medium
Controls:	See details outlined below

14.113.1 Aquapeche 370

14.113.1.1 Operational Safety

- To be read in conjunction with Section 107 Use of Small Boats
- Read and follow manufacturers operating manual for safe operation and maintenance (refer also to P2 & P6 SOPs where appropriate).
- The vessel is classified as design category D and is considered to be designed for a wind force up to, and including, 4 and significant wave heights up to and including, 0.3m
- The vessel is designed for use in sheltered coastal waters, small bays and estuaries or rivers.
- The Max occupancy is 5 and must never be exceeded and occupancy must not exceed the maximum load as marked on the vessels.
- Maximum load must never be exceeded.
- The boat is not fitted with navigation lighting and use at night should be avoided.
- The minimum operating mass must be adhered to.
- The max outboard for use with the vessel is 15HP and must not be exceeded.
- Weight added to the vessel will affect its behaviour and performance on the water.
- Ensure that any load does not obstruct the view from the main steering position.
- Weight should be distributed as evenly as possible on the boat.
- Persons operating in the standing position should be made aware of any manoeuvring the boat is performing.
- Persons operating equipment on board should remain in their allocated position and avoid moving to the one side of the boat to possible collect fish.

14.113.1.2 Towing

- Staff towing hold an EB category licence.
- The towing vehicle has the capacity to tow the vessel as detailed in the manufacturer's vehicle manual.
- Trailers are fitted with functioning lights. Lights are checked before each journey. Lights include two side lamps, two rear lamps, two rear reflectors, two stop lamps and direction indicators.

- Props are fitted with prop covers during transportation.
- Trailers are fitted with brakes.
- Extension wing mirrors are fitted to the towing vehicle when required.
- The maximum towing speed is 80km/h.
- First aid kit is kept in vehicle.

14.113.2 Aquapeche 350

14.113.2.1 Operational Safety

- To be read in conjunction with Section 107 Use of Small Boats
- Read and follow manufacturers operating manual for safe operation and maintenance.
- The vessel is classified as design category D and is considered to be designed for a wind force up to, and including, 4 and significant wave heights up to and including, 0.3m
- The vessel is designed for use in sheltered coastal waters, small bays and estuaries or rivers.
- The Max occupancy is 4 and must never be exceeded and occupancy must not exceed the maximum load.
- Maximum load must never be exceeded.
- The boat is not fitted with navigation lighting and use at night should be avoided.
- The minimum operating mass must be adhered to.
- The max outboard for use with the vessel is 10HP and must not be exceeded.
- Weight added to the vessel will affect its behaviour and performance on the water.
- Ensure that any load does not obstruct the view from the main steering position.
- Weight should be distributed as evenly as possible on the boat.
- Persons operating in the standing position should be made aware of any manoeuvring the boat is performing.
- Persons operating equipment on board should remain in their allocated position and avoid moving to the one side of the boat to possible collect fish.

14.113.2.2 Towing

- Staff towing hold an EB category licence.
- The towing vehicle has the capacity to tow the vessel as detailed in the manufacturer's vehicle manual.
- Trailers are fitted with functioning lights. Lights are checked before each journey. Lights include two side lamps, two rear lamps, two rear reflectors, two stop lamps and direction indicators.
- Props are fitted with prop covers during transportation.
- Trailers are fitted with brakes.
- Extension wing mirrors are fitted to the towing vehicle when required.
- The maximum towing speed is 80km/h.
- First aid kit is kept in vehicle.

14.114 Red Finn

Hazard:	Weather, access/egress to boats, boats, working in water, cold water, physical fitness. Loading/unloading RIBs, swamping, poor trim, offset loading
Level of Risk:	Medium
Controls:	See details outlined below

- The vessel is designed for a maximum of 6 people on board.
- The vessel can only be operated on inshore waters i.e. voyages on coastal waters, large lakes, bays or rivers.
- Staff operating the vessel must be competent having received powerboat training. Ongoing practice in manoeuvring of boat, launch and recovery are necessary.
- One person (coxswain) appointed in charge.
- Launch & recovery can only be carried out with the trailer provided with the boat and no other equipment should be used.
- When transporting the boat, equipment must be safely stowed or lashed down.
- When operating in shallow water and estuaries, at least one crew member should lookout for rocks and items submerged.

14.114.1 Recommended Equipment for Red Finn

- Suitable personal flotation devices.
- Appropriate clothing.
- Two handheld distress flares.
- Two orange smoke signal canisters.
- Waterproof handheld radio.
- A radio receiver AM/FM, capable of receiving shipping forecasts, and national/local radio forecasts.
- Fire Blanket if carrying cooking equipment.
- Foghorn, powered or aerosol type.
- Manual bilge capable of pumping from any hull watertight compartment and with all hatches closed.
- A bucket of 8-12 litre capacity fixed with a rope lanyard.
- Anchor and chain/warp, as appropriate for a vessels size, and operating area ground holding conditions.
- Boats should have a suitably reinforced deck cleat/Samson post on the foredeck and means of closing over the bow roller or fairlead used when anchoring.
- An adequate supply of warps and fenders, these should include suitable warps to allow the craft to be towed if necessary.
- Emergency steering means, i.e. tillers for vessels fitted with wheel steering as their primary means of steering.
- Waterproof torch, capable of being used for signalling.
- An appropriate toolkit and spare parts for the vessel.
- Suitable first aid kit with manual.

14.115 Cheetah (An tSionainn)

Hazard:	Weather, access/egress to boats, boats, working in water, cold water, physical fitness. Loading/unloading RIBs, swamping, poor trim, offset loading, fire.
Level of Risk:	Medium
Controls:	See details outlined below

To be read in conjunction with the SOP for Cheetah Marine Catamaran 7.2m series. An tSionainn.

- Staff operating the vessel must be competent having received advanced powerboat coxswain training. Commercial endorsement is required if licenced as a passenger boat for sea going operations. All applicable passenger boat licence requirements must be complied with.
- The vessel must be fitted with an appropriate life raft and lifejackets to accommodate all aboard.
- The vessel is fitted with two lifebuoys. The vessel is provided with four approved red parachute distress flares, approved handheld distress flares and two approved buoyant orange smoke signals which shall be stowed in a waterproof container.
- A first aid kit is provided, and staff are trained in first aid.
- The vessel is fitted with suitable fire extinguisher.
- For safe access/egress while dry docked an A-framed ladder should be used and access via the starboard door. On the water a boat ladder should be used and/or where applicable the starboard door. The boat must be securely moored or anchored before disembarking.
- Suitable IFI issued footwear should be worn on deck. Safety rails should be held where practicable while working on deck.
- One person (coxswain) appointed in charge.
- Launch & recovery can only be carried out with the trailer provided with the boat and no other equipment should be used.
- When transporting the boat, equipment must be safely stowed or lashed down.
- When operating in shallow water and estuaries, at least one crew member should lookout for rocks and items submerged.
- Manual handling training to be completed by staff working on the vessel. Team lifting techniques and job rotation to be applied and use mechanical aids where practicable.
- 150N PFDs should be worn in freshwaters where water temps are 10°C or higher. Where water temps are lower a drysuit and 275N mullion mariner must be worn.
- Drysuits and 275N Solas approved personal flotation device must be worn at sea.

14.115.1 Net Hauler & Davit Arm

- Apply caution when operating the net hauler. If you are unfamiliar with its operation consult an experienced colleague.
- Note the operational signage at the hauler.
- Tie up loose hair and avoid wearing loose fitting clothing or jewellery.
- The safe working load of the arm must never be exceeded.

14.115.2 Night Navigation & Night Work

- Staff operating the vessel must have completed night navigation training.
- The vessel is fitted with navigation lights, and these must be used.
- Where work is monotonous or repetitive and requires physical and mental effort staff must rotate duties.
- Work should be planned to ensure rest periods of 11 hours uninterrupted between consecutive shifts.
- The Organisation of Working Time Act must be adhered to. Breaks must be taken, and rest days taken.
- A rest of 48 hours must be taken after a sequence of night shifts.

14.115.3 Safety & equipment Checklist

- See appendix XI for checklist details.

14.116 Launch, Mooring & Recovery of Boats

Hazard:	Weather, access/egress to boats, boats, working in water, cold water, physical fitness. Loading/unloading RIBs.
Level of Risk:	Medium – High
Controls:	See details outlined below

14.116.1 Launch of boats

- Lone working is prohibited.
- Ensure third parties and the public are cleared from the work area.
- The driver should walk down the slip/launch area asses prior to launch. Never reverse a vehicle down a slipway with thick weed or slime. Such hazards should be first removed.
- Care must be taken when reversing. Ensure a colleague offers guidance when on the slipway. A recce of the site is required prior to when boats are launched.
- Where applicable be careful to note any sudden drops from the end of the slip.
- The towing vehicle must be rated by the manufacturer to safely tow the boat and trailer. You must check this in the vehicle manual.
- Remove straps and tailboards.
- A guide rope should be tied to the boat and a bollard or mooring ring if available.
- Disconnect the winch lock and slowly release the winch tension. Give the boat a steady push.
- Once the boat is afloat and secured, drive the vehicle back up the ramp and park it at the landing, in the designated parking area.

14.116.2 Mooring, berthing & beaching

14.116.2.1 Mooring

- Mooring to a buoy which is attached to the bed by chains or weights to which the vessel can be secured should be approached slowly.
- The vessel should face into the wind/tide. Use small amounts of forward and neutral gear to manoeuvre up to the buoy and tied up using a mooring rope.
- The coxswain shall have briefed the crew and have them ready with the rope.

14.116.2.2 Berthing

- Consideration must be given to the following where applicable:
 - Rising and falling tides, direction and strength of tide
 - Depth of water
 - Proximity of other vessels
 - Suitability of berth/mooring to the vessel
 - Hazards
- Approach at slow speed with an angle of approximately 30°.
- As you get closer turn away in neutral, then if needed apply forward gear.
- To stop and bring the vessel parallel, steer towards and use a small amount of reverse gear.
- Stern and bow lines should be used to secure the vessel.
- Stern and bow springs can be used to prevent the vessel moving forward and backward.
- Breasting lines can be used to hold the vessel closer if needed.

Note: In some cases, you may have to account for the rise and fall of the tide by adjusting the length of lines.

14.116.2.3 Beaching

- Beaching a vessel refers to driving it towards the shoreline until it comes to a stop in shallow water due to the contact between the hull and the shore. You may have to beach the vessel in order to remove a casualty or to recover the vessel onto a trailer. Be aware that beaching a vessel can be dangerous, only perform this activity if absolutely necessary.
- Prior to beaching a vessel, the coxswain should consider the following:
 - underwater hazards, such as rocks, anchors or fishing gear
 - the gradient of the beach
 - other water users
 - positioning onboard the vessel
 - wave patterns.
- Before beaching, the coxswain will inform every one of their intentions. This allows them to brace themselves during beaching. The coxswain should use sufficient throttle control in order to maintain momentum and steerage through shallow water and onto the beach.
- At an appropriate time before the hull makes contact with the beach, the engine(s) should be switched off and lifted (where possible). The momentum of the vessel will allow it to glide up the beach until it comes to a stop.
- Prior to getting out of the vessel, the crew should check for any tidal surges (waves) that may cause the vessel to move.

14.116.3 Recovery of boats

- Lone working is prohibited.
- Ensure third parties and the public are cleared from the work area.
- Care must be taken when reversing. Ensure a colleague offers guidance when on the slipway. A recce of the site is required if boats are recovered. Where applicable be careful to note any sudden drops from the end of the slip.
- The towing vehicle must be rated by the manufacturer to safely tow the boat and trailer. You must check this in the vehicle manual.
- Any material which may compromise traction should be cleared off the slip, gravel, weed, seaweed debris etc.
- When the boat is in range prepare the winch by extending the strap and then engaging the locking pin.
- If driving the boat on to the trailer approach slowly and account for wind and current drift. Align the boat with the centre of the bunks.
- Once the boat is at rest on the bunks the winch strap should be attached to the bow hook. The engine should be switched off and raised.
- Retract the winch to secure the boat on to the trailer.
- When the trailer has been towed clear of the slip, fit straps and tailboards.

14.116.3 Boat Winch Safety

- Ensure the winch you use has the capacity for the load winched.
- Check the winch before each use. If it is damaged don't use it. Get it repaired.
- Make sure you have secure footing and proper leverage when using manual winches.
- Maintain a firm grip on the winch handle at all times. Never release the handle when the ratchet is in the unlocked position with a load on the winch. The handle will spin violently which could cause serious injury.
- Never apply a load on the winch with the line fully extended. Keep at least three full turns of line on the reel.
- To avoid chafe on the winch line, be sure it doesn't rub against any sharp edges on the winch stand or trailer. If frayed or worn spots appear, replace the winch line immediately with a new rope, strap, or cable of the proper type, size, and strength.
- Never touch the wire rope or other type of spool material while it is under pressure.

14.117 Action to take if someone falls into the water

Hazard:	Deep water, fast currents, rising waters, working in, adjacent or on water.
Level of Risk:	Medium – High
Controls:	See details outlined below

14.117.1 From the shore or bank (Shout, Reach, Throw)

- If someone gets into trouble in the water, try to summon help. Do not put yourself at risk. If there are breaking waves or fast currents only a trained lifesaver should attempt a rescue.
- Shout – call out, encourage them to shore.
- Reach – with a coat branch or other available articles.
- Throw – ring buoys, throw bags or anything that floats. A throw rope is recommended for use in an emergency. The brightly coloured floating line is coiled inside a throwing sack. Make sure everyone knows how to use it and remember – achieving a long-distance throw with accuracy requires practice.

14.117.2 From a boat

What can the man overboard do?

- Remain as calm as possible.
- Raise your arm and use the lifejacket whistle to attract attention.
- The greatest threat to survival is cold. Crossing your legs and holding your arms tightly together will prevent loss of heat.
- In most cases you should not attempt to swim for the boat as this will promote heat loss and exhaustion. Wait until you can grab a line thrown from the boat.

Man Overboard (MOB) Action

Stop

- The further away you get from the MOB the harder it will be to keep visual contact with them.

Mark

- Throw them the lifebuoy, where available get a crewmember to point continually at the position of the MOB and if you have GPS push the MOB button.
- A hand smoke flare if readily available during the day or a floating torch at night will aid as a mark.

Raise the Alarm

- It is very easy to lose sight of the MOB especially in rough conditions or in poor visibility.
- If this happens you will want all the help you can get to find them. A distress signal to alert the coastguard can be initiated using radio DSC function, handheld VHF, TETRA or mobile phone.
- If you do recover the MOB yourself, they may need medical attention especially if they have been in cold waters.
- Get help on the way.

Manoeuvre

- There are many different techniques for returning to a MOB under sail or power.
- It can be very difficult. Angling advisors and other relevant staff should undergo training with the ISA (power boat safety training) and practise the skill regularly.

Recovery

- If you have a boarding ladder and the man overboard is able to help themselves this may be the safest and most obvious method. Beware that a stern-mounted boarding ladder can be dangerous to use in rough waters. A safer alternative may be to place the ladder on the protected leeward side.
- A sling with two carabiners can be used as an alternative for conscious able-bodied man overboard where there are lifelines or similar fitting on the vessel.
- The man overboard may be suffering from shock and hypothermia. Be prepared to administer immediate first aid. Assess whether the man overboard needs professional medical attention.
- If the man overboard is exhausted or unconscious, a sling may have to be improvised to help roll the man overboard up out of the water.

14.118 Getting a Vessel Towed

Hazard:	Weather, access/egress to boats, other boats, working in water, cold water.
Level of Risk:	Low
Controls:	See details outlined below

If you need to be towed for any reason:

- Have a plan for securing the tow line to your boat.
- As a rescue boat approaches, the coxswain should inform you of their intentions. Advise them of hazards such as ropes in the water. Follow their instructions where reasonably practicable.
- Do not secure the towline to fittings that are not strong enough for the job. If in doubt, back up the tow line using additional ropes.
- Avoid using knots or loops that cannot be released under load.
- Ensure you have a method of communication with the towing boat.

14.119 Use of Canoes

Hazard:	Weather, access/egress to canoes, other boats on the water, working in water, cold water, physical fitness, obstacles in the water & manual handling.
Level of Risk:	Medium – High
Controls:	See details outlined below

- Staff using a Canadian canoe must have level 2 canoe skills of the Canoeing Ireland Standard.
- Canoes must only be operated on grade I waters. This is slow moving waters without obstruction.
- A maximum of two staff members can work from the canoe.
- Staff using a canoe must be competent swimmers.
- Shore backup to maintain radio contact and visual contact at bridges.
- Staff must wear Personal Floatation Devices at all times.
- Canoe buoyancy should be sufficient to keep both the canoe and its occupants afloat in the event of it capsizing.
- Inspect the condition of the canoe prior to entering the water.
- Always be on the lookout for obstructions and hazards in the water e.g. rocks, shallows weirs etc.
- Staff should be familiar with the waters they are going to enter and know the location of hazards such as strainers, weirs and falls. Kayaks should be removed above weirs and launched below.
- A broad spectrum (UVA/UVB) sun cream should be worn in appropriate weather.
- Dry suits must be worn in water temperatures of 10°C or lower.
- Helmet and knee pads must be worn at all times.
- Ensure if carrying additional equipment, the canoe is not overloaded.
- Ensure a weather forecast is obtained before entering the water.
- Equipment in the canoe must be safely stowed or lashed down.
- Equipment should include a spare paddle, radio, mobile phone, water and waterproof pouches.
- Manual handling techniques must be deployed when lifting the canoe.
- Ensure the canoe is adequately secured to the vehicle or in a trailer for transportation.

14.119.1 Personal Protective Equipment

Kayaking staff must be provided with and be in possession of the following equipment:

- CE approved buoyancy aids (minimum of 50N buoyancy). Buoyancy aids should have a quick release mechanism if fitted with webbing/O ring. Straps should be adjustable and tighten at the waist.
- Suitable dry suit where water temperature is less than 10°C.

- Suitable paddle
- Suitable kayak helmet.
- Whistle
- Pocket first aid kit.
- Mobile Phone
- Radio
- Knife with serrated edge.
- Waterproof torch
- Throw Bag* (minimum 10m)
- Water
- Sun cream
- Dry Bag
- Disinfectant wipes or gel
- Closed sling and karabiner

***Accurate and effective use of throw bags requires practice by staff using kayaks and shore back up.**

Shore backup should possess the following equipment:

- First Aid Kit
- Throw bag
- Spare paddle
- Map
- Radio/Tetra
- Mobile Phone

14.120 Use of Kayaks (Sit on top kayaks)

Hazard:	Weather, access/egress to kayaks other boats on the water, working in water, cold water, physical fitness, obstacles in the water, manual handling, swamping.
Level of Risk:	Medium – High
Controls:	See details outlined below

14.120.1 Training and Competency

- Staff participating in Kayak patrols must be competent swimmers.
- Staff participating in Kayak patrols must hold at a Kayaking Skills Award issued by a competent instructor recognised by Canoeing Ireland. It is recommended that RSR certification be renewed at least once every 5 years. Details of qualification and applicable operational waters are as follows:

Training	Scope of Operations
Sit-on- Top Flat-Water Skills & RSR 1 (the 1 st training course)	Canals & Lakes (in force 1-2 conditions)
Sit-on-Top River Skills & RSR 2 (the 2 nd training course)	Canals & Lakes (in Force 1-3 conditions) Estuarine waters (in Force 1-2 conditions) Rivers up to Grade II Conditions*

*Grade II is described as **Moderate** - the water is faster and rapids are more frequent; rocks, waves and small stoppers are found but always with an obvious channel.

14.120.2 Personal Protective Equipment

Kayaking staff must be provided with and be in possession of the following equipment:

- CE approved buoyancy aids (minimum of 50N buoyancy). Buoyancy aids should have a quick release mechanism if fitted with webbing/O ring. Straps should be adjustable and tighten at the waist.
- Suitable dry suit where water temperature is less than 10°C. Otherwise salopettes and kayak jacket may be worn.
- Suitable paddle

- Suitable kayak helmet.
- Whistle
- Pocket first aid kit
- Mobile Phone
- Radio
- Knife with serrated edge
- Waterproof torch
- Throw Bag* (minimum 10m)
- Water
- Sun cream
- Dry Bag
- Disinfectant wipes or gel
- Closed sling and karabiner

***Accurate and effective use of throw bags requires practice by staff using kayaks and shore back up.**

Shore backup should possess the following equipment:

- First Aid Kit
- Throw bag
- Spare paddle
- Map
- Radio
- Mobile Phone

14.120.3 Prior to Entering the Water

- Staff participating should have completed a first aid course.
- Staff must ensure that they have a buddy and never kayak alone. Ensure you and your buddy has agreed hand/paddle signals if required. Shore back up must maintain radio contact and visual contact where possible. Back up must carry a throw rope.
- Inspect your craft and equipment thoroughly, check for signs of damage.
- Never use a damaged kayak.
- Ensure stability of the kayak at the water's edge before entry.
- If carrying additional equipment, ensure the kayak is not overloaded.
- Check the hull is fitted with grab loops. Ensure that you and your buddy have informed colleagues (shore backup) of your departure point, locations and final exit point from the river.
- Ensure the buoyancy aid is tightly fitted and cannot rise up.
- Weather reports must be obtained prior to entering the water.

14.120.4 Safe Kayaking Waters

- Staff must not kayak in waters which are categorised above Grade II rapids.
- Extra care should be taken to obtain local weather reports particularly in spate river systems. Kayaking patrols should be postponed in flooded rivers or if heavy rains are forecast to create flood conditions. Where practicable riverbank recces should be conducted after serious weather events which

- may create new hazards e.g. collapsed banks and fallen trees.
- Staff should be familiar with the waters they are going to enter and know the location of hazards such as strainers, weirs and falls. Kayaks should be removed above weirs and launched below.
- Reversals should be identified and avoided. These are places where the current swings upward and revolves back on itself, forming a treacherous meeting of currents. Also known as stopper waves or keepers.
- Be vigilant, constantly scan the water for hazards and obstacles such as fence posts, trees or nets. Remember that the physical hazards in the water may change regularly.
- As per training never paddle in perceived danger zones. Kayak patrols should only take place in comfort zones and adventure zones where CLAP principles are implemented. CLAP = Communication, Line of Sight, Avoidance & Position.

14.120.4.1 Kayaking at dusk/poor visibility

- Kayaking in these conditions should be restricted to Grade I waters.
- To mitigate the risk large snap lights or waterproof powered equivalent should worn on buoyancy aids to assist in locating those on the water.
- Waterproof headlights and boat lights should be carried.
- Additional training is required for night navigation/operation in tidal areas of navigable water with other boats/ships.
- Note that night vision equipment must not be used by persons operating kayaks (the use of such equipment can reduce the normal field of vision from approx. 95° - 107° to 40°).

14.120.5 STIG Rescues & Self Recues

- STIG: Self, Team, Individual & Gear
- Rescue of yourself first, followed by backing up the team and then rescue of the casualty, with gear recovery being last.
- Ensure team is safe, i.e. team is in their comfort zone; in an environment that is unlikely to get them into difficulty or cause them injury, even in the event of a capsize.
- All members of the team should endeavour to maintain line of sight or regain line of sight if it is lost to ensure everyone's safety is known. It is no use being safe if no one knows you're safe.
- Team members must stay well within their comfort zone during rescues.
- In a rescue you can talk to the individual and the team simultaneously to ensure both are getting to safety, these are non-contact rescues.
- Be wary of committing to a contact rescue if the team safety isn't in place.
- To seek attention, use your whistle and blow once. In an emergency blow the whistle six times to signal distress.
- As per training self-rescue can be conducted using offensive or defensive swimming depending on the conditions.

14.120.6 Transportation of Kayaks

- Kayaks may be transported using trailers or by been secured to kayak roof racks.
- Manual handling issues must be considered.
- Manual handling training must be completed, and correct techniques applied.

14.121 Personal Watercrafts (Jet Skis/Seadoo)

Hazard:	Weather, access/egress to jet ski, other boats on the water, working in water, cold water, physical fitness, launch and recovery, submerged obstacles.
Level of Risk:	Medium – High
Controls:	See details outlined below

14.121.1 Pleasure Watercraft

- Staff must complete training with the ISA, RYA or other approved training provider.
- Read and follow manufacturers operating manual for safe operation and maintenance.
- Staff must familiarise themselves with any safe operating procedures developed specifically for PWC operations.
- Staff must be competent in the operation of the Jet Ski prior to participating in patrols.
- A suitable helmet must be worn.
- Dry suits must be worn at all times at sea.
- Drysuits must be worn on rivers and lakes when the water temperature is less than 10°C.
- Personal Flotation Devices and helmets must be worn at all times.
- Goggles should be worn for eye protection if the helmet does not have a visor.
- A whistle, neoprene gloves, balaclava headwear, one piece fibre pile suit "Woolly Bear", kidney belt and sun block should be worn. A mobile phone should be carried in a waterproof case.
- Kill cords must be attached to the operator and craft.
- A maximum of two people on board at any time.
- Single patrols are prohibited, twin patrols or patrols with RIBS are acceptable.
- Shore backup must maintain radio contact.
- Where the stability of a jet ski is compromised by nets the surplus must be cut loose.
- Always be on the lookout for obstructions and hazards in the water e.g. rocks, shallows etc.
- Where practicable a fire extinguisher must be carried.
- Ensure a weather forecast is obtained before entering the water.
- Equipment must be safely stowed or lashed down.
- Equipment should include a radio/Tetra, mobile phone, water and waterproof pouches.
- Manual handling techniques must be deployed when required.

14.121.2 Equipment for PWC

- Refer to Appendix XI for full checklist.

14.121.3 Prior to entering the Water.

- Check the weather and sea area forecast.
- Complete radio checks.
- Complete a safety checklist prior to departure (e.g. charts, tides, fuel and oil, hull, engine test run and stops.
- Ensure all engine doors and storages access are correctly secured and sealed.
- Operators should be familiar with and have practiced the procedure for righting a capsized boat. Rolling the craft the wrong way may result in water entering into the engine, causing serious damage to it and rendering the PWC inoperative.

14.121.4 On the water

- Be alert for the wave, wind, cloud changes that may signal weather changes.
- Travel at slow speed and with great care in shallow waters.
- Exercise great caution when approaching or overtaking other vessels. Never manoeuvre at speed in close proximity to other PWCs, vessels or swimmers.
- Always ensure there is sufficient fuel for the planned journey.
- Shore backup should make contact with the PWCs every 10 minutes. All transmissions should be brief, concise and accurate.
- PWCs will not operate in known communication black spots and will not as part of the patrol transit those areas which would lead to a loss of communication contact with their shore back up.
- Avoid beaching the craft.
- In the event of a fire, only fight it if safe to do so. Otherwise abandon the craft.

14.122 Shannon Navigation & Night Navigation

Hazard:	Weather, access/egress to boats, other boats, working in water, cold water, physical fitness.
Level of Risk:	Medium – High
Controls:	See details outlined below

14.122.1 Shannon Navigation

- Under SI No. 80/1992 – Shannon Navigation Byelaws 1992, where applicable IFI vessels must inter alia adhere to all speed restrictions, navigation rules, mooring and use of harbour regulations.
- A vessel or boat shall not be navigated at such a speed or in such a manner as to cause or be likely to cause injury or damage to persons or to other vessels or boats or any other property.

14.122.2 Night Navigation

- Staff must be competent having completed the relevant power boat training.
- Staff must have completed night navigation training for night operation.
- Navigation lights must be fitted and used.

14.123 Large Lake Surveys

Hazard:	Weather, access/egress to boats, other boats, working in water, cold water, physical fitness, chemicals, manual handling.
Level of Risk:	Medium – High
Controls:	See details outlined below

- Tetra radios to be used for large lake surveys to ensure contact with other boats and shore backup.
- Refer also to sections on use of small boats and netting.
- Refer to appendix XI for required boat safety equipment & recording contact with shore backup.

14.124 Boat and Net Storage

Hazard:	Manual handling, falls from height, falling objects, biological agents
Level of Risk:	Medium – High
Controls:	See details outlined below

14.124.1 Boat Stores

- Boat storage area must be maintained free from obstruction and items stored safely.
- Boats stored outside should be placed upside down where possible to prevent accumulation of rainwater.
- Rain, weather and wet vegetation will affect wooden boats; care should be taken to prevent vegetation build up around boats. Boats must be checked before use, especially when exposed to the elements.
- Where boats are secured on a racking system they must be secured in position.

14.124.2 Net storage

- Nets must be stowed safely and without posing any slip, trip or fall hazards.
- Where possible nets should be placed in bins or suitable shelving with a stable base.
- Nets should be disinfected as appropriate.

14.125 Netting

Hazard:	Weather, access/egress, other boats on the water, swimmers working in water, cold water, physical fitness, manual handling.
Level of Risk:	Low – Medium – High
Controls:	See details outlined below

14.125.1 Gill Netting

- Condition of boat & oars to be checked in advance.
- Engine condition to be checked in advance, including propeller & cooling system.
- Personal flotation device must be worn at all times.
- Dry suit to be worn in winter or adverse conditions (water temperatures of less than 10°C).
- A minimum of two personnel per boat is required, who between the two should have knowledge of the lake (major lakes) and trained in boat handling and gill netting operations.
- Shore based backup (vehicle with additional person, binoculars and operational radio/ phone) must be provided for large lakes.
- Weather forecast to be obtained in advance. Netting or servicing of nets may not take place if adverse weather is forecast.
- Strict work plan to be agreed in advance, changes may not occur without informing mobile unit. This plan should include locations and duration of work.
- Where practicable the mobile unit to travel in order to maintain visual contact if entering radio black spots on large lakes.
- On lakes with areas of poor radio and phone coverage the tetra system should be deployed.
- A pre departure equipment check must be carried out.
- Engine must be secured to boat.
- Smoking in boats is strictly prohibited.
- Contact mobile unit in the event of engine failure, if there are additional crews in the vicinity, they will be instructed to tow the boat ashore, if no other crews are in area the boat must be rowed ashore. If difficulties are experienced, the emergency services will be called.
- The stability of the boat must be maintained and NEVER overloaded. Ensure loads are evenly distributed particularly when carrying a water tank for transportation of live fish.
- Personal items (e.g. watches/rings etc) should not be worn when gill netting.
- A boat hook may be used to catch nets. If fish cannot be removed with reasonable ease from nets, then the mesh should be cut.
- Refer to appendix XI for required boat safety equipment.

14.125.1.1 Fish Scaling

- Where fish scaling is carried out Kevlar (or equivalent) protective gloves must be worn. Knives used should be pointless.

14.125.1.2 Manual Handling

- Staff involved in the (un)loading of vehicles with leads, ropes and nets must be trained in manual handling techniques. Where available mechanical aids should be used. Barrels/buckets full of leads & nets should be emptied piece by piece rather than moving the full barrel/bucket. Team lifting techniques should also be deployed where required.
- When setting or hauling nets staff must ensure that job rotation is implemented. The person net handling and the person recording data must alternate regularly.
- Great care must be exercised when setting or hauling nets in estuaries/transitional waters. The additional lead used may require team lifting to be employed.

14.125.2 Fyke Netting

- Condition of boat & oars to be checked in advance.
- Engine condition to be checked in advance, including propeller & cooling system.
- Personal flotation device must be worn at all times.
- Dry suit to be worn in winter or adverse conditions (water temperatures of less than 10°C).
- A minimum of two personnel per boat is required, who between the two should have knowledge of the lake (major lakes) and experience of boat handling and fyke netting operations.
- Shore based backup (vehicle with additional person, binoculars and operational radio/ phone) must be provided for large lakes.
- Weather forecast to be obtained in advance. Netting or servicing of nets may not take place if adverse weather is forecast.
- Strict work plan to be agreed in advance, changes may not occur without informing mobile unit. This plan should include locations and duration of work.
- Where practicable mobile unit to travel in order to maintain visual contact if entering radio black spots on large lakes.
- In areas of poor radio and phone coverage the tetra system should be deployed.
- Identification of pre-arranged location for visual check in the event of communications breakdown.
- A pre departure equipment check must be carried out.
- Engine must be secured to boat.
- Smoking in boats is strictly prohibited.
- Contact mobile unit in the event of engine failure, if there are additional crews in the vicinity, they will be instructed to tow the boat ashore, if no other crews are in the area the boat must be rowed ashore. If difficulties

- are experienced, the emergency services will be called.
- The stability of the boat must be maintained and NEVER overloaded. Ensure loads are evenly distributed particularly when carrying a water tank for transportation of live fish.
- Personal items (e.g. watches/rings etc.) should not be worn when fyke netting.
- A boat hook may be used to catch nets.
- Refer to appendix XI for required boat safety equipment.

14.125.2.1 Fish Scaling

- Where fish scaling is carried out Kevlar (or equivalent) protective gloves must be worn. Knives used should be pointless.

14.126.2.2 Manual Handling

- Staff involved in the (un)loading of vehicles with leads, ropes and nets must be trained in manual handling techniques. Where available mechanical aids should be used. Barrels/buckets full of leads & nets should be emptied piece by piece rather than moving the full barrel/bucket. Team lifting techniques should also be deployed where required.
- When setting or hauling nets staff must ensure that job rotation is implemented. The person net handling and the person recording data must alternate regularly.
- Great care must be exercised when setting or hauling nets in estuaries/transitional waters. The additional lead used may require team lifting to be employed.
- Night working is prohibited. Nets should be set and retrieved during daylight hours.

14.125.3 Seine Netting

- Condition of boat & oars to be checked in advance.
- Engine condition to be checked in advance, including propeller & cooling system.
- Personal flotation device must be worn at all times.
- If staff are entering the water on foot a buoyancy aid may be appropriate.
- Dry suit to be worn in winter or adverse conditions (water temperatures of less than 10°C).
- A minimum of two personnel per boat is required, who between the two should have knowledge of the lake (major lakes) and experience of boat handling and seine netting operations.
- Shore based backup (vehicle with additional person, binoculars and operational radio/ phone) must be provided for large lakes.
- Weather forecast to be obtained in advance. Netting or servicing of nets may not take place if adverse weather is forecast.
- Strict work plan to be agreed in advance, changes may not occur without informing mobile unit. This plan should include locations and duration of work.

- Where practicable mobile unit to travel in order to maintain visual contact if entering radio black spots on large lakes.
- In areas of poor radio and phone coverage the tetra system should be deployed.
- Identification of pre-arranged location for visual check in the event of communications breakdown.
- A pre departure equipment check must be carried out.
- Engine must be secured to boat.
- Smoking in boats is strictly prohibited.
- Contact mobile unit in the event of engine failure, if there are additional crews in the vicinity, they will be instructed to tow the boat ashore, if no other crews are in the area the boat must be rowed ashore. If difficulties are experienced, the emergency services will be called.
- The stability of the boat must be maintained and NEVER overloaded. Ensure loads are evenly distributed particularly when carrying a water tank for transportation of live fish.
- Personal items (e.g. watches/rings etc.) should not be worn when seine netting.
- A boat hook may be used to catch nets.
- Refer to appendix XI for required boat safety equipment.

14.125.3.1 Fish Scaling

- Where fish scaling is carried out Kevlar (or equivalent) protective gloves must be worn. Knives used should be pointless.

14.125.3.2 Manual Handling

- Staff involved in the (un)loading of vehicles with weights, ropes and nets must be trained in manual handling techniques. Where available mechanical aids should be used. Barrels/buckets full of weights & nets should be emptied piece by piece rather than moving the full barrel/bucket. Team lifting techniques should also be deployed where required.
- When setting or hauling nets staff must ensure that job rotation is implemented. The person net handling and the person recording data must alternate regularly.

14.125.4 Drift Netting

- Condition of boat & oars to be checked in advance.
- Engine condition to be checked in advance, including propeller & cooling system.
- Personal flotation device must be worn at all times.
- Dry suit to be worn in winter or adverse conditions (water temperatures of less than 10°C).
- A minimum of two personnel per boat is required, who between the two should have knowledge of the lake (major lakes) and experience of boat handling and drift netting operations.
- Shore based backup (vehicle with additional person, binoculars and

- operational radio/ phone) must be provided for large lakes.
- Weather forecast to be obtained in advance. Netting or servicing of nets may not take place if adverse weather is forecast.
 - Strict work plan to be agreed in advance, changes may not occur without informing mobile unit. This plan should include locations and duration of work.
 - Where practicable mobile unit to travel in order to maintain visual contact if entering radio black spots on large lakes.
 - In areas of poor radio and phone coverage the tetra system should be deployed.
 - Identification of pre-arranged location for visual check in the event of communications breakdown.
 - A pre departure equipment check must be carried out.
 - Engine must be secured to boat.
 - Smoking in boats is strictly prohibited.
 - Contact mobile unit in the event of engine failure, if there are additional crews in the vicinity, they will be instructed to tow the boat ashore, if no other crews are in the area the boat must be rowed ashore. If difficulties are experienced, the emergency services will be called.
 - The stability of the boat must be maintained and NEVER overloaded. Ensure loads are evenly distributed particularly when carrying a water tank for transportation of live fish.
 - Personal items (e.g. watches/rings etc.) should not be worn when gill netting.
 - A boat hook may be used to catch nets.
 - Refer to appendix XI for required boat safety equipment.

14.125.4.1 Fish Scaling

- Where fish scaling is carried out Kevlar (or equivalent) protective gloves must be worn. Knives used should be pointless.

14.125.4.2 Manual Handling

- Staff involved in the (un)loading of vehicles with leads, ropes and nets must be trained in manual handling techniques. Where available mechanical aids should be used. Barrels/buckets full of leads & nets should be emptied piece by piece rather than moving the full barrel/bucket. Team lifting techniques should also be deployed where required.
- When setting or hauling nets staff must ensure that job rotation is implemented. The person net handling and the person recording data must alternate regularly.

14.125.5 Bongo Netting

- Condition of boat & oars to be checked in advance.
- Engine condition to be checked in advance, including propeller & cooling system.
- Personal flotation device must be worn at all times.
- Dry suit to be worn in winter or adverse conditions (water temperatures of

less than 10°C.

- A minimum of two personnel per boat is required, who between the two should have knowledge of the lake (major lakes) and experience of boat handling and bongo netting operations.
- Shore based backup (vehicle with additional person, binoculars and operational radio/ phone) must be provided for large lakes.
- Weather forecast to be obtained in advance. Netting or servicing of nets may not take place if adverse weather is forecast.
- Strict work plan to be agreed in advance, changes may not occur without informing mobile unit. This plan should include locations and duration of work.
- Where practicable the mobile unit to travel in order to maintain visual contact if entering radio black spots on large lakes.
- In areas of poor radio and phone coverage the tetra system should be used.
- Identification of pre-arranged location for visual check in the event of communications breakdown.
- A pre departure equipment check must be carried out.
- Engine must be secured to boat.
- Smoking in boats is strictly prohibited.
- Contact mobile unit in the event of engine failure, if there are additional crews in the vicinity, they will be instructed to tow the boat ashore, if no other crews are in the area the boat must be rowed ashore. If difficulties are experienced, the emergency services will be called.
- Refer to appendix XI for required boat safety equipment.

14.125.6 Stop Netting

- A Personal flotation device should be worn at all times.
- Dry suit to be worn in winter or adverse conditions (water temperatures of less than 10°C).
- When driving metal pins into the ground shore or bank care must be taken to avoid underground utilities. A map of underground utilities should first be obtained from the ESB. Details of the proposed stop netting should be sent to dig@esb.ie allow 10 working days to receive drawings.
- Manual handling techniques should be used as required,

14.125.7 Oyster Dredging

- Condition of boat & oars to be checked in advance.
- Engine condition to be checked in advance, including propeller & cooling system.
- Personal flotation device must be worn at all times.
- Dry suit to be worn in winter or adverse conditions (water temperatures of less than 10°C).
- A minimum of two personnel per boat is required, who between the two should have knowledge and experience of boat handling and clam dredging operations.
- Weather forecast to be obtained in advance.
- A pre departure equipment check must be carried out.

- Engine must be secured to boat.
- Smoking in boats is strictly prohibited.
- Personal items (e.g. watches/rings etc.) should not be worn when using the dredger.
- Care must be taken when handling the dredger. Manual handling techniques must be deployed.

14.125.8 Pelagic Netting

- Condition of boat & oars to be checked in advance.
- Engine condition to be checked in advance, including propeller & cooling system.
- Personal flotation device must be worn at all times.
- Dry suit to be worn in winter or adverse conditions (water temperatures of less than 10°C).
- A minimum of two personnel per boat is required, who between the two should have knowledge of the lake (major lakes) and experience of boat handling and gill netting operations.
- Shore based backup (vehicle with additional person, binoculars and operational radio/ phone) must be provided for large lakes.
- Weather forecast to be obtained in advance. Netting or servicing of nets may not take place if adverse weather is forecast.
- Strict work plan to be agreed in advance, changes may not occur without informing mobile unit. This plan should include locations and duration of work.
- Mobile unit to travel in order to maintain visual contact if entering radio black spots on large lakes.
- On small lakes and in areas of poor radio and phone coverage prior arrangements involving the use of signals may be made.
- Where netting is to take place in radio black spots the Tetra system should be used instead.
- A pre departure equipment check must be carried out.
- Engine must be secured to boat.
- Smoking in boats is strictly prohibited.
- Contact mobile unit in the event of engine failure, if there are additional crews in the vicinity, they will be instructed to tow the boat ashore, if no other crews are in area the boat must be rowed ashore. If difficulties are experienced, the emergency services will be called.
- The stability of the boat must be maintained and NEVER overloaded. Ensure loads are evenly distributed particularly when carrying a water tank for transportation of live fish.
- Personal items (e.g. watches/rings etc) should not be worn when gill netting.
- A boat hook may be used to catch nets. If fish cannot be removed with reasonable ease from nets, then the mesh should be cut.
- Refer to appendix XI for required boat safety equipment.

14.125.8.1 Fish Scaling

- Where fish scaling is carried out Kevlar (or equivalent) protective gloves

must be worn. Knives used should be pointless.

14.125.8.2 Manual Handling

- Staff involved in the (un)loading of vehicles with leads, ropes and nets must be trained in manual handling techniques. Where available mechanical aids should be used. Barrels/buckets full of leads & nets should be emptied piece by piece rather than moving the full barrel/bucket. Team lifting techniques should also be deployed where required.
- When setting or hauling nets staff must ensure that job rotation is implemented. The person net handling and the person recording data must alternate regularly.

14.126 Research Conducted Aboard Commercial Trawlers

Hazard:	Weather, access/egress to boats, other boats, working in water, cold water, physical fitness, hydraulic and moving equipment, chemicals, manual handling.
Level of Risk:	Medium – High
Controls:	See details outlined below

- The public and employee liability insurance details and the safety statement of the commercial operator must be obtained before first working on the vessel. You must familiarise yourself with their safety statement.
- Liaise closely with the operator and seek advice regarding hazards of the workplace and their controls, location of muster stations, location of fire extinguishers, first aid and other emergency equipment and procedures.
- You must report any hazards or unsafe practices you become aware of.
- Staff working aboard a commercial fishing vessel must wear a 275N Mullion mariner PFD and dry suit.
- Access to and egress from vessels should be safe. Boarding ladders and gangways should be used.

14.127 Tides & Waves

Hazard:	High winds, fast tides, high tides
Level of Risk:	Medium
Controls:	See details outlined below

- Wave conditions can change as the tide changes. Ensure you know whether the tide is rising or falling and what direction the tide is flowing. If the wind is against the tide this will generally cause rougher seas.
- Seek local advice and assistance to avoid being cut off by incoming tides. Always enquire as to whether there are any unusual local tide conditions or hazards.
- Spend at least 20 minutes observing the area before you start. Waves and swells tend to have cycles, so allowing a little time ensures you can gauge the conditions that are likely over a full cycle.
- Keep a look out for wash from boats or shipping in the area as these may create larger waves.
- If waves or a swell are threatening your location, leave immediately before it gets too bad.
- Ensure your vehicle is parked well above the high tide mark.

14.128 Sea Sickness

Hazard:	Rough water conditions
Level of Risk:	Low – Medium
Controls:	See details outlined below

- Seasickness happens when the body, inner hearing, and eyes all send different signals to the brain, resulting in confusion and queasiness. It is a problem generally attributed to disturbance in the balance system of the inner hearing (vestibular) system. Your sensory perception gets out of sync as these nerve fibres attempt to compensate for the unfamiliar motion of the ship moving through water.
- The movement of a boat on a fluid sea creates stress in the portions of the brain responsible for balance. Perhaps that stress causes the brain to start malfunctioning as the land-based environment it understands is suddenly not behaving as it should.

14.128.1 Avoiding Sea Sickness

- You can often avoid seasickness by staying busy and keeping your mind occupied. Any activity that will keep you above decks and focus your mind on anything other than the swaying environment will help. Staying in fresh air instead of in a stuffy cabin may help.
- Take deep breaths and drink plenty of water. The worst thing that you can do is go below decks with no land or horizon to look at.
- Avoid reading or staring at an object as this will bring on the affects of seasickness. Keep your senses, particularly your eyes, working flat out interpreting the motion of the boat and the waves.
- Your peripheral vision is an important factor, keep it out on the horizon but do not visually lock on to it.
- Let your brain adjust to this unstable environment by allowing the horizon to act as a true point of reference.
- If you can, try and eat lightly and avoid fatty or spicy foods. Try to stay warm, relaxed and comfortable.

14.129 Wading and Footwear

Hazard:	Deep Water, fast currents, boggy ground
Level of Risk:	Low – Medium
Controls:	See details outlined below

- Adequate footwear is essential and is dependent on your environment. Hiking boots, wellingtons & waders are available to staff working in the field as well as safety boots, safety wellingtons and safety waders where required.
- Always pay attention to changes in water level. Rising levels can cut off your return route.
- Take care when wading, particularly in low clarity waters.
- A wading staff is useful to maintain balance and probing to establish the depth of the riverbed.
- When wading avoid deep fast flowing water, ensure that you can reach the bank safely without having to wade back against the current.
- Waders should avoid taking long strides, short steps or shuffle movements allow for better stability. Never cross your legs when turning in strong currents as you are more likely to be knocked over by the current.
- **Boggy ground:** Always seek advice from colleagues and/or local information regarding dangerous ground. If you are visiting areas which are known to be dangerous do not visit alone.

14.130 Smolt Traps

Hazard:	Weather, access/egress, boats, working in water, cold water, physical fitness, manual handling.
Level of Risk:	Medium
Controls:	See details outlined below

- A site-specific risk assessment must be carried out for the purpose of smolt trap operations.
- Smolt Traps should only be placed into the river in spring prior to smolt run thus avoiding unnecessary cleaning and maintenance work.
- Other survey work on rivers using the smolt trap may be carried out at other times however, the trap should only be fished and maintained in low water conditions.
- The supervisor should choose a site that allows for easy access to the smolt trap for staff is suitable for the purpose of catching smolts / survey work.
- Smolt trap should only be cleaned and operated when water levels are safe to do so.
- Weather forecasts should be monitored by supervisors, if heavy rainfall is forecast; the drum of smolt trap should be lifted. This will allow most debris to pass through the smolt trap and when water level return to workable levels there will be little clearing and maintenance work to be carried out by staff.
- If supervisors fear that the flow of the river in high flood conditions may pose a threat to the smolt trap, then the trap should be relocated closer to the bank of the river. This work should only be carried out in low flow conditions and prior to the flood.
- Operating the smolt trap require some manual handling tasks.
- All staff must have undergone manual handling training.
- Adhere to the principles of safe lifting.
- All persons must wear an appropriate personal flotation device at all times when working on or close to water where there is a risk of drowning from stumbling or falling into water.
- A lifebuoy must be on the smolt trap when cleaning or operating the smolt trap.
- A dry suit must be worn during operations in winter or adverse conditions (water temperatures of less than 10°C).
- At least one staff member should have completed an occupational First Aid course.
- A fully stocked First Aid box should available.
- No person should operate or enter onto the smolt trap alone.
- A mobile phone must be carried.
- Staff involved must be trained by other staff members who have sufficient knowledge and experience appropriate to the nature of the work to be undertaken.
- The access area to the trap must be assessed and the substrate of the riverbed assessed for any trip hazards.

- Staff will be required to wade out to the smolt trap. This should only be done in low water conditions. A wading stick should be used if water levels are above the knee and staff can also use the anchor ropes as a safety rail to the trap.
- Care must be taken when climbing onto the trap.
- The door to the fishing area of the smolt trap must be secured by rope prior to fishing the trap.
- Lifting the drum for cleaning, maintenance work or for expected flood conditions. Staff should use the pulley attached to the trap. Ensure that the drum is securely fastened in place by rope.
- If flood conditions are forecast the smolt trap should be brought closer to the riverbank, using the anchor ropes the smolt trap should be floated into shore. Ensure that the trap has sufficient water under it to avoid excessive manual handling practice.
- Wash hands thoroughly before eating, smoking or putting hands to face.
- Employ good hygiene practice and use disinfectant wipes.
- Ensure any cuts and wounds are covered with a waterproof bandage before commencing smolt trap fishing or maintenance.
- Apply immediate First Aid to any cuts received.
- Personal Protective Equipment shall include:
 - Personal flotation device
 - Waders
 - Protective gloves (heavy duty gloves when cleaning or carrying out maintenance work and latex gloves to be worn when handling or carrying out scientific research on smolts)
 - Dry suit (when required)

14.131 Glass Eel Fishing

Hazard:	Weather, access/egress to boats, other boats on the water, working in water, cold water, physical fitness.
Level of Risk:	Medium
Controls:	See details outlined below

14.131.1 Glass eel fishing from a boat

- Coxswain must have completed powerboat training and night navigation where applicable.
- Dry suits must be worn at all times.
- Personal flotation devices must be worn at all times.
- Prior training in basic sea survival to have been completed.
- Shore back-up to be appointed. Regular radio/tetra contact to be maintained with shore backup.
- A minimum of 1 Coxswain and 2 Fishery Officers are required to set and lift nets.
- A minimum of 1 Coxswain and 1 Fishery Officer are required for tending of nets through the night.
- Fishing of Portuguese tela nets requires that the boat be temporarily attached to the apex of the tela net (to permit removal of glass eels by hand netting).
- Provision for 'quick release' of boat from net must be in place, this can be achieved by use of a 'slipknot' or by carbine 'clips'.
- Prior inspection of fishing sites to be carried out during daylight hours.
- Care to be exercised in choice of fishing site to avoid busy navigation lanes / hazardous tidal currents etc.
- Battery operated head-mounted torches to be provided to allow 'hands-free' operation of nets and catch.

14.131.2 Glass eel fishing from shore / riverbank

- Suitable sites should be identified previously in daylight hours during low tide.
- Hand netting only to be carried out on flat or gradually sloping bays or river margins.
- Lifejacket to be worn at all times.
- Thigh or chest-waders may be sufficient for shallow bays / river margins. Dry suit to be worn when working along deeper waters.
- A minimum of 2 fishery officers to be present and working in close proximity.
- Head mounted battery-operated torches to be provided for hands-free operation of nets.
- Manual Handling techniques to be deployed.

14.132 Eel Monitoring, Surveying & Netting

Hazard:	Weather, access/egress to boats, boats, working in water, cold water, physical fitness.
Level of Risk:	Medium
Controls:	See details outlined below

14.132.1 Fyke & Other Netting

- Refer to Section 14.125

14.132.2 Mobile Elver Traps

- Personal Flotation devices must be worn.
- Lone working is prohibited.
- Care should be taken when setting mobile traps as shallow boulder strewn waters are a trip hazard.

14.132.3 Fixed Elver Traps:

- Where traps are being installed, maintained or repaired a Safe System of Work Plan must be completed.
- Personal Flotation devices must be worn.
- Lone working should be avoided. Where it cannot be avoided the lone working procedure must be followed.
- Staff must have completed manual handling training.
- Staff must practice good hygiene ensuring hands are clean after work and before eating, drinking or smoking.
- Great care must be taking when accessing/egressing from trap locations. Suitable footwear must be worn e.g. wellingtons, boots or waders.

14.133 Fish Farm Aquaculture Inspections

Hazard:	Weather, access/egress to boats and cages, boats, working in water, cold water, physical fitness.
Level of Risk:	Medium
Controls:	See details outlined below

14.133.1 Use of Boats

- Appropriate safety footwear must be worn.
- Appropriate personal flotation device must be worn.
- Dry suit must be worn.
- Basic sea survival course to be undertaken prior to commencing this work.
- Due care to be taken when embarking or disembarking from boat.
- Carry communications – radio/tetra and mobile telephone.
- Maximum number of persons on boat not to exceed manufacturers design.
- When hauling nets they must be secured.
- Safe lifting techniques must be deployed.
- One crew member on lookout for obstructions when approaching cages.
- All personal safety equipment must be regularly checked & serviced.
- Ongoing training exercises re boat handling, man overboard procedures, coming alongside etc must be carried out.
- Weather forecast to be obtained prior to sea journey.
- All equipment to be disinfected prior to departing on inspection.
- Staff must carry proper disinfection equipment.

14.133.2 Sampling of cages

- Care must be taken when using of long handled net, as there is a risk injury on the moving platform.
- Hauling of box net, lifting heavy weight. Deploy manual handling techniques, team lifting and job rotation where appropriate.
- PPE must be worn when chemicals, are handled.
- Staff may not proceed to cages alone.
- Act with extreme caution at all times when on cage.
- Appropriate lifejackets must be worn at all times.
- Dry suit must be worn at all times.
- All personal safety equipment must be regularly checked & serviced.
- Safe manual handling techniques to be deployed, particular care to be taken when transferring equipment from boat to cage.
- Safety data sheets must be consulted before handling chemicals. Chemical resistant goggles must be used where there is a risk of chemical spill/splash.

14.134 Salvage Operations

Hazard:	Weather, access/egress to boats, working in water, cold water, physical fitness, bioagents, needlesticks, manual handling, electricity.
Level of Risk:	Medium
Controls:	See details outlined below

- Staff carrying out salvage operations must have completed manual handling training.
- Staff must also be competent in the use of electrofishing equipment.
- Manual handling techniques must be deployed when loading, unloading and transporting boats. Use team lifts and job rotation to reduce the risk of injury. Mechanical aids should be used such as a pulzall or winch where appropriate.
- Personal flotation devices and dry suits must be worn.
- Good hygiene practices must be employed. Hands should be thoroughly cleaned before eating, smoking/vaping or drinking.
- Manual handling techniques should be used when netting and transporting fish. Task rotation should be used to reduce the risk.
- A recce of the site should be carried out to check for discarded syringes.

14.135 Hydro-acoustic Surveys

Hazard:	Weather, access/egress to boats, other boats on the water, working in water, cold water, physical fitness, manual handling.
Level of Risk:	Low
Controls:	See details outlined below

14.135.1 General Safety Measures

- Staff carrying out hydro-acoustic surveys must have completed manual handling training.
- Staff must also be competent in boat handling skills.
- Manual handling techniques must be deployed when using, loading and unloading hydro-acoustic equipment.
- Personal flotation devices must be worn at all times and dry suits must be worn in waters of less than 10°C.

14.135.2 Hydro-acoustic Surveys on the Cheetah

- Refer also to Cheetah SOP and Section 14.115.
- To ensure safe access and egress the boat is fitted with safety rails. Staff are provided with appropriate footwear e.g. wellingtons, waders and boots.
- Lone working is prohibited.
- The boat should not be operating in conditions where there is a risk of lightning. Surveys are not carried out during strong winds on open water. Polaroid glasses should be worn in bright conditions. A UVA/UVB sun cream should be worn in warm/sunny conditions. Foul weather clothing should be worn as appropriate.
- The boat helmsman has completed night navigation training.
- International collision prevention regulations are followed where applicable. The vessel is fitted with navigation lights.
- Hands are washed thoroughly or disinfected before eating/drinking.
- Dry suits must be worn when operating in waters of less than 10°C.
- Staff are trained in manual handling techniques. Two-person lift is carried out when moving GPT boxes.
- Great care is taken when fitting or removing mounts. Staff must work in pairs.
- Where practicable cables are tied back to prevent transducer cables creating a trip hazard.
- Signage is fitted on the net hauler operational buttons and entanglement cautionary signage is fitted. Staff must tie up long hair and avoid wearing loose fitting clothing or jewellery which is likely to snag.
- Staff wear gloves when retrieving nets by hand from cold water. Staff are

trained in manual handling. Manual handling techniques are deployed as required.

- Staff are trained in manual handling. Manual techniques are deployed for large heavy fish boxes a two-person lift is carried out.

14.135.3 Hydro-acoustic Surveys at Night

- The work involves a variety of tasks to avoid monotony. Staff rotate duties to further reduce monotony.
- The work involves a mix of work which requires physical and mental effort. The work is rotated.
- Where practicable the work is planned to finish before 6am.
- Adequate and regular rest breaks are taken.
- Adequate time is provided for sleep, travel and meals. Minimum break of 11 hours uninterrupted.
- Night work is seasonal in nature and infrequent.
- Staff carrying out the work are fit to carry out their duties. Occupational health procedures are followed if and when required e.g. fitness to return to work programmes.

14.136 Radio Telemetry

Hazard:	Weather, uneven/unstable ground, access/egress to boats, working in water, cold water, fitness to work, livestock, biological hazards, scalpels & chemicals.
Level of Risk:	Medium
Controls:	See details outlined below

14.136.1 Tagging

- Use appropriate PPE consistent with the hazard. This includes, but is not limited to, eye protection and puncture and cut resistant gloves.
- Use caution with knives, saws, scalpels, and forceps and always cut away from your body.
- Care must be taken to place scalpel/knife in visible location and not buried under fish parts.
- Make sure knives, saws, and scalpels are sharp.
- Use the tool provided to remove scalpel blades safely and dispose of in the sharps bin.
- Use caution when handling fish. Use puncture/cut resistance gloves to avoid cuts from fish spines, teeth, and gill plates.
- Proper lifting techniques shall be used. Get help or use equipment if necessary.
- Provide adequate ventilation and use caution when preserving biological samples with chemicals.
- Be aware of slippery floors caused by dissecting and spillage of fish body fluids and tissue.
- Use caution when operating any electrical equipment in wet environments. Ensure that electrical equipment is properly grounded and utilize an RCD source.
- Staff must familiarise themselves with the safety data sheet for anaesthetics or other chemicals used in the process.

14.136.2 Transmitter tracking

- Appropriate work wear and footwear must be worn for the environmental conditions and weather encountered.
- Lone working procedure to be adopted where appropriate.
- Lifejackets must be worn on or adjacent to water.

14.136.3 Processing and dissecting fish

- Use appropriate PPE consistent with the hazard. This includes, but is not limited to, eye protection and puncture and cut resistant gloves.
- Use caution with knives, saws, scalpels, and forceps and always cut away from your body.
- Care must be taken to place scalpel/knife in visible location and not

buried under fish parts.

- Make sure knives, saws, and scalpels are sharp.
- Use the tool provided to remove scalpel blades safely and dispose of in the sharps bin.
- Use caution when handling fish. Use puncture/cut resistance gloves to avoid cuts from fish spines, teeth, and gill plates.
- Proper lifting techniques shall be used. Get help or use equipment if necessary.
- Provide adequate ventilation and use caution when preserving biological samples with chemicals.
- Be aware of slippery floors caused by dissecting and spillage of fish body fluids and tissue.
- Use caution when operating any electrical equipment in wet environments. Ensure that electrical equipment is properly grounded and utilize an RCD source.
- Wash hands with soap or hygiene cleanser upon completion of the task.
- Clean and disinfect equipment after use.
- Disinfect any minor cuts or injuries caused by handling fish.
- Report any injuries at once to your line manager.

14.136.4 Disposal of fish waste

- Care must be taken when disposing of fish waste.
- Waste containers must be labelled.
- Disposal must be in compliance with *Waste Management (Hazardous Waste) Regulations S.I.No163 of 1998 / S.I. No. 73 of 2000.*

14.137 Acoustic Telemetry

Hazard:	Weather, uneven/unstable ground, access/egress to boats, working in water, cold water, fitness to work, livestock, biological hazards, scalpels & chemicals.
Level of Risk:	Medium
Controls:	See details outlined below

14.137.1 Tagging

- Use appropriate PPE consistent with the hazard. This includes, but is not limited to, eye protection and puncture and cut resistant gloves.
- Use caution with knives, saws, scalpels, and forceps and always cut away from your body.
- Care must be taken to place scalpel/knife in visible location and not buried under fish parts.
- Make sure knives, saws, and scalpels are sharp.
- Use the tool provided to remove scalpel blades safely and dispose of in the sharps bin.
- Use caution when handling fish. Use puncture/cut resistance gloves to avoid cuts from fish spines, teeth, and gill plates.
- Proper lifting techniques shall be used. Get help or use equipment if necessary.
- Provide adequate ventilation and use caution when preserving biological samples with chemicals.
- Be aware of slippery floors caused by dissecting and spillage of fish body fluids and tissue.
- Use caution when operating any electrical equipment in wet environments. Ensure that electrical equipment is properly grounded and utilize an RCD source.
- Staff must familiarise themselves with the safety data sheet for anaesthetics or other chemicals used in the process.

14.137.2 Deploying Acoustic Receiver & Mooring

(See also sections 14.100 – 104 Diving)

- Site selection: mooring must be placed in water depth of no more than 20m to ensure that they can be accessed by dive crews.
- The weight of the mooring (40-80kg) will vary depending on substrate type and tidal currents at planned location. Rocky substrate and swift currents require heavier moorings (80kg) to remain in place. Manual handling must be conducted by mechanical means, where this is impracticable team lifting must be carried out where safe to do so.
- Mooring typically consist of standard cavity block filled with concrete (40kg) to small tyres (R14) filled with concrete (80kg). Both mooring type

are fitted with a rebar or steel eye to secure the mooring line, receiver, and buoys to.

- Moorings are transported to the boat slip in a trailer for deployment. Depending on the boat being used they can either be loaded onto boat prior to or after deploying the boat.
- Once the mooring is in the boat the mooring line with receiver can be attached to the mooring.
- Travel to deployment locations and check the depth of the water using the sounder or a handheld sound to determine the water depth. A length of rope that is at least twice the depth is prepared. (e.g. If the water depth is 17m prepare a length of rope 40m in length and pass one end of the rope through the eye in the mooring until it at the mid-point)
- Wrap the doubled over deployment rope several times around the one of the hard points (cleats) on the boat. Once this is secure another staff member/s will place mooring over the side of the boat and allow the rope to take the weight of the mooring.
- Slowly start to unwrap the deployment from the hard point to allow the mooring to be lowered to the bottom in a controlled manner. Once the mooring is on the bottom mark the position with a GPS.
- Release one end of the deployment rope and pull on the other end until the deployment rope is recovered.
- Receiver and mooring are now in place and will be serviced annually or more frequently depending on study needs by divers.

14.137.3 Transmitter tracking

- Appropriate work wear and footwear must be worn for the environmental conditions and weather encountered.
- Lone working procedure to be adopted where appropriate.
- Lifejackets must be worn on or adjacent to water.

14.137.4 Processing and dissecting fish

- Use appropriate PPE consistent with the hazard. This includes, but is not limited to, eye protection and puncture and cut resistant gloves.
- Use caution with knives, saws, scalpels, and forceps and always cut away from your body.
- Care must be taken to place scalpel/knife in visible location and not buried under fish parts.
- Make sure knives, saws, and scalpels are sharp.
Use the tool provided to remove scalpel blades safely and dispose of in the sharps bin.
- Use caution when handling fish. Use puncture/cut resistance gloves to avoid cuts from fish spines, teeth, and gill plates.
- Proper lifting techniques shall be used. Get help or use equipment if necessary.
- Provide adequate ventilation and use caution when preserving biological samples with chemicals.
- Be aware of slippery floors caused by dissecting and spillage of fish body fluids and tissue.
- Use caution when operating any electrical equipment in wet

environments. Ensure that electrical equipment is properly grounded and utilize an RCD source.

- Wash hands with soap or hygiene cleanser upon completion of the task.
- Clean and disinfect equipment after use.
- Disinfect any minor cuts or injuries caused by handling fish.
- Report any injuries at once to your line manager.

14.137.5 Disposal of fish waste

- Care must be taken when disposing of fish waste.
- Waste containers must be labelled.
- Disposal must be in compliance with *Waste Management (Hazardous Waste) Regulations S.I.No163 of 1998 / S.I. No. 73 of 2000.*

14.138 Barrier Assessment

Hazard:	Water, trip hazards, biological agents
Level of Risk:	Medium – High
Controls:	See details outlined below

- Staff operate in teams of two. Lone working prohibited.
- Only survey in low water conditions.
- Staff should not enter fast flowing water to take levels/ velocities.
- Staff entering water should not exceed waist height; where water levels exceed waist height a boat should be used.
- An approved personal flotation device must be worn at all times.
- On larger structures a dry suit should be worn in conjunction with a buoyancy aid for added physical protection
- A kayak helmet should be worn on wet or slippery barriers.
- A dry suit should be worn in water temperatures of less than 10°C.
- Feel the ground beneath you and avoid slippery rocks where possible. Take small steps, shuffling to avoid lifting feet off the bed where practicable.
- Throw bags should be issued to each survey member.
- Use a wading staff or similar strong pole when wading in deeper water, areas of poor water clarity and areas of uneven under-footing.
- Carry out a risk assessment in advance. Staff should avoid high velocity, deep water areas. Locations with high drops should be avoided.
- Weather forecast to be obtained before carrying out the survey.
- If the levelling staff is released it will slowly fill with water and sink as it moves downstream, unless it is within reach DO NOT go after it in the water, it may be possible to recover it downstream.
- Care to be taken to avoid uneven ground/trip hazards on land as well as in the water.

14.139 Fish Tagging

Hazard:	Biological hazards, scalpels & chemicals.
Level of Risk:	Medium
Controls:	See details outlined below

- Use appropriate PPE consistent with the hazard. This includes, but is not limited to, eye protection and puncture and cut resistant gloves.
- Use caution with knives, saws, scalpels, and forceps and always cut away from your body.
- Care must be taken to place scalpel/knife in visible location and not buried under fish parts.
- Make sure knives, saws, and scalpels are sharp.
- Use the tool provided to remove scalpel blades safely and dispose of in the sharps bin.
- Use caution when handling fish. Use puncture/cut resistance gloves to avoid cuts from fish spines, teeth, and gill plates.
- Proper lifting techniques shall be used. Get help or use equipment if necessary.
- Provide adequate ventilation and use caution when preserving biological samples with chemicals.
- Be aware of slippery floors caused by dissecting and spillage of fish body fluids and tissue.
- Use caution when operating any electrical equipment in wet environments. Ensure that electrical equipment is properly grounded and utilize an RCD source.
- Staff must familiarise themselves with the safety data sheet for anaesthetics or other chemicals used in the process.

14.140 Use of ROV

Hazard:	Weather, access/egress to boats, other boats, working in water, cold water, physical fitness and manual handling.
Level of Risk:	Medium – High
Controls:	See details outlined below

- Staff carrying out ROV surveys must have completed manual handling training. Two people should carry the boxes containing equipment. The boxes are fitted with wheels, these should be used if one person is pulling a box. Mechanical aids should be used as required. Manual handling techniques must be deployed when using, loading and unloading ROV equipment.
- Staff must also be competent in boat handling skills.
- Personal flotation devices must be worn.
- Dry suits must be worn in waters of less than 10°C.

14.141 Angling

Hazard:	Fish handling, traversing lands, sharps,
Level of Risk:	Low – Medium
Controls:	See details outlined below

14.141.1 Risk Assessment

- Anglers should be made aware of the hazards they may encounter while fishing with angling advisors. A risk assessment of waters may be useful especially if guiding inexperienced anglers or anglers unfamiliar with local specific hazards.
- Examples of Items in the assessment may include:
 - Eye protection and a hat worn when fly casting.
 - Ensuring your back cast is not going to strike a person in the vicinity.
 - Wearing a suitable personal flotation device or buoyancy jacket.
 - Taking care when fishing from riverbanks or elevated shores as erosion may cause the ground beneath to subside.

14.141.2 Planning an angling trip.

- Always check the weather forecast before you go and be prepared to change your plans or cancel the trip.
- Always inform someone of where you intend fishing and when you expect to return.
- Irish forecasts are available on national radio and television on the internet www.met.ie and broadcasted by the Coast Guard after an initial announcement on VHF channel 16.
- If you are fishing on the sea, it is very important to check the times of high and low water. Tide tables should be consulted.

14.141.3 Wading and footwear

- Adequate footwear is essential and is dependent on your environment.
- Always pay attention to changes in water level. Rising levels can cut off your return route.
- Take care when wading, particularly in low clarity waters.
- A wading staff is useful to maintain balance and probing to establish the depth of the riverbed.
- When wading avoid deep fast flowing water, ensure that you can reach the bank safely without having to wade back against the current.
- Waders should avoid taking long strides, short steps or shuffle movements allow for better stability. Never cross your legs when turning in strong currents as you are more likely to be knocked over by the current.
- **Boggy ground:** Always seek advice from colleagues and/or local

information regarding dangerous ground. If you are visiting areas which are known to be dangerous do not visit alone.

14.141.4 Working on or adjacent to water

- A lifejacket must be worn when working on or adjacent to water.
- Dry suits should be worn when working on waters with low temperatures (less than 10°C).
- A 275N lifejacket with a drysuit.

14.141.5 Night Fishing

- When intending to fish a location at night, you must familiarise yourself with the location during the day. A risk assessment must be conducted and will determine whether the location is suitable.
- Staff must wear a personal flotation device.
- Staff must not fish alone at night.
- Equipment should include a walking aid and a torch or head lamp.
- Staff must inform someone of when and where they intend fishing and when they shall return.

14.141.6 Use of Lead & Lead Weights

- Lead is a toxic heavy metal. Acute or chronic exposure can lead to symptoms which include pain, numbness or tingling of the extremities, muscular weakness, headache, abdominal pain, memory loss, unsteady gait, pale skin, weight loss, vomiting, irritability, and anaemia.
- Contact with lead should be avoided so far as is reasonably practicable.
- Gloves should be used when handling lead when lead is handled without gloves you should wash your hands immediately. Never handle food or smoke directly after handling lead or containing materials.
- The heating of lead to produce molten metal for shaping weights is strictly prohibited.
- If you are in regular contact with lead or lead containing materials, you must contact the Health & Safety Executive. Arrangements will be made for baseline medical surveillance.

14.141.7 Preparing Bait

- When preparing to use bait, exercise caution when handling hooks whether barbless or otherwise.
- If sharp knives are used to prepare bait a protective glove must be worn, Kevlar and similar material gloves will protect your hands without any loss of dexterity.
- Knives should have a blunt tip and sheathed at all times when not in use.

14.141.8 Handling Fish

- Great care should be taken when handling live fish. The handling of large predatory fish such as sharks should be avoided. Bait and tackle should be

- removed remotely using a boga grip and suitable pliers.
- If the hook cannot be removed safely the wire must be cut.
- Fish should also be handled with care particularly:

Pike – sharp teeth

Perch – sharp spined dorsal fins

Gurnard Species - Sharp spined dorsal fins and gill spikes

Wrasse - sharp spine dorsal fins

Dogfish - rough skin can cause serious abrasion to skin

Thornback ray – sharp plates along dorsal

Conger – sharp teeth

Rays & Skates - crushing mouth parts

- The Lesser Weever (fish) is a species to be avoided due to the poisonous spines in its black dorsal fins. Wear protective gloves when handling.
- There may also be poison glands associated with spines on the gills covers.
- The fish is typically found on shallow sandy beaches and can inflict a painful injury. Seek medical attention.

14.141.9 Food Safety

- Soft, insulated re-usable lunch bags or boxes are the best choice for keeping lunches cold. Metal or plastic lunch boxes without insulation don't do as good a job, but they're certainly better than paper lunch bags.
- No matter what sort of lunch bag or box you use, you should definitely place some kind of ice pack in it to keep the food inside cold. Small, frozen gel packs are perfect for this task.
- If you do use paper lunch bags, double bagging creates an additional layer of insulation to help protect the food inside. Remember that insulated lunch totes and lunch boxes should be washed with hot soapy water after each use.
- Perishable foods include cooked meats such as cold cuts and other lunch meats, as well as pre-made tuna salads, chicken salads and egg salads. All of these foods are potential targets for the bacteria that cause food poisoning, and they must be kept refrigerated.
- Any store-bought, packaged lunch combos containing lunch meats, crackers and cheese need to be kept cold, too.
- Examples of foods that don't need to stay cold include whole fruits, crisps, crackers, mustard, pickles, and unopened cans of meat and fish.

14.142 Handling & Processing Fish

Hazard:	Weather, access/egress to water, other boats on the water, cold water, physical fitness.
Level of Risk:	Low
Controls:	See details outlined below

14.142.1 Handling Fish

- Great care should be taken when handling live fish. The handling of large predatory fish such as sharks should be avoided. Bait and tackle should be removed remotely using a boga grip and suitable pliers.
- If the hook cannot be removed safely the wire must be cut.
- Netting should also be removed with care.
- Fish should be handled with care particularly:

Pike – sharp teeth

Perch – sharp spiked dorsal fins

Gurnard Species - Sharp spiked dorsal fins and gill spikes

Wrasse - sharp spike dorsal fins

Dogfish - rough skin can cause serious abrasion to skin

Thornback ray – sharp plates along dorsal

Conger – sharp teeth

Rays & Skates - crushing mouth parts

- The Lesser Weever (fish) is a species to be avoided due to the poisonous spines in its black dorsal fins. Wear protective gloves when handling.
- There may also be poison glands associated with spines on the gills covers.
- The fish is typically found on shallow sandy beaches and can inflict a painful injury. Seek medical attention.

14.142.2 Processing and dissecting fish

- Use appropriate PPE consistent with the hazard. This includes, but is not limited to, eye protection and puncture and cut resistant gloves.
- Use caution with knives, saws, scalpels, and forceps and always cut away from your body.
- Care must be taken to place scalpel/knife in visible location and not buried under fish parts.
- Make sure knives, saws, and scalpels are sharp.
- Use the tool provided to remove scalpel blades safely and dispose of in the sharps bin.

- Use caution when handling fish. Use puncture/cut resistance gloves to avoid cuts from fish spines, teeth, and gill plates.
- Proper lifting techniques shall be used. Get help or use equipment if necessary.
- Provide adequate ventilation and use caution when preserving biological samples with chemicals.
- Be aware of slippery floors caused by dissecting and spillage of fish body fluids and tissue.
- Use caution when operating any electrical equipment in wet environments. Ensure that electrical equipment is properly grounded and utilize an RCD source.
- Wash hands with soap or hygiene cleanser upon completion of the task.
- Clean and disinfect equipment after use.
- Disinfect any minor cuts or injuries caused by handling fish.
- Report any injuries at once to your line manager.

14.142.3 Disposal of fish waste

- Care must be taken when disposing of fish waste.
- Waste containers must be labelled.
- Disposal must be in compliance with *Waste Management (Hazardous Waste) Regulations S.I.No163 of 1998 / S.I. No. 73 of 2000.*

14.143 Belly Boat Angling

Hazard:	Weather, access/egress to water, other boats on the water, cold water, physical fitness.
Level of Risk:	Low
Controls:	See details outlined below

- Staff must be competent swimmers.
- Staff must obtain a weather report prior to using belly boats. The wind conditions must be noted as strong winds may prevent safe access and egress.
- Staff should use multi-chambered boats.
- Staff must use belly boats in pairs or with shore backup. Lone working is prohibited.
- Staff must take great care when walking in flippers.
- Staff involved in belly boating should wear a personal flotation device.
- Protective glasses and a hat should be worn.
- No staff member may use a belly boat without wearing fins for control.
- Paddles where available offer additional propulsion.
- Remember to inform someone where you intend fishing and the time at which you expect to return.

14.144 Excursions involving journalists/groups/organisations

Hazard:	Weather, access/egress to boats, boats, working in water, cold water, physical fitness, hooks, sharps and bio-agents.
Level of Risk:	Low – Medium – High
Controls:	See details outlined below

14.144.1 Supervisory Role

- All supervisors of an excursion must make themselves known to the group and inform them that they must heed their direction.
- Participants should be informed that they are obliged to inform a supervisor when:
 - They require medication or have a medical condition that may affect their ability to participate in any organised activity.
 - They, or another member of the group of which they are aware, have a disability which may prevent full participation in all activities or could endanger personal safety or group safety.
- Where any participant refuses to wear a personal flotation device in a situation where it is required by law; IFI staff are prohibited from boarding the same vessel. **IF THIS IS AN IFI BOAT THEN THE PARTICIPANT REFUSING THE PFD SHOULD BE REFUSED ENTRY TO THE BOAT**
- Where staff are responsible for bringing groups on excursions the site should be examined in advance and a risk assessment carried out.
- During the risk assessment the following should be considered:
 - What are the hazards on site?
 - Who is at risk?
 - What control measures must be implemented?
 - What are the required emergency procedures?
- Copies of the risk assessment must be given to all supervisory staff and other responsible persons. Risk assessments must then be discussed and agreed by all parties.
- Supervisor's roles and tasks must be clearly defined and communicated.
- One supervisor should be appointed with overall responsibility for the group.
- Participants of any excursion should be notified of the following:
 - Details of the dates, duration and location for excursions.
 - Details of activities in which they shall be involved and equipment which may be used.
 - Details of suitable clothing e.g. Wellington boots.
 - Location of first aid kit and identity of first aiders
- Where applicable supervisors should notify relevant persons of the time by which the group is expected to return e.g. (bus drivers, school management etc).
- Supervisors should have a mobile phone for ease of communication.
- Any incident/accident which occurs during an outing must be reported on

the official IFI Incident report form.

USE OF DELTA RIBS FOR ANGLING IS PROHIBITED

14.144.2 Instructing children

- Any instruction with groups of children must be conducted in accordance with child protection codes of practice. Staff must be trained in child protection and Garda vetted. For Further information please contact Emma Fortune 01 8842600.
- When working with schools e.g. The Something Fishy Programme it is important to liaise with school management and obtain copies of indemnities. The H&S checklist and risk assessments found in Appendix V & VI must be completed.
- When instructing children the ratio of children to the instructor should not exceed 6:1.

Electro-fishing

14.145 Electro-fishing with Backpacks

Hazard:	Weather, access/egress, working in water, cold water, physical fitness, electricity, submerged obstacles biohazards.
Level of Risk:	Medium – High
Controls:	See details outlined below

14.145.1 Training & Competency

No person should take part in electrofishing operations unless all the following requirements are met:

- The theory of how electrofishing works has been properly explained.
- A competent and experienced person has given instruction on the appropriate safe working procedures outlined in this safety statement.
- Staff using the equipment have read and followed the manufacturer's operating manual for safe operation and maintenance.
- Proper instruction is given on the use of any new equipment whenever this is acquired.
- Staff are trained in manual handling and apply the relevant techniques.

14.145.2 Personal Protective Equipment

- Lineman electrical gloves rated and tested at a minimum of 1,000 volts.
- Ensure rubber soled Wellington boots/waders are worn and in good condition.
- Personal flotation devices and personal protective clothing must be worn at all times. Always check that your personal flotation device is in good condition and check that the cylinder has not been tampered with or removed.
- Personal flotation devices shall be serviced annually and access to records shall be freely available to staff.
- Sun factor should be worn in fair weather. Cover your head/neck where practicable.
- Polaroid glasses where appropriate should be worn by all staff involved in electro-fishing.
- Staff holding the bucket for person fishing should use a wading staff (insulated of non-conductive material) for support.

14.145.3 Unsafe Environment/Conditions

- Always alert colleagues to unsafe situations. Electro-fishing equipment shall be removed IMMEDIATELY from water when the following circumstances:
 - Obstructions noted
 - Significant increase in speed of flowing water or quickly rising water levels
 - Presence of animals or people on the banks or in the water
 - Person slipping in water

- Rain/Heavy Mist/Electrical Storm
- In the event of a person slipping into the water, the electrode will be removed immediately or the emergency off switch pressed. The person shall be removed from the water and first aid administered. Medical assistance to be sought where necessary.
- Minimum of one trained first aider per team. (Preferably 2).
- Minimum of two persons to carry out electro-fishing using a backpack.
- The following equipment should be at hand:
 - First Aid Kit
 - Radio/Mobile Phone
- Lone working is prohibited.
- Smoking/vaping is strictly prohibited.
- Only persons in good health and free from heart conditions may carry out electro-fishing operations (contact your HR Partner regarding Occupational Health advice if necessary).
- Electro-fishing from backpacks can be carried out in daylight and dry conditions.
- Electro-fishing in the rain is prohibited.
- Appropriate waterproof footwear/protective clothing must be worn as required.
- Always check the solidity of the ground in front before entering the water. Care must be taken when moving in the water.
- On the job training and induction training shall be provided to all new operators by experienced operators and for ancillary duties relating to Electro-fishing operations.

14.145.4 Safety Standards of Equipment

- Equipment to be in good working order and checked before use, no defective equipment, frayed cables or damaged control boxes may be used. Equipment must be IP rated and CE marked.
- Regular servicing and maintenance of equipment is required. Servicing shall take place annually before the field season commences. Service records must be kept at the RBD office or IFI head office.
- Each piece of equipment should have a scaff tag indicating the service date and the date of next service.
- Faulty equipment should be removed from service until repaired by a competent person.
- Equipment to comply with safety standards and specifications under the low voltage directive.
- Care must be taken to ensure backpack plate does not become snagged.

14.146 Electro-fishing with Bank Generators

Hazard:	Weather, access/egress, working in water, cold water, physical fitness, electricity, submerged obstacles biohazards.
Level of Risk:	Medium – High
Controls:	See details outlined below

14.146.1 Training & Competency

No person should take part in electrofishing operations unless all the following requirements are met:

- The theory of how electrofishing works has been properly explained.
- A competent and experienced person has given instruction on the appropriate safe working procedures outlined in this safety statement.
- Staff using the equipment have read and followed the manufacturer's operating manual for safe operation and maintenance.
- Proper instruction is given on the use of any new equipment whenever this is acquired.
- Staff are trained in manual handling and apply the relevant techniques.
- Staff are trained in first aid.

14.146.2 Personal Protective Equipment

- Lineman electrical gloves rated and tested at a minimum of 1,000 volts.
- Ensure Wellington boots/waders are worn and in good condition.
- Staff working near the generator may require hearing protection.
- Sun factor, head & neck covering to be worn in fair weather conditions where necessary.
- Hearing protection may be required. Depending on the circumstances hearing protection with comms may be required. Contact the Health & Safety Executive for a noise assessment.
- Personal Flotation Devices and personal protective clothing must be worn at all times. Always check that your personal flotation device is in good condition and check that the cylinder has not been tampered with or removed.
- Personal Flotation Devices shall be serviced annually and access to records shall be freely available to staff. Scaff tags are recommended.
- Polaroid glasses where appropriate should be provided to all staff involved in electro-fishing.

14.146.3 Unsafe Environment/Conditions

- Electro-fishing equipment to be removed IMMEDIATELY from water in the following circumstances:
 - Increase in speed of flowing water or rising water levels.

- Obstructions noted
 - Presence of animals or people on the banks or in the water
 - Person slipping in water
 - Rain/Heavy Mist/Electrical Storm
- In the event of a shower passing, equipment must be powered off, protected/covered over. Where heavy rain is anticipated, fishing should cease.
 - In the event of a person slipping into the water, the electrode will be removed immediately, the person removed from the water and first aid administered. Medical assistance to be sought where necessary.
 - Lone working is prohibited.
 - Smoking/vaping is prohibited.
 - On the job training and induction training shall be provided to all new operators by experienced operators.
 - Only persons in good health and free from heart conditions may carry out electro-fishing operations (contact your HR Partner regarding Occupational Health advice if necessary).
 - Team lifting techniques to be deployed.
 - All persons must lookout for obstructions, fences, animals etc.
 - Great care must be taken when electro fishing in fast flowing waters e.g. riffle sampling.
 - Bankside electrofishing in very deep flowing water is prohibited.

14.146.4 Safety Standards of Equipment

- Equipment to be in good working order and checked before use, no defective equipment, frayed cables or damaged control boxes may be used. Equipment must be IP rated and CE marked. The use of domestic electrical cables or equipment is prohibited.
- Regular servicing and maintenance of equipment is required. Servicing should take place annually before the field season commences. Service records must be kept at the office.
- Each piece of equipment should have a scaff tag indicating the service date and the date of next service.
- Faulty equipment should be removed from service until repaired by a competent person.
- Equipment to comply with safety standards and specifications of the Low Voltage Directive.
- When laying out equipment cables must be kept clear of the generator exhaust and maintained clear.
- Electro fishing generators may **only** be used for electro fishing operations and must be labelled "For electro fishing only".
- The following equipment should be carried:
 - First aid box
 - Fire extinguisher (dry powder)
 - Radio/Mobile phone
 - Spares for generator

14.147 Electro-fishing from Boats

Hazard:	Weather, access/egress to boats, other boats/swimmers in water, cold water, physical fitness, electricity, submerged obstacles biohazards.
Level of Risk:	Medium – High
Controls:	See details outlined below

14.147.1 Road Transport, Access/Egress, Launch & Recovery

- The trailer is regularly maintained in accordance with the manufacture's recommendations. Staff check brakes and lighting before towing. Staff regularly check for play in wheels which may indicate bearing damage.
- Staff towing the trailer must hold an EB category driver's licence.
- Staff are provided with appropriate footwear e.g. wellingtons, waders and boots. Boats are secured with a painter before boarding or disembarking.
- Staff launching, operating and recovering the boat have completed powerboat training. A safe position for launch and recovery must be determined by the operator.
- Where practicable the officer in charge of the operation shall visit the stretch of water prior to electro-fishing to identify launch and recovery areas and hazards.

14.147.2 Training & Competency

No person should take part in electrofishing operations unless all the following requirements are met:

- The theory of how electrofishing works has been properly explained.
- A competent and experienced person has given instruction on the appropriate safe working procedures outlined in this safety statement.
- Staff using the equipment have read and followed the manufacturer's operating manual for safe operation and maintenance.
- Proper instruction is given on the use of any new equipment whenever this is acquired.
- Staff are trained in manual handling and apply the relevant techniques.
- Staff must be trained in first aid.
- Boat operators must have completed the relevant boat handling skills training.

14.147.3 Personal Protective Equipment

- Lineman electrical gloves rated and tested at a minimum of 1,000 volts.
- Ensure wellington boots/protective clothing/waders are worn and in good condition.
- Personal Flotation Devices must be worn at all times. Always check that your personal flotation device is in good condition and check that the

- cylinder has not been tampered with or removed.
- Personal Flotation Devices shall be serviced annually and access to records shall be freely available to staff.
- Staff working near the generator must wear the provided **personal hearing protection** when required. Hearing protection with comms may be required. Contact the H&S Executive for noise monitoring.
- The use of sun factor, head & neck coverings should be worn in fair weather conditions as appropriate.
- Polaroid glasses where appropriate should be used by all staff involved in electro-fishing.

14.147.4 Unsafe Environment/Conditions

- Electro fishing equipment to be removed IMMEDIATELY from water in circumstances such as the following:
 - Significant increase in speed of flowing water/rising water level
 - Obstructions noted
 - Presence of animals or people on the banks or in the water within 50m
 - Person falling overboard
 - Equipment falling overboard
 - Rain/Heavy Mist/Electrical Storm
- The area to be fished must be surveyed in advance of the operation.
- If thunder/lightning is in the vicinity, you should get off the water. Lightning strikes can occur because the boat may be the highest point on the body of water.
- In the event of a person slipping in, the electrode must be removed immediately, and the emergency stop button pressed, the person removed from the water and first aid administered. Medical assistance to be sought where necessary.
- Lone working is prohibited.
- Smoking/vaping is prohibited.
- Where practicable the officer in charge of the operation shall visit the stretch of water prior to electro-fishing to identify launch and recovery areas and hazards.
- When working in a number of boats the officer in charge must communicate the launch and recovery points of the boats. Sections of the river to be fished by each boat must be assessed prior to the operation and everyone must be made aware of any hazards on the stretch of water which they may encounter.
- Only persons in good health and free from heart conditions may carry out electro fishing operations (contact your HR Business Partner regarding Occupational Health advice if necessary).
- Team lifting techniques to be deployed.
- All persons on lookout for obstructions, shallow water, fences, animals etc., and alert oars person.
- Oars person should direct the boat away from any obstruction.
- Oars must be examined prior to use.
- Particular care must be taken to observe and avoid barbed wire.
- Fast flowing water to be avoided.

- Catches of fish to be removed regularly.
- On the job training and induction training is provided to all new operators by experienced operators.
- Minimum of one trained first aider per operation (Preferably 2).
- Electro fishing from boats is generally carried out in teams of three or more. However, teams of two may arise where only one anode is used.

14.147.5 Safety Standards of Equipment

- Equipment to be in good working order and checked before use, no defective equipment, frayed cables or damaged control boxes may be used. Equipment must be IP rated and CE marked. The use of domestic electrical cables or equipment is prohibited.
- Regular servicing and maintenance of equipment is required. Servicing should take place annually before the field season commences. Service records must be kept at the office.
- Each piece of equipment should have a scaff tag indicating the service date and the date of next service.
- Faulty equipment should be removed from service until repaired by a competent person.
- Equipment to comply with safety standards and specifications of the Low Voltage Directive.
- Generators must be secured/tied down on board; power must be fed from the control box not the generator.
- Where applicable new boats should be tested for electrical continuity of metal surfaces using a multimeter before it is used for electro-fishing operations.
- Refer to Appendix XI for safety equipment.

14.148 High Voltage Electro-fishing from Boats

Hazard:	Weather, access/egress to boats, other boats/swimmers in water, cold water, physical fitness, electricity, submerged obstacles biohazards.
Level of Risk:	High
Controls:	See details outlined below

14.148.1 Road Transport, Access/Egress, Launch & Recovery

- The trailer is regularly maintained in accordance with the manufacture's recommendations. Staff check brakes and lighting before towing. Staff regularly check for play in wheels which may indicate bearing damage.
- Staff towing the trailer must hold an EB category driver's licence.
- Staff are provided with appropriate footwear e.g. wellingtons, waders and boots. Boats are secured with a painter before boarding or disembarking.
- Staff launching, operating and recovering the boat have completed powerboat training. A safe position for launch and recovery must be determined by the operator.
- Where practicable the officer in charge of the operation shall visit the stretch of water prior to electro-fishing to identify launch and recovery areas and hazards.
- Where practicable the officer in charge of the operation shall visit the stretch of water prior to electro-fishing to identify launch and recovery areas and hazards.

14.148.2 Training & Competency

No person should take part in electrofishing operations unless all the following requirements are met:

- The theory of how electrofishing works has been properly explained.
- A competent and experienced person has given instruction on the appropriate safe working procedures outlined in this safety statement.
- Staff using the equipment have read and followed the manufacturer's operating manual for safe operation and maintenance.
- Proper instruction is given on the use of any new equipment whenever this is acquired.
- Staff are trained in manual handling and apply the relevant techniques.
- Staff must be competent in First Aid.
- Boat operators shall have completed relevant boat handling skills training.

14.148.3 Personal Protective Equipment

- Rubber lineman's gloves, rated 1,000V minimum should always be worn.
- Ensure Wellington boots/waders are worn and in good condition.
- Personal Flotation Devices must be worn at all times. Always check that your personal flotation device is in good condition and check that the cylinder has not been tampered with or removed.
- Personal Flotation Devices shall be serviced annually and access to records shall be freely available to staff.
- Staff working near the generator must wear the provided personal hearing protection. Contact the H&S Executive for noise monitoring.
- **If multiple boats are used, hearing defenders with built in radio communication may be used. This is to ensure communication between each boat.**
- The use of sun factor, head & neck coverings should be worn in fair weather conditions.
- Polaroid glasses where appropriate should be used by all staff involved in electro-fishing.

14.148.4 Unsafe Environment/Conditions

- Electro fishing equipment to be removed and emergency stop button pressed IMMEDIATELY from water in circumstances such as the following:
 - Significant increase in speed of flowing water/rising water level
 - Obstructions noted
 - Presence of animals or people on the banks or in the water within 50m
 - Person falling overboard
 - Equipment falling overboard
 - Rain/Heavy mist/Lightening
- The area to be fished must be surveyed in advance of the operation.
- If thunder/lighting is in the vicinity, you should get off the water. Lightning strikes can occur because the boat may be the highest point on the body of water.
- In the event of a person slipping in, the electrode must be removed immediately, and the emergency stop button pressed, the person removed from the water and first aid administered. Medical assistance to be sought where necessary.
- Lone working is prohibited.
- Smoking/vaping is prohibited.
- Where practicable the officer in charge of the operation shall visit the stretch of water prior to electro-fishing to identify launch and recovery areas and hazards.
- When working in a number of boats the officer in charge must communicate the launch and recovery points of the boats. Sections of the river to be fished by each boat must be assessed prior to the operation and everyone must be made aware of any hazards on the stretch of water which they may encounter.
- Only persons in good health and free from heart condition may carry out electro fishing operations (contact your HR Business Partner regarding Occupational Health advice if necessary).

- Team lifting techniques to be deployed.
- All persons on lookout for obstructions, shallow water, fences, animals etc., oars person has particular responsibility.
- Oars must be examined prior to use.
- Particular care must be taken to observe and avoid barbed wire.
- Fast flowing water to be avoided.
- Catches of fish to be removed regularly.
- On the job training and induction training is provided to all new operators by experienced operators.
- Minimum of one trained first aider per operation (Preferably 2). Electro fishing from boats is carried out in teams of three or more. However, teams of two may arise where only one anode is used.

14.148.5 Safety Standards of Equipment

- Equipment to be in good working order and checked before use, no defective equipment, frayed cables or damaged control boxes may be used. Equipment must be IP rated and CE marked.
- Regular servicing and maintenance of equipment is required. Servicing should take place annually before the field season commences. Service records must be kept at the office.
- Each piece of equipment shall have a scaff tag indicating the service date and the date of next service.
- Faulty equipment should be removed from service until repaired by a competent person.
- Equipment to comply with safety standards and specifications of the Low Voltage Directive.
- Generators must be secured/tied down on board; power must be fed from the control box not the generator.
- Where applicable new boats should be tested for electrical continuity of metal surfaces using a multimeter before it is used for electro-fishing operations.
- Refer to Appendix XI for safety equipment.

14.149 Boom Boat Electro-fishing

Hazard:	Weather, access/egress to boats, other boats/swimmers in water, cold water, physical fitness, electricity, submerged obstacles biohazards.
Level of Risk:	High
Controls:	See details outlined below

14.149.1 Road Transport, Access/Egress, Launch & Recovery

- The trailer is regularly maintained in accordance with the manufacture's recommendations. Staff check brakes and lighting before towing. Staff regularly check for play in wheels which may indicate bearing damage.
- Staff towing the trailer must hold an EB category driver's licence.
- Staff are provided with appropriate footwear e.g. wellingtons, waders and boots. Boats are secured with a painter before boarding or disembarking.
- Staff launching, operating and recovering the boat have completed powerboat training. A safe position for launch and recovery must be determined by the operator.
- Ensure bilges have been emptied since prior use before launching and emptied regularly thereafter. The livewell should only be filled when electrofishing is taking place. No other container should be filled with water during fishing.
- Where practicable the officer in charge of the operation shall visit the stretch of water prior to electro-fishing to identify launch and recovery areas and hazards.
- If operating at night in navigable waters staff operating the boat must have navigation lights and international collision prevention regulations are followed where applicable.
- When moving on the water between fishing sites booms should be lifted and secured to the brackets. Netters must reposition themselves from the raised deck to the stern.

14.149.2 Training & Competency

No person should take part in electrofishing operations unless all the following requirements are met:

- The theory of how electrofishing works has been properly explained.
- A competent and experienced person has given instruction on the appropriate safe working procedures outlined in this safety statement.
- Staff using the equipment have read and followed the manufacturer's operating manual for safe operation and maintenance.
- Proper instruction is given on the use of any new equipment whenever this is acquired.
- Staff are trained in manual handling and apply the relevant techniques.
- Boat operators must have completed relevant boat handling skills training.

14.149.3 Personal Protective Equipment

- Rubber lineman's gloves, rated 1,000V minimum should always be worn.
- Ensure Wellington boots/waders are worn and in good condition.
- Personal Flotation Devices must be worn at all times. Always check that your personal flotation device is in good condition and check that the cylinder has not been tampered with or removed.
- Personal Flotation Devices shall be serviced annually and access to records shall be freely available to staff.
- Hearing protection must be worn where generator noise levels exceed 80dB(A). Where generator noise impedes communication hearing protection with radio communication must be worn.
- If multiple boats are used, hearing defenders with built in radio communication may be used. This is to ensure communication between each boat.
- The use of sun factor, head & neck coverings should be worn in fair weather conditions.
- Dry suits are worn when operations in waters of less than 10°C.
- Polaroid glasses where appropriate should be used by all staff involved in electro-fishing.

14.149.4 Safety Equipment

- Refer to Appendix XI for safety equipment.

14.149.5 Unsafe Environment/Conditions

- Electro fishing equipment to be removed and emergency stop button pressed IMMEDIATELY from water in circumstances such as the following:
 - Significant increase in speed of flowing water/rising water level
 - Obstructions noted
 - Presence of animals or people on the banks or in the water within 50m
 - Person falling overboard
 - Equipment falling overboard
 - Rain/Heavy mist/Lightening

In these circumstances the emergency stop button must be clicked on and foot taken from the foot pedal.

- The area to be fished must be surveyed in advance of the operation.
- If thunder/lighting is in the vicinity, you should get off the water. Lightning strikes may occur because the boat may be the highest point on the body of water.
- In the event of a person slipping in, power to the electrode must be stopped immediately, the person removed from the water and first aid administered if required. Medical assistance to be sought where necessary.
- Lone working is prohibited.
- Smoking/vaping is prohibited.

- When working in a number of boats the officer in charge must communicate the launch and recovery points of the boats. Sections of the river/lake to be fished by each boat must be assessed prior to the operation and everyone must be made aware of any hazards on the stretch of water which they may encounter.
- Only persons in good health and free from heart condition may carry out electro fishing operations (contact your HR Business Partner regarding Occupational Health advice if necessary).
- Team lifting techniques to be deployed.
- All persons on lookout for obstructions, shallow water, fences, animals etc., and alert oars person.
- Oars person should direct the boat away from any obstruction.
- Paddles must be examined prior to use.
- Particular care must be taken to observe and avoid barbed wire.
- Fast flowing water to be avoided except where work is carried out in an upstream direction using the engine.
- Catches of fish are to be processed regularly on board the boat and then released.
- On the job training and induction training is provided to all new operators by experienced operators.
- Electro-fishing boats must be regularly checked and maintained; boats should be replaced as necessary.
- Minimum of one trained first aider per operation (Preferably 2). Electro fishing from boats is carried out in teams of three or more.

14.149.6 Safety Standards of Equipment

- Equipment to be in good working order and checked before use, no defective equipment, frayed cables or damaged control boxes may be used. Equipment must be IP rated and CE marked.
- Regular servicing and maintenance of equipment is required. Servicing should take place annually before the field season commences. Service records must be kept at the office.
- Faulty equipment should be removed from service until repaired by a competent person.
- Equipment to comply with safety standards and specifications of the Low Voltage Directive.

Environmental Protection, Monitoring & Control

14.150 Inspection of Construction Projects

Hazard:	access/egress, vehicle & heavy plant movement, working on or adjacent to water, cold water, physical fitness, biological agents, excavations, trip hazards, boggy soft ground.
Level of Risk:	Medium – High
Controls:	See details outlined below

- Staff must hold a valid safe pass card when entering onto construction sites.
- Construction sites are controlled by the site manager and or foremen, arrangements should be made with them for site visits where practicable to ensure safety rules are complied with.
- When carrying out inspections particularly in remote and isolated agricultural, mountain or boggy areas it is prudent to have a colleague assist you. If this is not practicable use the lone working buddy procedure.
- Staff should sign in and out of the site as appropriate.
- Staff should hold a valid safe pass card when entering onto construction sites.
- Staff must co-operate with the site supervisors and attend any relevant site safety induction.
- It is particularly important to be accompanied by an appointed site liaison when unfamiliar with the site layout and its hazards.
- Relevant PPE must be worn this shall include Hi Vis clothing, safety boots and hard hat. Additional PPE such as dust masks and goggles may be required dependant on the hazards posed on site.
- A personal flotation device shall be worn when working on or adjacent to water.

14.151 Inspection of Forestry Projects

Hazard:	Access/egress, vehicle & heavy plant movement, working on or adjacent to water, cold water, physical fitness, biological agents, trip hazards, falling trees & debris, boggy soft or rough ground.
Level of Risk:	Medium
Controls:	See details outlined below

- Where applicable arrangements should be made to inform the relevant forestry management company of a planned visit to ensure safety rules are complied with.
- When carrying out inspections particularly in remote and isolated agricultural, mountain or boggy areas it is prudent to have a colleague assist you. If this is not practicable use the lone working buddy procedure.
- Staff must co-operate with the site supervisors and attend any relevant site safety induction where there is site activity.
- It is particularly important to be accompanied by an appointed site liaison when unfamiliar with the forest layout and its hazards.
- Relevant PPE must be worn this may include hi-vis clothing, safety boots or wellingtons and hard hat. Additional PPE such as dust masks and goggles may be required dependant on the hazards posed on site.
- A personal flotation device shall be worn when working on or adjacent to water.

14.152 Inspection of Hydro Projects

Hazard:	Access/egress, high voltage power supply, working on or adjacent to water, cold water, biological agents, trip hazards, slippery surfaces
Level of Risk:	Low
Controls:	See details outlined below

- Where applicable arrangements should be made to inform the relevant Hydro management company of a planned visit to ensure safety rules are complied with.
- When carrying out inspections particularly in remote and isolated agricultural, mountain or boggy areas it is prudent to have a colleague assist you. If this is not practicable use the lone working buddy procedure.
- Staff must co-operate with the site supervisors and attend any relevant site safety induction.
- It is particularly important to be accompanied by an appointed site liaison when unfamiliar with the site layout and its hazards.
- Relevant PPE must be worn this may include hi-vis clothing, safety boots or wellingtons and hard hat. Additional PPE such as dust masks and goggles may be required dependant on the hazards posed on site.
- A personal flotation device shall be worn when working on or adjacent to water.
- Staff must not enter the water in the vicinity of a hydro-scheme due to risk of fast-flowing water and entanglement with gratings or debris trapped in gratings.

14.153 Inspection of Wind Farm Projects

Hazard:	Weather, access/egress, boats, working in water, cold water, physical fitness, biological agents slippery surfaces, boggy soft or rough ground.
Level of Risk:	Low
Controls:	See details outlined below

- Where applicable arrangements should be made to inform the relevant windfarm management company of a planned visit to ensure safety rules are complied with.
- When carrying out inspections particularly in remote and isolated agricultural, mountain or boggy areas it is prudent to have a colleague assist you. If this is not practicable use the lone working buddy procedure.
- Staff must co-operate with the site supervisors and attend any relevant site safety induction.
- It is particularly important to be accompanied by an appointed site liaison when unfamiliar with the site layout and its hazards.
- Relevant PPE must be worn this may include hi-vis clothing, safety boots or wellingtons and hard hat. Additional PPE such as dust masks and goggles may be required dependant on the hazards posed on site.
- A personal flotation device shall be worn when working on or adjacent to water.

14.154 Inspection of Quarries

Hazard:	Safe access/egress, working in or adjacent to water, cold water, physical fitness, biological agents, use of explosives, vehicle and heavy plant movement, chemicals, excavations, noise & dust, slips, trips and falls, falls from height, falling debris,
Level of Risk:	High
Controls:	See details outlined below

- Staff must hold a valid safe pass card when entering onto quarry sites.
- Staff must make themselves known to supervisors when entering a quarry site; particular care must be taken where large machinery, and vehicles are in use on site.
- Construction sites are controlled by the site manager and or foremen, arrangements should be made with them for site visits where practicable to ensure safety rules are complied with.
- When carrying out inspections particularly in remote and isolated agricultural, mountain or boggy areas it is prudent to have a colleague assist you. If this is not practicable use the lone working buddy procedure.
- Staff should sign in and out of the site as appropriate.
- Staff should hold a valid safe pass card when entering onto quarry sites.
- Staff must co-operate with the site supervisors and attend any relevant site safety induction.
- It is particularly important to be accompanied by an appointed site liaison when unfamiliar with the site layout and its hazards.
- Relevant PPE must be worn this shall include Hi Vis clothing, safety boots and hard hat. Additional PPE such as dust masks and goggles may be required dependant on the hazards posed on site.
- A personal flotation device shall be worn when working on or adjacent to water.

14.155 Inspection of Fish Farms

Hazard:	Safe access/egress, boats, working in or on water, cold water, biological agents, vehicle and heavy plant movement, rough, uneven or boggy terrain.
Level of Risk:	Medium
Controls:	See details outlined below

- Where applicable arrangements should be made to inform the relevant fish farm management company of a planned visit to ensure safety rules are complied with.
- When carrying out inspections particularly in remote and isolated areas it is prudent to have a colleague assist you. If this is not practicable use the lone working buddy procedure.
- Staff must co-operate with the site supervisors and attend any relevant site safety induction.
- It is particularly important to be accompanied by an appointed site liaison when unfamiliar with the fish farm layout and its hazards.
- Relevant PPE must be worn this may include hi-vis clothing, safety boots or wellingtons and hard hat. Additional PPE such as dust masks and goggles may be required dependant on the hazards posed on site.
- A personal flotation device shall be worn when working on or adjacent to water.

14.156 Inspection of Commercial & Industrial Premises

Hazard:	Safe access/egress, boats, working in or on water, cold water, biological and chemical agents, vehicle and heavy plant movement, rough, uneven or boggy terrain.
Level of Risk:	Medium
Controls:	See details outlined below

- Where applicable arrangements should be made to inform the relevant management company of a planned visit to ensure safety rules are complied with.
- Staff must co-operate with the site supervisors and attend any relevant site safety induction.
- It is particularly important to be accompanied by an appointed site liaison when unfamiliar with the premises layout and its hazards.
- Relevant PPE must be worn as required and shall be determined by the hazards posed on site. Consult with the premises supervisors regarding potential hazards.
- A personal flotation device shall be worn when working on or adjacent to water.

14.157 Inspection of Farms

Hazard:	Safe access/egress, boats, working in or on water, cold water, biological and chemical agents, vehicle and heavy plant movement, slippery, rough, uneven or boggy terrain, slurry tanks and agitation, livestock, violence or aggression.
Level of Risk:	Medium
Controls:	See details outlined below

- Where applicable arrangements should be made to inform the landowner/farmer of a planned visit to ensure safety rules are complied with.
- When carrying out inspections particularly in remote and isolated agricultural, mountain or boggy areas it is prudent to have a colleague assist you. If this is not practicable use the lone working buddy procedure.
- Staff must co-operate with the / farm manager and should consult with them regarding known hazards on the farm/land.
- It is particularly important to be accompanied by another fisheries staff member when unfamiliar with the occupiers, the premises layout and its hazards.
- Relevant PPE must be worn as required and shall be determined by the hazards posed on site. Consult with the premises supervisors regarding potential hazards.
- If there is hostility, violence or aggression on the part of the occupier, landowner or farmer it may be necessary to withdraw from the site and return with additional officers for support.
- A personal flotation device shall be worn when working on or adjacent to water.

14.158 Planning Inspections

Hazard:	Weather, access/egress, boats, working in water, cold water, physical fitness, biological agents, vehicular traffic, slip, trip & falls hazards, rough, slippery & boggy ground
Level of Risk:	Medium
Controls:	See details outlined below

- Staff must hold a valid safe pass card when entering a building site.
- When carrying out planning inspections particularly in remote and isolated agricultural, mountain or boggy areas it is prudent to have a colleague assist you. If this is not practicable use the lone working buddy procedure.
- Depending on the nature of the groundwork boots, wellingtons or waders, hi vis vests and lifejackets should be worn. A stick or walking staff is useful to probe the ground ahead as you walk if the terrain is marshy, wet or boggy.

14.159 Inspection of Treatment Plants

Hazard:	Weather, access/egress, boats, working in water, cold water, physical fitness, biological agents
Level of Risk:	Medium
Controls:	See details outlined below

- Where applicable arrangements should be made to inform the relevant management company of a planned visit to ensure safety rules are complied with.
- Staff must co-operate with the site supervisors and attend any relevant site safety induction.
- It is particularly important to be accompanied by an appointed site liaison when unfamiliar with the premises layout and its hazards.
- Relevant PPE must be worn as required and shall be determined by the hazards posed on site. Consult with the site supervisors regarding potential hazards.
- A personal flotation device shall be worn when working on or adjacent to water.

14.160 Water & Effluent Monitoring

Hazard:	Weather, access/egress, boats, working in water, cold water, physical fitness, biological agents
Level of Risk:	Medium
Controls:	See details outlined below

14.160.1 Personal Protective Equipment & Hygiene

- Wear appropriate protective gloves when taking samples.
- Wear a personal flotation device where there is a risk of stumbling and falling into water.
- Wear eye protection when there is a risk of splashes of effluent.
- Wash hands thoroughly before eating, drinking or vaping/smoking or putting your hands to face.
- Wear respiratory protective equipment where there is a risk of exposure to air borne contaminants.
- Employ good hygiene practice and use disinfectant wipes.
- Report any symptoms of infection immediately to your line manager.
- Ensure any cuts or open wounds are covered with a waterproof bandage before starting work.
- Apply immediate first aid to any cuts received.

14.160.2 Safe operating procedure

- Use appropriate equipment for sampling without carrying excessive weight.
- Do not enter enclosed spaces, manholes or areas which may have harmful gasses in them. Regard all liquid/gaseous effluents as dangerous. Adopt remote sampling techniques when appropriate e.g. use sample containers attached to telescopic poles.
- Clear looking effluents and waters may be highly dangerous. Take adequate precautions. Avoid entering confined spaces where practicable.
- When sampling from pipes and outfalls to rivers, avoid overreaching, always maintain a well-balanced stance.
- Carry out sampling of effluents promptly. Avoid prolonged standing in areas near any discharge to reduce risk of airborne contamination. Respiratory protective equipment may be required depending on the type of pollutant. A risk assessment should be conducted if required.
- Notify water users downstream of a pollution risk if practicable.
- If a fish kill has taken place and the cause is thought to be a chemical or other hazardous material, do not take any undue risks.
- Only use sampling bottles approved by IFI. Note that sample containers for nutrients and metals should be made from propylene plastic containers. Glass for oils and hydrocarbons. All other samples can be taken using a polyethylene container.

- When transporting samples always carry in an upright position, in a cool bag if possible. Keep isolated and clearly marked.
- Remote sampling techniques should be used to take samples where possible.
- Thoroughly clean & disinfect equipment after use when required.
- In the event of a spillage from a chemical/fuel container or road transport unit, contact the fire brigade and retreat a safe distance from the spillage. Note any hazard warning labels fitted to the vehicle/container.

14.161 Sampling Techniques

Hazard:	Weather, access/egress to boats, boats, working in water, cold water, physical fitness pinch points and falling objects.
Level of Risk:	Medium
Controls:	See details outlined below

14.161.1 Kick Sampling

- Employees should wear a suitable personal flotation device.
- Employees should wear thick-soled footwear when kick sampling.
- Constantly lookout for obstructions, rocks, etc in the water.
- Feel the ground beneath you and avoid slippery rocks where possible.
- Be aware that sharp objects including needles could be in the water.

14.161.2 Surber Sampling

- Employees should wear a suitable personal flotation device.
- Employees should wear thick-soled footwear.
- Constantly lookout for obstructions, rocks, etc in the water.
- Do not carry out sampling where water depth exceeds one foot.
- Feel the ground beneath you and avoid slippery rocks where possible.
- Wear protective gloves.
- Be aware that sharp objects including needles could be in the water.
- Do not attempt to lift heavy objects, seek assistance or discard sample.
- Employ manual handling techniques.

14.161.3 Grab Sampling

- Sharp knife should be on hand.
- Employees should wear a suitable personal flotation device.
- Sample to be released if pull on boat is excessive.
- Do not attempt to lift heavy objects, seek assistance or discard object.
- Care must be exercised when throwing grab.
- Sharp knife should be available.

14.161.4 Substrate Sampling

- Employees should wear a suitable personal flotation device.
- Do not attempt to lift heavy objects, seek assistance or discard sample.
- Manual handling techniques to be used.
- Employees should wear thick soled footwear.
- Feel the ground beneath you and avoid slippery rocks where possible.
- Wear protective gloves.
- Be aware that sharp objects including needles could be in the water.

14.161.5 Van Veen Grab Sampling

- Ensure great care is taken when using the Van Veen Grab sampler and winch.
- Ensure that the winch is safely secured to the boat.
- Make use of manual handling techniques when loading the boat and operating the sampler.
- Accidents can be prevented by adequate training in the use of the equipment, using a boat with an adequate working area and proper support for the winch (where applicable), working in suitable weather conditions. Protective equipment such as personal flotation devices, hard hats, eye protection and hand protection. Dry suits should be worn in waters of less than 10°C.
- After initial use, the method of operation can be reviewed and further optimized. Ideally, the winch should be anchored within the boat in an elevated position so that when the dredge is retrieved from the lakebed, it can be swung into the boat without lifting manually.
- The winch must be kept and maintained in working order.
- The winch must be tested and certified by a competent person using the Health & Safety Authority forms.
- Ensure equipment is set up correctly.
- Attach Van Veen grab to winch cable.
- Open the Van Veen grab using the metal arms.
- **Note: (Do not attempt to open or close using the mouth of the grab)**
- Swing out grab over the boat, turn handle on winch to lower grab.
- Lock swivel controller to prevent winch from rotating in an uncontrolled manner.
- Rock the dredge on the lakebed to ensure it closes and retrieve it.
- Once the grab has reached boat level, rotate winch and convey dredge into position in the plastic tray.
- Open the dredge using the dredge arms only and release the contents.
- Be careful when removing contents from dredge ensuring that hands are kept well away from the mouth of the grab.

Clean and repeat

- All crew wear personal flotation devices.
- Person(s) operating the winch wear a hard hat, gloves and protective eyewear.
- Ensure person(s) operating dredge wear foot protection.
- Do not deploy in unsuitable weather conditions (windy).

14.162 Bathymetric Surveying

Hazard:	Weather, access/egress to boats, boats, working in water, cold water, physical fitness.
Level of Risk:	Medium
Controls:	See details outlined below

- Staff carrying out bathymetric surveys must be familiar with the operation of equipment and have competent boat handling skills.
- A minimum of three staff are required to carry out the survey safely.
- Staff must wear personal flotation devices (PFD's) while working on the water.
- Dry suits should be worn in addition to PFDs in waters of less than 10°C.
- Foul weather clothing should also be readily available.
- The person appointed in charge of the boat must be obeyed at all times.
- The person appointed in charge must ensure that all required equipment is carried on board.
- Ensure all radio and mobile phone contact is tested prior to launch.
- Shore back up at all times to maintain radio contact approximately every 30 mins at a minimum.
- Where a boat is not visible to the shore backup radio contact must be more frequent.
- Where applicable ensure radios have a plastic cover to protect from moisture.
- Safe lifting techniques must be deployed.
- Where the stability of the boat is at risk due to adverse weather conditions bathymetric surveys must be postponed.
- One crew member shall be on the lookout for items in the water likely to foul the propeller or damage the boat.
- No vaping/smoking is permitted on board.
- Weather forecast to be obtained prior to travelling to survey site.
- All personal safety equipment should be regularly inspected by the user. Damaged or faulty equipment should not be used.
- Do not open engine cover when running.
- Fuel tanks used should be specific to engines used and should be marked accordingly.

14.162.1 Manual Handling Considerations

- Ensure staff have received manual handling training and assess the risk from lifting operations.
- Safe lifting techniques must be deployed.
- Ensure that where equipment must be transported to isolated waters, which are inaccessible to board vehicles, alternative arrangements should be made to avoid manual handling issues and reduce the likelihood of slips trips and falls e.g. use of All Terrain Vehicles (Quads) or Argocats. Identify areas where such arrangements may be required, ordinance survey maps should be reviewed.

14.162.2 Use of Small Open Inflatable Boats (e.g. Bombard)

- The maximum load capacities must never be exceeded refer to the manufacturer's manual for details.
- The dinghy passenger limit must never be exceeded.
- A dinghy shall not be used in windy conditions as waves may cause the vessel to capsize.
- Where inflatable dinghies are used all surfaces must be inspected for damage. When the vessel is inflated staff must wait 10 minutes to ensure there are no slow punctures prior to launch.
- Where the stability of the boat is at risk due to adverse weather conditions bathymetric surveys must be postponed.

14.163 Taking Levels (Use of Theodolite)

Hazard:	Weather, access/egress to boats, boats, working in water, cold water, physical fitness.
Level of Risk:	Medium
Controls:	See details outlined below

- Persons should not enter fast flowing water to take levels.
- Persons entering water should not exceed waist height, where water levels exceed waist height a boat should be used.
- An approved personal flotation device must be worn at all times.
- A dry suit should be worn in water temperatures of less than 10°C in addition to a personal flotation device.
- Feel the ground beneath you and avoid slippery rocks where possible.
- If the level is released it will slowly fill with water and sink as it moves downstream, unless it is within reach DO NOT go after it in the water, it may be possible to recover it downstream.
- Care to be taken to avoid uneven ground/trip hazards on land.

14.164 Weed Control Operations (Lagarosiphon)

Hazard:	Weather, access/egress to boats, other boats on the water, working in water, cold water, physical fitness, bio agents, manual handling and pinch points.
Level of Risk:	Medium
Controls:	See details outlined below

14.164.1 Operation of vessels

- All staff operating vessels must have completed the powerboat level two training course.
- Weed cutting machine operators must read and follow the OSMA instruction manual for safe operation and maintenance.
- All vessels must be maintained and serviced as per the manufacturer's specification.
- The weed cutting vessels shall be manned by a single person.
- The 7m aluminium vessel shall be manned by a minimum of three persons.

14.164.2 Weed Cutting

- Weed cutting will be suspended when the wind reaches Force 5 or higher.
- All vessel operators must ensure they have a suitable method of communication prior to commencing weed cutting e.g. hand signals & mobile phones or hand signals and handheld radio communication.
- Operators of the 7-metre aluminium boat shall fix the V blades to the OSMA weed cutter as soon as the vessels have left shallow waters. Fixing the chains with a D-Shackle is hazardous. There is a pinch point and risk of a crush injury to the hand. A rope and or boat hook should be used. One person should hold fast the two boats while another fixes the chains with the D-Shackle.
- When the weed cutting vessel is used to load the aluminium boat at the bow all operators on the vessel shall remain at the aft.
- Once the weed cutting vessel has retreated staff may shift the weed to the centre of the boat using forks.

14.164.3 Training

- Vessel operators must complete a power boat level two course.
- Staff must be trained in first aid.
- Where applicable a staff member must be trained as a diver coxswain.
- All staff must complete manual handling training.

14.164.4 Equipment

- Lifejackets must be worn at all times.
- When the water temperature is 10°C or lower dry suits must be worn.
- A suitable 275N lifejacket must be worn while wearing a drysuit.
- The equipment detailed in the safety checklist must be carried aboard the 7m aluminium vessel.

14.164.5 Statutory Inspections & Checklists

- All chains and lifting equipment will be inspected by a competent engineer annually.
- All checklists must be completed daily and signed off. Where a safety checklist is incomplete or the requirements of the checklist are not met, weed cutting operations will not be carried out.

14.164.6 Exposure to Noise

- Where employees are exposed to noise at 80dB(A) or higher, personal protective equipment shall be provided.
- Where the noise level needs to be established the Health & Safety Executive must be contacted to arrange noise sample monitoring.

Fisheries Protection & Patrol Duties

14.165 Protection Patrol Risk Assessments

Line managers (Inspectors &/or Assistant Inspectors) are required to conduct and record patrol risk assessments at a minimum of each month. It must be reviewed where there has been a significant change in the matters to which it relates (e.g. changes in angling conditions, the environment, incidents of conflict etc.) or when there is another reason to believe it is no longer valid, and, following review, it shall be amended as appropriate. The assessments must be made available to staff involved in the patrols.

14.166 Lone Working on Protection Duties

Hazard:	Weather, working adjacent to water, hostile members of the public, physical fitness.
Level of Risk:	Low – Medium – High
Controls:	See details outlined below

This section should be read in conjunction with section 14.9.

According to the Health and Safety Authority there is nothing specific in general legislation that prohibits a person from working alone. A risk assessment shall determine whether or not an employee may work alone.

14.166.1 Hazards that lone workers may encounter include:

- Accidents or emergencies arising out of the work, including inadequate provision of first aid.
- Sudden illnesses.
- Physical violence from members of the public and/or intruders/poachers.

14.166.2 What responsibilities do lone workers have?

- IFI holds the main responsibility for protecting the safety and health of lone workers. Nonetheless, lone workers themselves have a responsibility to help their employer fulfill this duty, and so they must:

Take reasonable care to look after their safety and health.

Safeguard the safety and health of other people affected by their work.

Co-operate with their IFI safety and health procedures.

Use tools and other equipment properly, in accordance with any relevant safety instructions and training they have been given.

Not misuse equipment provided for their safety and health.

Report all accidents, injuries, near-misses and other dangerous occurrences.

14.166.3 What control measures are implemented to minimise the risk to lone workers?

- Each member of staff is issued with a lone worker procedure card, which details the steps to take when working alone.
- Communication is very important, lone workers shall be provided with mobile phone, tetra radio or vhf radio.
- Controlled periodic checks involving contact from head office or other staff working in the locale ensuring the lone worker is safe.
- Use of Personal Protective Equipment (PPE) such as personal flotation devices, walking aides and suitable clothing.
- Lone workers involved in protection shall have easy access to first-aid kits and have received first aid training.

- Where applicable lone workers should lock and secure their place of work.
- Lone workers must implement correct incident reporting procedures.
- Employees who are concerned about their medical fitness to work alone should consult with their HR Business Partner.
- Counselling is provided to any member of staff through the Employee Assistance Programme.

14.166.4 Lone Working on Protection Stakeouts

- Lone working on Protection Stakeouts is strictly prohibited where there is a high likelihood of acts of violence or aggression. Related lone work such as observation from a distance e.g. using binoculars, night sights etc. is not prohibited.

14.166.5 Lone Working Using Tetra Radios

- In the event of an emergency situation press the red button at the top of the radio unit.
- The radio unit will be contacted by Tetra Ireland to establish the nature of the emergency.
- Depending on the nature of the situation, Tetra Ireland will contact local IFI staff (per IFI Procedure Document) and/or the emergency services.
- The GPS position of the unit will be given.

14.167 Encountering Poachers & Conflict Resolution

Hazard:	Encountering violent people
Level of Risk:	Medium – High
Controls:	See details outlined below

All fisheries staff on protection duties may encounter poachers/persons fishing illegally. The situation is potentially volatile for example when inspecting licenses, seizing equipment or when apprehending someone. It could result in threats or actual assault. In accordance with Section 11 of the 2005 Act, in the event of serious, imminent and unavoidable danger, IFI management shall enable employees to stop work and immediately leave the area and to proceed to a safe place. Management shall ensure that in such circumstances an employee who leaves such a place is not penalised because of such action. To minimise the potential for assault the following applies.

14.167.1 Training & Preplanning

- Patrols are risk assessed.
- Staff are trained in conflict resolution, control and restraint techniques. Staff should be familiar with the Non-Fatal Offences Against the Person Act, 1997 and the European Convention on Human Rights Act, 2003.
- Before a patrol sets out, the officer in charge shall brief staff on the location of the patrol, the distance covered, and radio channels used.
- Consider having specific code words in advance, which may be used as the situation develops.
- Staff must carry a means of communication and maintain regular contact with colleagues.
- Additional equipment may be issued such as personal CCTV cameras, night vision and thermal imaging equipment.
- If you are using personal CCTV, be aware that you must caution a person before using the equipment and follow IFI training and procedures.
- Where medical problems have been identified, which impact on staff safety, due consideration should be taken of this in the deployment of staff.
- Pregnant employees avoid working alone and shall avoid protection duties which have a likelihood of conflict and aggression (close attention should be paid to the specific patrol risk assessment).
- Staff should wear IFI work wear when patrolling (unless directed otherwise for covert work by management). This ensures that the public can easily recognize staff and it conveys authority and power in the course of their duties.

14.167.2 Patrolling

- Become familiar with the routes taken, take particular care when close to the water course and take a mental note of hazards such as steep slopes, slippery rocks and fencing.
- Always be aware of your limitations, recognize that there are times when it is safer to retreat from a dangerous situation and return when supported with colleagues and/or the Gardaí.

14.167.3 Potentially Hostile Situations

- If you observe poachers and you believe they may be hostile, contact other staff and the Gardai requesting support. This decision may be based on previous experiences with the same poachers or where poachers are encountered in areas where there is a history of hostilities.
- If you observe someone recording as you carry out your lawful duties, you may state the following to them:

As a natural person I do not consent to my being recorded by you and ask that you please refrain from doing so and delete the recording. You may not have a lawful basis under GDPR to record me. If you continue to do so and the recording is shared publicly, I must inform you that you may be in breach of GDPR as you may be lacking the required legal basis to process my personal data. If, I believe my data protection rights have been infringed by unlawful sharing of video footage or photographs of me, I am entitled to report this matter to the Data Protection Commission which is empowered to investigate and publish findings of any infringements it finds of data protection law.
- Staff should not carry out duties alone in areas where hostilities are anticipated.
- Where poachers are known to be hostile and are present in greater numbers than Fishery Officers confrontation should be avoided.
- It is important to remain calm, - even if you see an incident developing stay calm and collected.
- Remain polite even if provoked (this can help diffuse the situation).
- One fishery officer should be the spokesperson and a second spokesperson agreed in advance.
- The second fishery officer should take over as spokesperson if the situation changes or becomes more volatile.
- Staff should present themselves in a calm, confident and professional manner.
- Keep your voice calm and speak slowly. Explain how the person has breached the law and explain your role as a fishery officer. (Offer to show a warrant where applicable). Explain that as part of your job you have to take their names and that they are obliged to give them.
- If you intend to remove a net or conduct a search, seize equipment etc. explain your powers under Fisheries legislation.
- Do not react to verbal provocations remain detached and professional; avoid being drawn into arguments unnecessarily.

- Never brandish anything which could be interpreted as aggressive behaviour.
- Where possible avoid lunging at poachers or shouting at them as this can provoke an attack.
- At all times ensure you have an escape route in case a volatile situation escalates. Never allow poachers to encircle you, step back and regroup if necessary.
- Apply conflict resolution or self defence techniques only if required.
- Be conscious of your body language and avoid postures, which could be interpreted as aggressive.
- If you perceive that the poachers may be under the influence of drink or illegal substances, avoid confrontation.
- If the situation deteriorates (e.g. threats are made) remain calm, and repeat any instructions in a clear, confident voice.
- If the poachers brandish a weapon retreat and request support.
- If a poacher attempts to injure you, self defence and control and restraint techniques may be required.
- Never initiate physical aggression. Where necessary you may use reasonable force, to restrain a poacher who is threatening your safety. Never use excessive force.
- Where staff become aware of problems which could affect the safety of colleagues (e.g. muggings or assault) they must notify management. This is so that any specific controls required to protect the safety of the staff can be implemented and communicated.

14.167.4 The following is a defined list of terms used to identify poachers/illegal fishermen's behaviour which determine the response of the fishery officer.

Compliance: Offender offers no resistance and complies with officer request.

Verbal Resistance and Gestures: Offender refuses verbally to comply and exhibits body language indicating non-compliance.

Passive Resistance: Offender sits/stands still and will not move as requested.

Active Resistance: Offender pulls away from or pushes the officer.

Aggressive Resistance: Offender fights with officer – kicking, punching, wrestling, biting etc.

Serious or Aggravated Resistance: Any assault where there exists the possibility of great bodily harm or death or the production of a weapon by an offender.

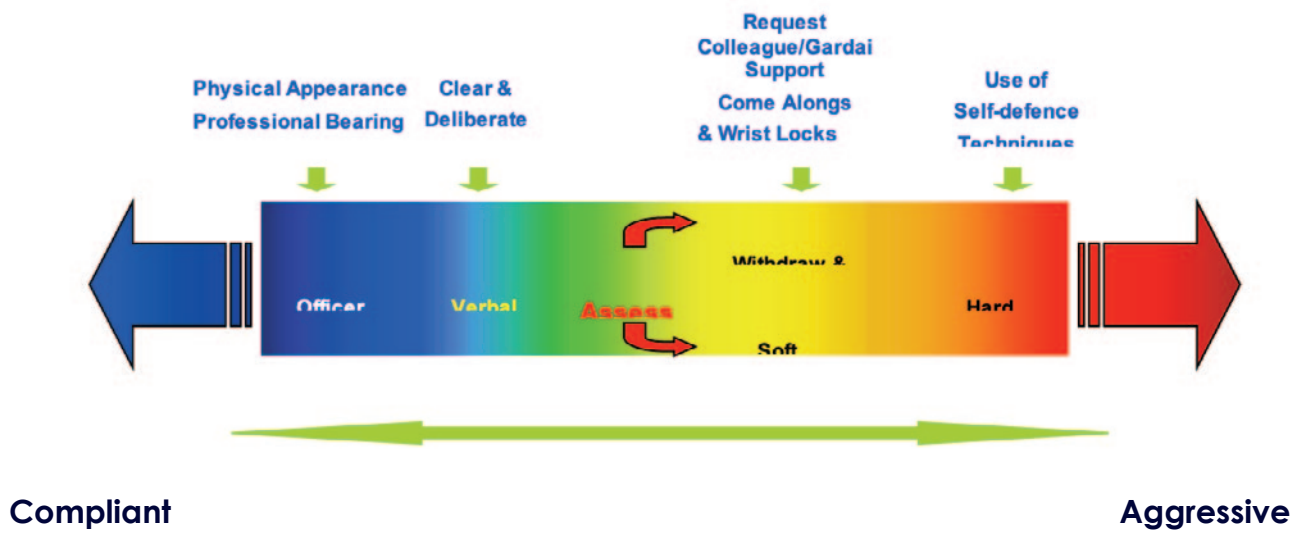


Figure 14.22 Force Continuum

14.168 Use of Cameras

Hazard:	Violent or aggressive members of the public
Level of Risk:	Low – Medium – High
Controls:	See details outlined below

14.168.1 Use of Body Worn Cameras

- Read and follow the manufacturer's operating manual for safe operation and maintenance.
- Ensure equipment is used in line with IFI training policy and procedure including chain of evidence rules.
- The use of body cameras or personal CCTV can be an effective deterrent to aggressive behaviour by members of the public particularly during the course of protection duties.
- Staff are advised that where practicable, cameras should be worn in areas which are known for illegal activity and where there is a history of aggression by members of the public.

14.166.2 Use of Covert Cameras

- Before placing a covert camera on a tree, embankment or other location a recce must be completed. Consideration must be given as to how to safely fit the camera. Consideration must be given to the condition of the tree, embankment or other structure and what equipment if any is required for safe access/egress and fitting.
- Standard issue footwear should be worn. Great care should be taken when accessing a camera site which is obstructed by briars and other trip hazards.
- Lone working should be avoided for this work.
- Where a camera is to be fitted at height a lightweight telescopic ladder may be used. When extended the stiles must be secured. Inspect the ladder visually and ensure it is in good condition. The ladder must comply with the EN 131-6 standard. The ladder must be set on stable ground and secure. A colleague should help to secure where appropriate. Apply the 4 to 1 angle rule, one foot out for every four foot up. Do not attempt to adjust the locking mechanism when you are on the ladder. A bump cap should be worn.
- A personal flotation device should be worn where there is a risk of drowning from working on or adjacent to water.
- Staff conducting this work shall have completed manual handling training.
- Care should be taken when cutting branches, particularly thorny bushes such as blackthorn, hawthorn and gorse. Puncture resistance gloves should be worn which meet the EN388 or equivalent standard.

14.169 Use of Detection Dogs

Hazard:	Aggressive members of the public, detection dog and other dogs, dog fouling.
Level of Risk:	Low
Controls:	See details outlined below

14.169.1 Dog selection and Handling

- Staff handling dogs must be familiar with manual and standard operating procedures.
- Dogs selected for detection must have friendly, filial natures, and are not reactive to a normal range of human movements, actions or sounds. Such qualities shall be readily assessed by a qualified dog behaviourist and reviewed on an on-going basis by trained IFI dog handling staff.
- Dogs and dog handlers must receive training and refresher training as required.
- Dogs must at all times wear a collar that bears the name and the address of the owner inscribed on it or on a plate, badge or disc.
- Dogs must be maintained on a leash in urban areas and when not on duty in public spaces.
- Dogs should be kept at a distance from members of the public during all off-lead deployment. Where a member of the public approaches the dog, they must be asked to stay away, and the dog recalled to the handler until the person has retreated.
- If detection work must be carried out in close proximity to a member of the public (as will happen during passive detection work), and there is any question that the dog and person might come into contact, the dog should wear a tracking line attached to its tracking harness.
- Dogs will undergo on-going training to maintain obedience and to eliminate faults which may appear, via daily training with the handler, and regular refreshment courses undertaken throughout the year with the Nominated Officer to assess and maintain quality assurance.
- For educational or public engagement work, members of the public should not be allowed to interact with the dog unless by invitation by the IFI dog handler. Members of the public should be instructed on acceptable ways to make contact with the dog (e.g. not shouting at, staring at, pulling at, or otherwise causing undue stress to the dog).
- When transporting dogs use travelling crates or barriers. You should ensure that it has enough room to allow the dog to sit and stand up at full height, turn around easily and lie down in a natural position. You should also ensure that your dog is able to see out of the container and that there is enough ventilation and airflow.
- Dog handlers must remove their pets' waste from public places and dispose of it in a proper manner. This obligation applies to the following places: public roads and footpaths, areas around shopping centres, school/sports grounds, beaches and the immediate area surrounding another person's house.

14.169.2 First Aid

- Dog handlers must carry a first aid kit.
- All IFI detection dog handlers should be trained in First Aid to enable them to offer immediate treatment in the event that their dog does cause injury to a person.

14.170 Foot Patrols & Stakeouts

Hazard:	Traversing rough terrain, night work (poor light),
Level of Risk:	Low – Medium – High
Controls:	See details outlined below

14.170.1 Foot patrols

- This section should be read in conjunction with Section 14.180 Traversing Lands.
- Suitable foot water must be worn in the field, depending on the conditions this may be boots, wellingtons or waders.
- Take particular care to protect your eyes with sun or safety glasses when patrolling a beach in breezy conditions.
- Staff patrolling must take care particularly when on rough terrain such as riverbanks, rock shores and overgrown areas. Hazardous shortcuts must be avoided for example climbing over walls and barbed fences instead of using gateways. Staff must report any unsafe IFI structures they encounter to their line manager which may cause injury. Remedial works must then be scheduled.
- A walking aid should be used as required.
- Staff must carry a radio and or mobile phone while on patrol.
- Staff must take the time to familiarize themselves with a patrol area in daylight hours before carrying out night patrols at the same location.
- A suitable torch or head torch must be carried and used during night patrols. Night vision goggles may also be used.

14.170.2 Stakeouts

The legal duties of warranted fisheries officers include the prevention of illegal activities and the arrest of offenders. To achieve this, a balance must be struck between the required activities of the officer and ensuring safety controls are in place that are reasonable and practicable.

- The officer in charge (OIC) shall select a suitable position in advance of the stakeout operation.
- The officer in charge of a stakeout team should give colleagues a detailed briefing of the tactical plan of operation and inform them of any known hazards in the vicinity and safe access and egress routes.
- A walking aid should be used as required when travelling over rough terrain.
- Staff involved in stakeouts must wear suitable clothing for the conditions e.g. thermal wear and thermal hats in cold conditions.
- Where stakeouts will be undertaken during the hours of darkness consideration should be given where practicable to going in, in advance while there is sufficient light.
- Consideration should be given to the use of alternative access routes to the stakeout site where practicable.

- Night vision equipment may be used to ensure the covert nature of the work remains intact. A low lumen set torch can be used on completion of the stakeout provided that doing so does not jeopardise the safety of the employees involved (e.g. from third party acts of violence or aggression) or future planned stakeouts. This should be clarified with the officer in charge.
- The above measures are to be applied when enroute to the stakeout site to avoid detection.
- Lone working on Protection Stakeouts is strictly prohibited with the exception of long-distance observation e.g. use of scopes.

14.171 UTV Patrols (Beaches & Tow Paths)

Hazard:	Speeding, unsafe handling, overloading, unsuitable terrain
Level of Risk:	Low – Medium – High
Controls:	See details outlined below*

* For ATVs/Quads see 14.86

14.171.1 General Controls

- From 20th November 2023, all ATV users will be required to complete a recognised training course and have received a certificate of competence which will be valid for five years.
- The wearing of a helmet with a chin strap and capable of use with suitable eye protection will be compulsory.
- The bike is maintained in a safe condition the operator wears gloves.
- Read and follow the manufacturer's operating manual for safe operation and maintenance.
- Staff operating the UTV must be competent having completed certified training.
- Do not operate the vehicle under the influence of drugs or alcohol.
- Seat belts must be worn by the driver and passenger.
- This vehicle is designed for operation in unpaved surfaces. Operation on paved surfaces should be avoided so far as is reasonably practicable. Turn gradually and go slowly if you must travel on pavement.
- Turning the steering wheel too far or too fast can result in a rollover or loss of control.
- Slow down before entering a turn.
- When making tight turns from a stop or at slow speeds, avoid sudden or hard acceleration. Avoid sideways sliding, skidding or fishtailing.
- Any part of your body (arms, legs or head) outside of the vehicle can be crushed by the cage/frame. If you think or feel that the vehicle may tip or roll, brace your feet on the floorboards, and keep your hands on the handholds.
- Do not try to stop a vehicle tip over using your arm or leg.
- When driving on slippery or rough terrain ensure the 4WD is engaged, slow down and plan your path to avoid making abrupt maneuvers.
- Do not run the engine in poorly ventilated or partially enclosed areas such as barns, garages etc.

14.171.2 Personal Protective Equipment

- Driver and passenger must wear an approved motorcycle helmet. Goggles should be worn if the helmet does not have a visor.

14.171.3 Use of Cargo bed & Towing

- Do not carry passengers in the cargo bed. The maximum load in the cargo bed is 181kg (400lb).
- Secure the cargo so that it will not shift. Keep weight centered and as low and as far forward as possible.
- Do not tow or pull objects from any point other than the trailer hitch bracket. Never load more than 50kg tongue weight on the towing bracket
- Do not tow more than 550kg rolling weight (trailer plus cargo).
- When loaded with cargo or towing a trailer reduce speed and allow more room to stop. Avoid hills and rough terrain. Use extreme caution when towing a load or carrying a load on inclines.

14.171.4 Crossing Water

- Do not operate the vehicle in fast flowing water or water deeper than 33cm. If you must cross shallow, slow-moving water, choose your path carefully to avoid sharp drop offs, large rocks or slippery surfaces. Operating in deep fast flowing water can lead to loss of control or overturn.
- Wet brakes have reduced effectiveness. After leaving the water, test your brakes. If necessary, apply the brakes several time to let friction dry out the linings.

14.171.5 Pre-operation Inspections

Item	Routine
Brakes	Check operation, free play, and fluid leakage. Fill with DOT 4 brake fluid if necessary
Parking Brake	Check for proper operation, condition and free play.
Fuel	Check fuel level. Fill with fuel necessary
Engine Oil	Check oil level Fill with oil to proper level if necessary
Coolant Res- ervoir	Check coolant level Fill with coolant if necessary
Final Gear Oil/Differen- tial Gear Oil	Check for leakage
Accelerator Pedal	Check for proper accelerator pedal operation.
Seat Belts	Check for operation and belt wear.
Steering	Check for proper operation.
Fittings and Fasteners	Check all fittings and fasteners.
Lights and Switches	Check for proper operation.
Wheels and tires	Check pressure and for wear and damage.
Axle Boots	Check for damage.

Table 14.3 UTV Pre Operational Checks

14.172 Bicycle Patrols & E-Bike Patrols

Hazard:	Weather, traffic, entanglement physical fitness, off road trails with natural obstructions.
Level of Risk:	Low – Medium
Controls:	See details outlined below

14.172.1 Bicycle Patrols

As a cyclist, you can reduce your risk of death or injury by following some simple advice:

- Keep your bike regularly maintained to prevent mechanical problems.
- Cycling in the dark is not permitted without adequate lighting – white for front, red for rear.
- On public roads wear luminous clothing such as hi-vis vests, fluorescent armbands and reflective belts so that other road users can see you.
- Wear a helmet. This is a mandatory requirement.
- You must also have a bell and rear reflector.
- Make sure you keep to the left. Always look behind and give the proper signal before moving off, changing lanes or making a turn.
- Follow the rules of the road, never run traffic lights or weave unpredictably in and out of traffic.
- Maintain your bike properly – in particular, your brakes should work properly, and your tyres should be inflated to the right pressure and be in good condition.
- Respect other road users – stop at traffic lights when required, stop at pedestrian and zebra crossings; don't cycle on the footpath.
- You must stop at stop signs and yield right of way at yield signs.
- Watch your speed, especially when cycling on busy streets and going downhill.
- Steer well clear of left-turning trucks: let them turn before you move ahead.
- Dismount before approaching anglers/members of the public.
- Sun cream should be worn in fair weather.
- Ensure shoelaces are tied to avoid entanglement in the chain set.
- Take extra care when cycling off road. Be vigilant, constantly scan the surface ahead for hazards.
- Always make sure you keep your speed at a level where you can quickly adjust to any obstacles or change in the trail.
- For long distance cycles bike tools, sunglasses/safety glasses and gloves and food and water should be carried.
- You must never ride more than two abreast on a public road.

14.172.2 E-Bike Patrols

- Pedelecs require you to pedal the bike in order to receive battery power assistance. All other types of e-bikes are considered to be Mechanically Propelled Vehicles and must be registered, taxed and insured.
- Read and follow the manufacturer's operating manual for safe operation and maintenance.
- Always test brakes and familiarise yourself with the breaking technique before setting off on a journey.
- The higher average speed and extra weight of the motor and drive demand that the eBiker be always ready to brake. You can ensure the shortest possible braking distance by the simultaneous use of the front and rear brakes. The biker should always be aware which lever activates which brake and how the bike reacts.
- You must keep your eyes on the road ahead and actively turn your head and your body into the curve when going round bends.
- Keep your bike regularly maintained to prevent mechanical problems.
- Cycling in the dark is not permitted without adequate lighting – white for front, red for rear.
- On public roads wear luminous clothing such as hi-vis vests, fluorescent armbands and reflective belts so that other road users can see you.
- Wear a helmet. This is a mandatory requirement.
- You must also have a bell and rear reflector.
- Make sure you keep to the left. Always look behind and give the proper signal before moving off, changing lanes or making a turn.
- Follow the rules of the road, never run traffic lights or weave unpredictably in and out of traffic.
- Maintain your bike properly – in particular, your brakes should work properly, and your tyres should be inflated to the right pressure and be in good condition.
- Watch your speed, especially when cycling on busy streets and going downhill.
- Steer well clear of left-turning trucks: let them turn before you move ahead.
- Dismount before approaching anglers/members of the public.
- Sun cream should be worn in fair weather.
- Ensure shoelaces are tied to avoid entanglement in the chain set.
- Take extra care when cycling off road. Be vigilant; constantly scan the surface ahead for hazards.
- Always make sure you keep your speed at a level where you can quickly adjust to any obstacles or change in the trail.
- For long distance cycles bike tools, sunglasses/safety glasses and gloves and food and water should be carried.
- Respect other road users – stop at traffic lights when required, stop at pedestrian and zebra crossings; don't cycle on the footpath.
- You must stop at stop signs and yield right of way at yield signs.

- Upon starting, the motor will immediately provide pedal-assist. This momentum might be unfamiliar to you, which in traffic could lead to a fall or an accident. Before taking part in road traffic, practice using the e-bike in a quiet area closed to traffic. The motor will only assist while pedalling. The assistance the battery provides cuts out if the bike reaches a speed of 25km/h.

14. 172.2.1 Charging

- Use only the original charging device.
- The charging device should only be used in a dry location and should not be covered during its operation. Failure to observe this could lead to a fire or a short circuit. Always disconnect the charging device from the power supply before cleaning it.

14.173 Vehicle Patrols

Hazard:	Hostile members of the public
Level of Risk:	Low
Controls:	See details outlined below

- Ensure that the vehicle you intend driving is road worthy and in a safe condition, the driver should carry out pre-patrol safety checks and record them using the app on their smart phone. If there are issues record them in the comment box, ensure you also enter your name and contact mobile number.
- Where possible, reverse into the intended parking space, always ensure the vehicle is facing the direction in which you intend to travel.
- Unless it must be avoided e.g. covert operations, park in well-lit areas close to other vehicles and people or in areas protected by CCTV.
- Where possible avoid parking in a manner which could prevent all persons accessing the vehicle in a hurry.
- If you believe you are being followed, make contact with your line manager and the Gardai.
- Take note of registration plates where a vehicle is acting suspicious or in a strange location.
- Unmarked vehicles should be used in situations/locations identified by management in consultation with staff for covert operations.

14.174 Vessel Searches

Hazard:	Hostile third-party crew, access/egress, confined spaces
Level of Risk:	Low – Medium – High
Controls:	See details outlined below

- The coxswain must apply great caution when coming alongside another vessel Rules for preventing collisions at sea must be implemented. Attempts to come alongside a vessel should be aborted if there is the risk of a collision.
- When accessing/egressing third party vessels use the safest point e.g. ships ladder
- Where the situation is or becomes hostile apply conflict resolution training techniques.
- If necessary, seek assistance from supporting fisheries vessels or the Gardaí.
- Confined spaces should not be entered without training and the use of an oxygen meter where relevant. Confined Space refers to any place, including any vessel, tank, container, pit, bund, chamber, cellar or any other similar space which, by virtue of its enclosed nature, creates conditions that give rise to a likelihood of an accident, harm or injury of such a nature as to require emergency action due to the presence or reasonable foreseeable presence of:
 - flammable or explosive atmospheres
 - harmful gas, fume or vapour
 - free flowing solid or an increasing level of liquid
 - excess of oxygen
 - excessively high temperature
 - the lack of foreseeable lack of oxygen

14.175 Use of Surveillance Equipment

Hazard:	Hostile third-party crew, access/egress, confined spaces
Level of Risk:	Low – Medium
Controls:	See details outlined below

- Night vision technologies must not be used by persons operating or driving boats / kayaks / vehicles (the scopes only afford the user 40 degrees of vision) normal visual field ranges from 95 degree – 107 degrees.
- Where night vision scopes are being deployed in boats. The user should be someone other than the coxswain.
- Boats deploying the use of night vision technologies must not be driven at speed. Slow maneuvers only.
- The coxswain should also be wearing head torch with red lighting affording him / her safe vision for operations.
- Note that it can take 15 – 20 minutes after use for a person to regain their night vision capabilities after using night sights / thermal scopes. Again, it is recommended that Officers wear and deploy head torches with red lighting. Thus, their night vision will return after a few minutes.
- If you are unfamiliar with the use of night vision goggles/equipment you should practice wearing them to avoid collisions and reduce the likelihood of slips, trips and falls.
- The quality of night vision goggles should be checked every 6 months and sent for service if degraded.
- Spare batteries for the goggles should be carried.
- The Diopter on the goggles ensures that individuals wearing glasses can adjust the setting to avoid having to wear glasses.
- Wearing head mounted surveillance equipment can cause fatigue. To avoid this equipment should not be worn continuously and should be rotated among staff frequently to reduce risk of injury.

14.176 Use of Tetra Radios

Hazard:	RF, Driving, Noise
Level of Risk:	Low – Medium
Controls:	See details outlined below

- Staff using Tetra radios complete basic training and be familiar with the IFI Procedure for Tetra Radio System.
- The tetra radios comply with the IEE (FCC) and ICNIRP exposure limits for occupational/controlled RF exposure environments at operating duty factors of up to 50% talk - 50% listen. Measurable RF energy is only generated while the radio is transmitting (during talking) not when it is receiving (listening) or in standby mode.
- Set your radio to a low volume setting to reduce exposure. Do not place your ear directly against the radio speaker.
- Always give full attention to driving and the road. Use hands-free sets where available or pull off the road in a safe place before making or answering a call.

Outdoor Conditions

14.177 Weather

Met Éireann weather warning explanatory note.

Impacts from wind/rain/snow etc., vary depending on location, recent weather conditions, the state of ground, the time of year as well as the duration of the event. In particular the timing and location of the occurrence of extreme weather can significantly affect the impact which extreme weather may have on society, or on the economy.

The colour coding used by Met Éireann is fully aligned with international best practice and the European Meteoalarm system (www.meteoalarm.eu)

Yellow	Not unusual weather. Localised danger.
Orange	Infrequent. Dangerous / disruptive.
Red	Rare. Extremely dangerous / destructive.

- “A status yellow weather alert is given to warn those at risk from certain weather because of their location and/or their activity. It advises these people to take preventative action. Expected weather conditions in a status yellow alert do not pose an immediate risk to the general population.”
- “A status orange weather warning is given before expected weather conditions that could significantly impact people, property and activity in an area. People in the affected areas should prepare appropriately now for the anticipated conditions.”
- “A status red severe weather warning is rarely issued but when it is, people in the areas expected to be affected should take action to protect themselves and/or their properties.”

When weather warnings are issued in your area you should consult with your line manager and assess the feasibility of the scheduled work activities.

14.178 Hypothermia

Hazard:	Cold weather, working in, on or adjacent to water, cold water, physical fitness.
Level of Risk:	Medium
Controls:	See details outlined below

- Persons who have been immersed in water could be suffering from cold shock and/or hypothermia. Emergency services or a medical practitioner should be called.
- Remove a casualty horizontally from the water if you suspect they are injured, consideration should be given to potential spinal injury. Once the casualty is removed from the water, remove any wet clothing and provide dry clothing or blankets. Cover the head but not the face.
- If they have been in the water for some time, and they appear dazed or confused they are most likely suffering from hypothermia (**Note that a person who is dazed or confused may be suffering from internal or head trauma. Additional first aid may be required; vital signs should be kept under close observation**).
- In the case of hypothermia, it is vital to remove the wet clothing gently with very slow movements. The reason for this is that undressing them still involves muscle movement on their behalf and this could draw warm blood from vital organs causing the individual to lose consciousness.
- Do not vigorously rub the individual, pat them dry.
- Unless there is serious risk of them losing consciousness move them to a warmer environment.
- Where the individual is very cold the buddy warming method can be used. This is where a dry person uses their own body warmth to warm a hypothermic victim. In order to do this the warm person must remove outer garments and, in some cases, may have to remove more layers. These clothes and/or a space blanket should be placed over the two individuals to retain heat. The warm person should hold the hypothermic victim close to them to enable the warmth to enter the other person.
- Maintain this position until emergency services arrive. If necessary, rotate the warm person.
- Do not force liquids into the person. If they are able to comfortably swallow, give a warm sugary drink.
- Do not try to make them move or walk.
- Do not provide hot drinks if the person is confused/dazed, do not provide alcohol as it increases peripheral heat loss. Do not provide tobacco as it increases the risk of frost bite.
- In all cases of suspected hypothermia ensure the victim gets formal medical attention.

14.179 UV Exposure

Hazard:	Working outdoors in fair weather
Level of Risk:	High
Controls:	See details outlined below

- Skin cancer is the most common type of cancer in Ireland with over 11,000 cases diagnosed each year.
- Always check the weather prior to working outdoors, when the UV index is 3 or above wear sunscreen.
- When working outdoors use a waterproof broad-spectrum sunscreen with a high sun protection factor (SPF 30+) and apply regularly throughout the working day. Up to 90% of UV rays which cause skin damage can get through light cloud it does not have to be a warm sunny day. It is very important to apply the sun block to ears, nose and lips. It is particularly important between April and September and UV rays are strongest between 11am and 3pm.
- Make sure it is a broad-spectrum sunscreen with UVA and UVB protection as exposure to both forms of ultraviolet light can lead to malignant melanoma.
- Put sunscreen on 20 minutes before you go out into the sun and remember to apply sun cream more frequently if you have been sweating or working in water.
- Clothing is a physical sunscreen that doesn't wear off or wash off. The more skin that is covered by clothing, the better the protection.
- Where practicable cover your head with a hat, preferably wide brimmed. Wear sunglasses with UV protection.
- See shade where practicable.

14.179.1 Recognising Possible Skin Cancer

- Non-melanoma skin cancer:

A new sore or growth that does not heal within four weeks.

A spot or sore that continues to itch, hurt, crust, scab or bleed or constant skin ulcers that are not explained by any other cause.

Many skin changes will be harmless. But if you notice anything unusual, you should visit your GP.

- Malignant melanoma skin cancer:

Early detection of malignant melanoma can lead to successful treatment. Watch out for any change in colour, size or shape of a mole or freckle.

Remember your A-B-C-D:

- Asymmetry
- Border irregular
- Colour variety
- Diameter

- Asymmetry means any irregular change in the shape of the mole or freckle. One part of the mole or freckle is unlike the other.
- Border irregular means any change in the edges of a mole or freckle. It may have a rough or unclear border.
- Colour variety means any change in colour or different colours on different parts of the mole or freckle. It can have different shades of tan, brown or black. Or it can be white, red or blue.
- Diameter means any change in size. Most melanomas are larger than 6mm, which is the size of the top of a pencil, and they are increasing in size.
- If you suspect that you have signs of skin cancer consult with a doctor as soon as possible.
- Stay hydrated.

14.180 Traversing Lands

Hazard:	Weather, access/egress to boats, boats, working in water, cold water, physical fitness, livestock and dogs.
Level of Risk:	Low – Medium – High
Controls:	See details outlined below

14.180.1 General Safety

- Staff should continually carry out a dynamic risk assessment when traversing lands. Standard issue work wear boots must be worn in the field. If staff are involved in construction work safety boots must be worn.
- Field reconnaissance can help reduce the level of risk. Consulting with staff who are familiar with the area and viewing digital mapping such as google maps can be effective.
- Exercise caution when moving through areas of heavy vegetation, hold branches to prevent them springing back on to others.
- Employees should take care to avoid nettles and briars and Giant Hogweed where possible.
- See Section 14.25 which deals with exposure to Giant Hogweed.
- Control vegetation growth in well frequented areas by cutting back or by using weed killers where possible. However, caution must be applied when using weed killers near aquatic environments.
- If traversing areas with steep or soft ground assess the areas and consider alternative routes.
- Riverbanks, streams, lakeshores, coasts, farms woodland, mountains and bog land are traversed regularly by staff. It is essential that you plan your route. Depending on the circumstances the use of the lone working buddy systems may be required. It is most important that each buddy knows where the other is and that neither divert from their intended route. Follow the lone worker procedure.
- Where possible, notify others of the areas you intend to visit and stick to a pre-planned route. If it is necessary to alter your pre planned route inform your buddy immediately.
- A stick or walking staff is useful for support and to probe the ground ahead as you walk if the terrain is uneven, soft, marshy, wet or boggy. It is recognised that it is not reasonably practicable to use a stick or walking staff in all field work circumstances. Dynamic risk assessment should be deployed and walking aids shall be made available on request (contact the H&S Executive). In some instances, e.g., when carrying tools and equipment it is not reasonably practicable to also use a walking aid and therefore, it is not mandatory.
- Clean boots before entering a farmyard and when leaving.
- Prior to entering unfamiliar lands, gain as much knowledge where possible from others who may have visited it.
- Pay close attention to your route and constantly scan the route for hazards.

- If a route is regularly used hazards should be eliminated where practicable e.g. cutting back thorn branches which cause an obstruction.
- Avoid entering hazardous areas, e.g. containing slurry pits, machinery in operation etc.
- Report any hazardous routes or damaged structures (e.g. broken stiles) to you line manager.
- Have regard for your own personal safety at all times.
- When walking through vegetation take care to avoid vegetation springing back onto the person behind.
- Avoid taking hazardous shortcuts e.g. climbing barbed fences, climbing up or jumping off high walls. Use gated entrances to land where practicable.
- Walking sticks are useful aid and should be carried. They can be used for:
 - Assessing ground and holes
 - Determining depth of streams
 - Facilitating climbing over obstacles
 - Supporting balance

14.180.2 Electric Fences

- Assume all electric fences are on. Avoid climbing over fences unless it is safe to do so at designated crossing points.
- Where practicable disconnect electric fences prior to crossing over or under a fence.

14.180.3 Traversing bogs, forestry, waterways & mountainous ground

14.180.3.1 Bogs

- When walking across a peat bog pick your way across by linking up the firmer spots that will hold your bodyweight while avoiding the wetter spots where you will sink.
- Sections of bog that are completely under water should be circumvented because you can't determine what's below the surface. The same holds for areas with fine grained mud particles that look like chocolate mousse because you're likely to sink into them rather deeply.
- The best footing is found in areas of sedge grass and heather that are visibly dry or mounds that are covered with them and provide firm footing. Hopping from one mound to another is common practice. Drier, fluffier looking areas of exposed peat can also be counted on to hold your weight.
- Rain can make the usually drier top layers soak up water like a sponge. If you find the area in which you are walking becoming waterlogged, or if the path you are on seems to end in waterlogged ground, stop and back out the way you came. Trying to find a way forward can get you deeper and deeper onto dangerous ground.
- The key to getting out of a mud bog, peat bog or quicksand is to move slowly but purposefully. Rapid movement won't help, it may agitate or extend the bog area around you and could quickly sap your energy.
- Take it inch by inch if you have to. Try to step back out if you can.

- Don't panic - it may be a shock, and cold and smelly, but it's vital not to struggle and to make slow movements rather than wriggling and pulling wildly (easy to say, harder to do).
- Don't grab wildly at plants unless they're strong enough to help you. Slowly pull out one leg, don't worry if the other leg goes a bit deeper, the aim is to free one limb.
- Make sure one leg is out first before trying to free the other one.
- If you're nearing or above waist level, you need to try and increase your surface area to the point where you can very slowly pull out a leg. Lie back to evenly distribute your weight on the surface, spread out to evenly distribute your weight and try and get into more of a floating position - remember bogs are mainly water. Once legs are free, snake or combat crawl (with your elbows) until you reach more solid ground; resist the temptation to try and walk.



Beware: Algae and sphagnum moss can hide deep bog holes

14.180.3.2 Forestry

- When walking in forestry where practicable stay on roads, paths, trails or dry solid rock with good footing.
- A stick or walking staff is useful for support and to probe the ground ahead as you walk if the terrain is soft marshy, wet or boggy.
- Be cautious with foot placement on rough and uneven ground.
- Take care to avoid thorny branches, bushes and briars as you travel.
- Ensure an effective communication method is to hand e.g. mobile phone, radio or tetra.

14.180.3.3 Waterways

- Crossing ditches, drains, streams and shallow rivers can be dangerous. Look for bridging points and stable crossing points where the obstacle is narrow.
- Avoid attempting to cross in the water where the bed is large rock or sheet rock this can be particularly unpredictable and slippery.
- A stick or walking staff is useful for support and to probe the ground ahead.

- Avoid taking large steps, try to keep both feet planted and shuffle.
- Be aware of potential downstream hazards.

14.180.3.4 Mountainous Ground

- Mountain ground can be particularly hazardous with rough stone large boulders and loose scree. A stick or walking staff is useful for support and to probe the ground ahead.
- Proceed with greater caution if stone, rock or boulders are wet underfoot.
- If the ground is particularly steep assess it and look for the safest route.
- On scree dig your toes in when going uphill. When going downhill, kick your heels in.
- Always keep your centre of gravity low and over your legs.
- Go slow and keep your momentum in check.
- Climb or descend at an angle to the slope gradient, zig zagging the face of the slope will give you more control.

14.180.4 Livestock & Dogs

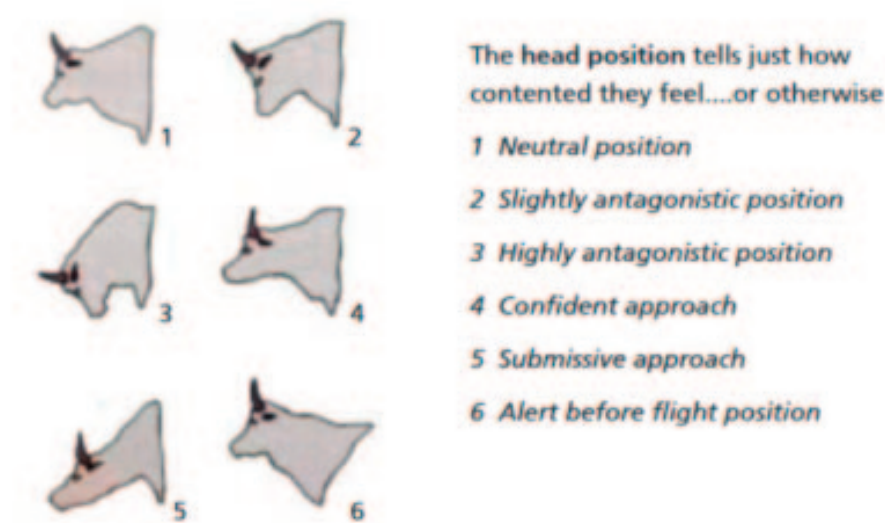
(Refer also the employee safety handbook)

14.180.4.1 Livestock

- Staff working in the field may encounter livestock from time to time. It is important to remain vigilant when traversing lands with livestock.
- It is always prudent to walk near a hedge or fence line as opposed to in the centre of the field. You can eliminate the risk where practicable by navigating around fields with livestock.
- There is a risk of being physically hurt by an animal that is frightened or has been startled. Be aware that cattle and horses have a panoramic field of vision, which means they can see everything around them except what is immediately behind their hindquarters. Therefore, approaching from the side or front can be less startling to these animals than approaching from behind. Horses and mules commonly kick toward their hindquarters, while cattle kick forward and out to the side.
- While sheep are generally a docile, non-aggressive animal, this is not usually the case with rams, especially during the breeding season. Rams can be very aggressive and have been known to cause serious injuries to people. A ram should never be trusted, even if it is friendly or was raised as a pet. It is important to always know where the ram is and to never turn your back on him. Head butting is both a natural and learned behaviour in sheep. Classic head butting among rams is highest during the rutting season which precedes the onset of heat in ewes. To discourage butting, you should avoid petting or scratching a ram on the head. Otherwise, the ram may see this as a challenge or aggressive behaviour. In general, the ram sees you as part of the flock and wants to dominate you. Always keep vigilant when you encounter a flock.
- Animals with new-born also pose a great risk. One should never turn ones back on such animals (cattle, sheep etc.), staff should be particularly cautious during springtime.

- Bulls can pose a particular risk due to their unpredictable nature and aggression. Before entering lands look for signage indicating bulls on these lands.
- Bulls can often be identified by a nose ring which will often be fitted with a chain.
- The demeanour of cattle usually tells of their state of arousal. This can be in the form of the head and tail positions, pawing the ground with its legs, or bellowing.
- Seriously distressed cattle often bellow loudly – a sure sign to be especially careful.
- At the first sign of any of the aggressive behaviours, staff should avoid the animal and exit rapidly. It is prudent to have a predetermined route.

The diagrams below show typical head and tail positions¹:



The tail position also says much about their state of arousal:

- 1 → Grazing or walking
- 2 → Cold, ill or frightened
- 3 → Threatening, curiosity or sexual excitement
- 4 → Galloping
- 5 → Kicking or playing



14.180.4.2 Dogs

By law all dogs must be kept under effective control – owners may be held liable for any injury or damage caused if their dog attacks a person. Dangerous dogs should be reported to your local dog warden.

A dog's body language will usually indicate its intention prior to an attack. The following is an example of what they may be:

- A raised, stiff tail that appears to be waving, as opposed to wagging
- Hair (hackles) raised on the back of the neck
- A very high-pitched growl with bared teeth
- A snap without biting may be a warning of the dog's intention to bite.
- At the first sign of any of the aggressive behaviours, staff should avoid the animal and exit rapidly. It is prudent to have a predetermined route.

14.180.5 Blackthorn Infection

When passing through areas of dense wood e.g. hedgerows and riverbanks proceed with great care where blackthorn is growing. Where practicable cover any bare skin as the thorns are extremely sharp and brittle and can embed deeply in the skin. The toxins in the blackthorn can cause severe inflammation and joint pain. Stands of blackthorn should be avoided. Blackthorn can be identified as follows. It is a large deciduous shrub or small tree growing to 5 metres (16 ft) tall, with blackish bark and dense, stiff, spiny branches. The leaves are oval, 2–4.5 centimetres (0.79–1.77 in) long and 1.2–2 centimetres (0.47–0.79 in) broad, with a serrated margin. The flowers are 1.5 centimetres (0.59 in) diameter, with five creamy-white petals; they are produced shortly before the leaves in early spring, and are hermaphroditic and insect-pollinated. The fruit, called a "sloe", is a drupe 10–12 millimetres (0.39–0.47 in) in diameter, black with a purple-blue waxy bloom, ripening in autumn.



Fig 14.23 Identification of the Blackthorn

14.181 Insects

Hazard:	Working near hives, nests/insect activity
Level of Risk:	Low
Controls:	See details outlined below

- Where field work is taking place in areas where midge and other biting insects are common insect repellent should be used if desired.
- A minimum of one first aider should be present in each field staff team.
- Persons allergic to stings should inform their colleagues and should provide advice from their doctor on the actions to take in the event of an anaphylactic shock. Where persons are prescribed treatment this should be carried by the individual at all times.
- Prophylactic sprays or creams should only be used by staff that are not sensitive to any of the ingredients.

14.182 Needle Stick Injuries

Hazard:	Working in polluted (illegal dumping)/urban waterways
Level of Risk:	Medium
Controls:	See details outlined below

It is possible that employees could encounter needles along canals, rivers or in the water. These risks are increased close to urban areas.

- Employees should avoid where possible rummaging in river/canal beds where needles or syringes may have been dumped.
- Employees should at all times wear thick-soled footwear when traversing water courses and beds.
- Thick gloves should be worn when sampling.
- If a needle is still lodged in the skin, remove it carefully and place in a safe position (e.g. encase it in a box) and remove the item from the location.
- If a first aider is immediately available seek their help, but in any event **DO NOT SUCK OR RUB THE WOUND. SEEK MEDICAL ATTENTION IMMEDIATELY.**
- Wash area with warm running water and soap or wipe area with anti-bacterial wipe.
- Cover the injury with a waterproof dressing.
- Irrigate eye or mouth splashes with copious amounts of clean water.
- Seek medical advice as soon as possible from the casualty unit at your local hospital or your local health centre.
- Inform your line manager of the incident as soon as possible.

14.183 Wading

Hazard:	Weather, strong currents, deep water, entanglement, underwater obstacles, floating objects boats, working in water, cold water, physical fitness.
Level of Risk:	Medium
Controls:	See details outlined below

- Check your waders for damage and ensure the sole provides good grip prior to putting on the waders.
- Always wear a personal flotation device.
- Before entering the water assess the situation, note any unusual water movements, hazardous items in the water e.g. barb wire etc.
- Where practicable use a wading staff, it will provide support and can be used to probe the riverbed for deep holes or swampy beds.
- Keep one foot on the ground at all times when you wade, shuffle your feet this prevents you from making rapid or aggressive movements.
- Ensure you have up to date weather information as the water level of rivers and streams can rise quickly in bad weather particularly spate rivers, and elevated streams and rivers.
- Always ensure your waders are 6-8inches above the water level.
- Make sure you can retrace your steps to ensure a safe return to the shore or bank.
- When wading in a controlled river subject to releases check with the releasing authority (ESB or local authority). This is to ensure a release is not scheduled at a time when you or your colleagues will be wading in the river.

Laboratory Safety

14.184 General Laboratory Practice

Hazard:	Chemical handling and exposure, corrosives, toxins, irritants flammables, dusts, liquids, vapours gases.
Level of Risk:	Low – Medium
Controls:	See details outlined below

- When working in the laboratory all staff shall wear white laboratory coats.
- Long hair should be tied back.
- Before handling chemicals refer to the safety data and follow all safety precautions.
- When handling chemicals nitrile (or similar) gloves and safety glasses must be worn. Refer to safety data sheets for correct PPE.
- Housekeeping must be of a high standard, with the proper disposal of waste by employees in their area.
- All machines, where feasible, must be switched off when not in use and isolated before any major adjustment, cleaning or maintenance is done.
- Eyewash stations and chemical showers are available for use in the event of an incident involving exposure to hazardous chemicals.
- All spills are cleaned up safely. You must ensure that a spill kit is kept available for use. Wet floors should be signed 'caution slippery surface'.
- Ensure lab 1st aid kits are fully stocked.
- All staff working in the lab shall be trained in laboratory safety.
- Wash your hands regularly, and especially before taking food, smoking/vaping or going to the toilet.

14.184.1 Prohibited actions

- Food and drink must not be taken into any laboratory.
- Smoking /vaping is prohibited.
- Eating and drinking utensils should only be kept in designated coffee rooms and canteen areas.
- Cosmetics or topical medical preparations must not be applied in a laboratory.
- NEVER inhale, taste, or swallow ANY chemical.
- NEVER pipette liquids by mouth; always use mechanical fillers. Be careful during the fitting process.
- No person may enter the lab wearing sandals or open toed shoes.
- NEVER use any chemicals without understanding their chemical properties consult Material Safety Data Sheets as necessary. You must obtain the material safety data sheets from the supplier for all chemicals used.
- Unused diluted solutions must not be returned to the stock and must be disposed of as recommended.

14.184.2 Use of glassware

- Glassware must always be handled carefully and inspected before use. Worn or damaged glassware is particularly liable to break and should be removed for disposal.
- Glass pipettes fracture easily, and great care should be taken when fitting them into safety pipette fillers or dispensers.
- Take great care when fitting glass tubing into bungs and stoppers.
 - Bungs: Inspect glass tubing for damage (safely dispose of damaged glassware). Wear protective gloves, where appropriate lubricate the stopper, before placing on the glass.
 - Stoppers: Inspect the glass tubing for damage (safely dispose of damaged glassware). Place a firm grip at the top of the tube and apply a smooth twist to the stopper.
- Any glass container presents a physical hazard in its own right, particularly if it becomes broken. For this reason, the secondary containment of all glass contained materials prior to transportation is crucial.
- Broken laboratory glassware should be placed in the sharps containers provided.

14.185 Otolith Processes

Hazard:	Fire, fumes, dust & noise
Level of Risk:	Low – Medium
Controls:	See details outlined below

- Read and follow the manufacturer's operating manual for safe operation and maintenance for use of Bunsen burner and cutting disc.
- When sanding or cutting an otolith a dust mask should be worn.
- The cutting disc should only be operating during the cutting process.
- If an unsafe situation arises hit the emergency stop button.
- When burning otoliths it should be conducted in a well-ventilated area, with extraction fans and fresh forced ventilation.
- A carbon monoxide alarm must be fitted.
- The gas should only be on when otolith burning is taking place.
- A protective glove should be worn, and forceps used when the otolith is burned over a Bunsen flame.
- Hearing protection shall be worn if required.

14.186 Chemical Handling

Hazard:	Exposure to corrosives, toxins, irritants, harmful, flammables, dusts, liquids, vapours gases.
Level of Risk:	Low – Medium
Controls:	See details outlined below

- Use chemicals only as recommended.
- Read the safety data sheet before chemical use.
- Always wear the personal protective equipment outlined in section 8 of the material safety data sheets.
- All containers must be properly labelled with their contents.
- Chemical disposal must be in compliance with *Waste Management (Hazardous Waste) Regulations S.I.No 163 of 1998 / S.I. No. 73 of 2000 and any subsequent amendments or additions.*
- Do not mix chemicals together, even during disposal unless you know the result of the mixture is not hazardous.
- All chemicals shall be stored in designated chemical safety lockers, toxic, corrosive and flammables shall be stored separately.

14.186.1 Use of Hydrazinium Sulphate $\text{H}_4\text{N}_2\cdot\text{H}_2\text{SO}_4$

- Hydrazine is now purchased as a readymade reagent known as TON2 to eliminate exposure during the mixing process.
- Any member of staff using Hydrazinium Sulphate (TON 2) in the Chemical Laboratory must carefully study the Safety Data Sheets before use.
- Personal Protective Equipment must be worn including protective gloves, glasses, lab coat.
- Hydrazinium Sulphate must be handled in the **Fume Hood only**.
- Disposable gloves and materials containing the chemical (e.g. weighing boats and spatulas) must be placed in sealed containers labelled carcinogenic hazardous waste. A competent hazardous waste disposal company must be employed.

14.187 Fume Hoods

Hazard:	Flammables, toxins, corrosives, harmful, gasses, liquids and dust.
Level of Risk:	Low
Controls:	See details outlined below

- New fume hoods must be commissioned & certified by a competent person following installation to ensure optimum performance.
- Fume hoods must be used when using volatile chemicals, the flow rate must be maintained at a minimum rate of 0.5m/s and shall be tested daily using a hotwire or vane anemometer or similar standard device. The face of the hood shall be divided into nine sections to ensure testing confirms a uniform flow.
- Fume hoods must not be used to store chemicals. This interferes with the direction of airflow causing turbulence that allows contaminants to be drawn out of the hood.
- Keep all apparatus at least 6 inches (15cm) from the front face of the hood to prevent the escape of contaminants.
- If a power outage occurs, the fume hood will likely be compromised. Avoid using the hood during such periods.
- Maintain the sash at as low a level as possible to maintain optimum air velocity.

14.188 Biological Laboratory

Hazard:	Flammables, biological agents
Level of Risk:	Low
Controls:	See details outlined below

- Laboratory coats must be worn on outer clothing to avoid cross contamination.
- Suitable gloves must also be worn and are considered contaminated after one wearing. Dispose of gloves in Biohazard waste container.
- Dispose of all biological samples into the biohazard waste container.
- At the end of biological work disinfect lab benches, sinks and any equipment used, using lab grade product.

14.189 Bio Lab Associated Work

Hazard:	Chemical handling, bio-agents, use of sharps, ergonomics
Level of Risk:	Medium
Controls:	See details outlined below

14.189.1 Sorting and identifying Invertebrates

- Accessories are provided for handling invertebrates and should be used.
- Protective gloves are provided and should be worn.
- Methanol should be handled only in the fume cupboard.
- Chemical goggles are available and should be worn when handling alcohol.
- Alcohol must be stored appropriately and must not be left opened.
- The information contained in the Material Safety Data Sheet must be adhered to.
- Lab chairs are provided and should be used. The user should adjust to a comfortable position.
- Detailed work on invertebrates should not exceed one hour in duration without a postural break.
- Invertebrates should be examined under good lighting conditions.

14.189.2 Scale reading & cleaning of scales.

- Appropriate chemical resistant gloves are provided and should be worn.
- Chemical goggles are available and should be worn when handling sodium peroxide.
- Sodium peroxide is used in a dilute form. Dilution must be carried out in the fume cupboard and as per the information contained in the Safety Data Sheet (SDS).
- Concentrate Sodium peroxide must be stored in accordance with the information in the SDS.
- Lab chairs are provided and should be used and adjusted by the operator to a comfortable position.
- Detailed work on scales should not exceed one hour in duration without a postural break.
- Scales should be examined under good lighting conditions.

14.189.3 Processing and dissecting fish

- Use appropriate PPE consistent with the hazard. This includes, but is not limited to, eye protection and puncture and cut resistant gloves.
- Use caution with knives, saws, scalpels, and forceps and always cut away from your body.
- Care must be taken to place scalpel/knife in visible location and not buried under fish parts.
- Make sure knives, saws, and scalpels are sharp.
- Use the tool provided to remove scalpel blades safely and dispose of in the sharps bin.
- Use caution when handling fish. Use puncture/cut resistance gloves to avoid cuts from fish spines, teeth, and gill plates.
- Proper lifting techniques shall be used. Get help or use equipment if necessary.
- Provide adequate ventilation and use caution when preserving biological samples with chemicals.
- Be aware of slippery floors caused by dissecting and spillage of fish body fluids and tissue.
- Use caution when operating any electrical equipment in wet environments. Ensure that electrical equipment is properly grounded and utilize an RCD source.
- Wash hands with soap or hygiene cleanser upon completion of the task.
- Clean and disinfect equipment after use.
- Disinfect any minor cuts or injuries caused by handling fish.
- Report any injuries at once to your line manager.

14.189.4 Disposal of fish waste

- Care must be taken when disposing of fish waste.
- Waste containers must be labelled.
- Disposal must be in compliance with *Waste Management (Hazardous Waste) Regulations S.I.No163 of 1998 / S.I. No. 73 of 2000.*

14.190 Microscopy & Scale Reading

Hazard:	Awkward posture, manual handling, handling glass slides, chemical handling, hot bulbs, biological agents.
Level of Risk:	Low
Controls:	See details outlined below

14.190.1 Microscopy

- Read and follow the manufacturer's operating manual for safe operation and maintenance.
- After the equipment has been used in an observation of a specimen that is accompanied with a potential of infection, clean the parts coming in contact with the specimen to prevent infection.
- The microscope may become unstable when certain intermediate attachments and/or photography unit are mounted on it. Take the measures so that the microscope does not turn over.
- To avoid electric shock or damage to the instrument, unplug the microscope before replacing the bulb.
- Allow the halogen bulbs to cool before touching.
- Halogen bulbs become extremely hot and may cause burns if touched.
- Use only the prescribed halogen or fluorescent bulb.
- Turn off and unplug the microscope before moving.
- Always carry the microscope with both hands. One hand should support the bottom, and the other should have a firm grip on the arm.
- Great care must be taken when handling glass slides and covers, as glass slides could break and cut you.
- Chemicals and specimens on the slides could be harmful. Ensure you have read the material safety data sheet for the chemicals used and adhere to the safety precautions.
- Ensure you have a suitable chair for microscopy work. Request an ergonomic assessment if you are not satisfied with the workstation layout.

14.190.2 Scale Reading

- Read and follow the manufacturer's operating manual for safe operation and maintenance.
- Ensure you have a suitable chair for scale reading work. Request an ergonomic assessment if you are not satisfied with the workstation layout.

14.191 Laboratory Equipment

Hazard:	Chemical handling, bio-agents, use of sharps, awkward postures, fire, steam, pressurised equipment.
Level of Risk:	Medium
Controls:	See details outlined below

Always immediately report damaged or defective equipment (including glass-ware) to your line manager and defective equipment must be removed from service until repaired.

14.191.1 Bunsen Burner

- Read and follow the manufacturer's operating manual for safe operation and maintenance.
- Place the Bunsen burner away from any overhead shelving, equipment or light fixtures by at least 12 inches.
- Remove all papers, notebooks, combustible materials and excess chemicals from the area.
- Tie-back any long hair, dangling jewellery, or loose clothing.
- Inspect hose for cracks, holes, pinch points or any defect and ensure that the hose fits securely on the gas valve and the burner.
- Replace all hoses found to have a defect before using.
- Notify others in the laboratory that the burner will be in use.
- Utilize a sparker/lighter with extended nozzle to ignite the burner. Never use a match to ignite a burner.
- Have the sparker/lighter available before turning on the gas.
- Adjust the flame by turning the collar to regulate air flow and produce an appropriate flame for the experiment (typically a medium blue flame).
- Do not leave open flames unattended and never leave the laboratory while the burner is on.
- Shut off gas when its use is complete.
- Allow the burner to cool before handling. Ensure that the main gas valve is off before leaving the laboratory.

14.191.2 Centrifuge

- Read and follow the manufacturer's operating manual for safe operation and maintenance.
- Ensure that centrifuge bowls and tubes are dry.
- Ensure that the spindle is clean.
- Use matched sets of tubes, buckets and other equipment.
- Always use safety centrifuge cups to contain potential spills and prevent aerosols.
- Inspect tubes or containers for cracks or flaws before using them.
- Avoid overfilling tubes or other containers (e.g., in fixed angle rotors, centrifugal force may drive the solution up the side of the tube or container wall).

- Ensure that the rotor is properly seated on the drive shaft.
- Make sure that tubes or containers are properly balanced in the rotor.
- Only check O-rings on the rotor if you are properly trained.
- Apply vacuum grease in accord with the manufacturer's guidelines.
- Do not exceed the rotor's maximum run speed.
- Close the centrifuge lid during operation.
- Make sure that the centrifuge is operating normally before leaving the area.
- Make sure that the rotor has come to a complete stop before opening the lid.
- Ensure the equipment is serviced and inspected at regular intervals.

14.191.3 Autoclave

- Read and follow the manufacturer's operating manual for safe operation and maintenance.
- Be sure autoclave is OFF and pressure is low before opening doors. Open autoclave doors slowly, keeping the head, face, and hands away from the opening to prevent direct contact with steam.
- Before loading the autoclave, check the inside for items left by previous users.
- Load autoclaves according to the manufacturer's recommendations in order to ensure complete sterilization of items.
- To prevent bottles from shattering during pressurization, the caps of containers with liquids must be loosened before loading.
- Waste should be autoclaved in bags or containers designed to withstand the heat and pressure of the autoclave. Autoclavable biohazard bags should be designed with a steam indicator or tape.
- Steam must be in contact with the material being sterilized to be effective. If a load is contained within a bag or other enclosure, the container must NOT be tightly sealed, or it must contain some water to ensure steam production.
- Do not autoclave flammable, reactive, corrosive, toxic or radioactive materials. Never autoclave dried bleach, bleach associated materials, or nitrocellulose as both compounds pose a fire or explosion risk. Lab coats that have been contaminated with chemicals should not be autoclaved but cleaned by an approved laundry service or disposed of as chemical waste.
- Firmly lock autoclave doors prior to operation. Most autoclaves are equipped with an interlock system, which does not allow operation without the door being completely closed. Determine if the autoclave is equipped with an interlock system. If it does not, be sure all users are aware of this feature and advise them to utilize extra caution when operating the autoclave.
- Older autoclaves may not provide efficient heat shielding around the unit. Signs should be in place to warn users or passers-by of the hazards present ("Hot Surfaces, Stay Clear"). Wait at least 30 seconds after opening the door before reaching into the autoclave to remove sterilized items. Remove items slowly.
- Do not store combustible materials near autoclaves.

- Always utilize the appropriate Personal Protective Equipment (PPE) when placing items into or removing items from an autoclave. PPE should include heat resistant gloves, safety goggles, and, if handling large amounts of liquid, rubber boots and rubber apron to protect against splash/spill hazards.
- Use a tray with a solid bottom and walls to contain the contents and catch spills, should they occur. Add ¼ to ½ inch of water in the bottom of the tray to ensure bottles heat evenly.
- Check plastic materials to ensure they are compatible with the autoclave. Red biohazard bins and bags, and SHARPS containers provided by OEH&S, are not autoclavable plastics!
- For non-liquid loads, allow glassware to cool for at least 15 minutes prior to touching with ungloved hands.
- For liquid loads, allow liquids to stand for at least 1 hour prior to touching with ungloved hands.
- In addition to the above safety precautions, all manufacturer safety recommendation should be in place and effectively enforced.

14.191.1 Hot Plate

- Read and follow the manufacturer's operating manual for safe operation and maintenance.
- Ensure workers are trained in the safe use of all equipment prior to use.
- Always check equipment prior to use.
- Do not use equipment if cords are worn, frayed, or damaged.
- Do not use if the grounding pin is removed or plug is damaged.
- Do not use if sensor is corroded or damaged.
- Do not use if a spark is observed.
- Do not store volatile flammable materials near hot plate. Do not place paper or other combustible materials near the hot plate.
- Limit use of older hot plate for flammables.
- Ensure the hot plate is set to the proper setting. Do not leave unattended.

14.191.2 Millipore Water Purification (UV Lamp & Replacement)

- The light from the UV lamp is very damaging to eyes and skin. Do not turn on the Water System or attempt to turn on the UV lamp in any way until the UV lamp is inside its stainless-steel housing inside the water system.
- The UV lamp contains metallic Mercury. The lamp must be handled with great care. Old lamps must be treated as hazardous waste and disposed of accordingly.

14.192 ICP

Hazard:	Chemical handling, bio-agents, use of sharps, ergonomics, confined space oxygen depletion.
Level of Risk:	Medium
Controls:	See details outlined below

14.192.1 Mounting Otoliths

- Read the material safety data sheet for Epofix hardener and Epofix resin before use.
- Gloves must be worn when curing resin. Prepare in the fume hood.
- Read the material safety data sheet for Crystalbond LT before use.
- Chemical goggles and protective gloves are recommended when handling heated Crystal bond.
- Protective gloves must be worn when using the hotplate.

14.192.2 Precision Saw

- Read and follow the manufacturer's operating manual for safe operation and maintenance.
- The precision saw can only be operated when the guard is closed.
- Use with the guard open is strictly prohibited.
- If the sample has to be sanded following sawing a dust mask should be worn.

14.192.3 Laser Ablation & Mass Spectrometry

- Read and follow the manufacturer's operating manual for safe operation and maintenance.
- Ensure the O₂ monitor is powered on before operating the laser.
- Ensure the remote fixing for the O₂ monitor is also in place.
- The accuracy of G-TECTA™ Cellaguard instruments should be checked periodically with known concentration calibration gas. Failure to check accuracy can lead to inaccurate and potentially dangerous readings. Periodic testing of both sensors may be performed simply by using exhaled breath to generate high CO₂ and low oxygen alarms.
- Exhaled breath contains approximately 4% CO₂ and 16% oxygen, and therefore contains sufficient levels of each gas to cause alarms on the Cellaguard™ monitor. The Oxygen sensor must be replaced every 3 years. The Linde Group also recommends full re-calibration after 3 - 4 years of use. To test the sensor, carry out the following:
 - Find a suitable plastic bag
 - Inflate the plastic bag by blowing gently into it
 - Hold the open end of the inflated bag tightly over the sensor(s) and wait until the alarms activate.

The Cellaguard™ display will show increased levels of CO₂ and decreased levels of oxygen (if fitted). The O₂ alarm (if fitted) will activate instantly and the CO₂ alarm after approximately 25 second.

- The Argon cylinder is supplied externally. The cylinder is kept in a secure cage.
- The Helium cylinder is stored in the ICP room. It is secured upright. A cylinder trolley is provided to reduce manual handling during cylinder replacement.
- Wastewater is safely disposed of.
- SDS for Nitric acid is read before use.
- The dry bath is used in the fume hood. Goggles and gloves are worn.

Hatcheries, Fish Farms, Fish Traps & Cages*

*** To be read in conjunction with site specific risk assessments.**

14.193 Traffic Management

Hazard:	Heavy machinery, goods vehicles, fast moving vehicles
Level of Risk:	Medium
Controls:	See details outlined below

- Vehicle movement is restricted to 10km/h on IFI sites.
- Speed signs on site must be obeyed.
- Vehicles must be parked in the dedicated areas.
- IFI vehicles must be kept in a safe and road worthy state.
- Traffic is protected from environmental hazards of the site using signage, barriers and bollards.

14.194 Access to Lifting Block (Roscrea)

Hazard:	Deep water, lone working, moving parts
Level of Risk:	Medium
Controls:	See details outlined below

- Staff shall not access the stream in which the block and pump is situated alone.
- Great care must be taken when entering the water from the bank.
- A second person should provide support when entering the water.
- Waders and a personal flotation device must be worn.
- Additional PPE may be required for maintenance work.
- The pump must be powered off before handling. Manual handling techniques and team lifting applied.
- The lifting block must be certified annually by a competent person.

14.195 Chemical Handling

Hazard:	Hormone toxin, Toxins, Oxidisers, Irritant, Flammables, Corrosives etc.
Level of Risk:	Medium
Controls:	See details outlined below

General Safety Measures

- Where practicable avoid work alone when handling chemicals.
- Always consult the safety data sheet (SDS) for the chemical.
- Use required personal protective equipment.
- Label all containers with chemical content.
- Keep your hands and face clean. Wash thoroughly with soap and water after handling any chemical and whenever you leave the lab.
- Avoid direct contact with any chemical.
- Keep chemicals off your hands, face and clothing, including shoes.
- Never smell, intentionally inhale or taste a chemical.
- Smoking/vaping, drinking, eating and the application of cosmetics is forbidden in areas where hazardous chemicals are used or stored.
- Always use chemicals with adequate ventilation or in a chemical fume hood where applicable.
- Use hazardous chemicals only as directed and for their intended purpose.
- **Never** use mouth suction to fill a pipette. Use a pipette bulb or other pipette-filling device.
- Electrically ground containers using approved methods before transferring or dispensing a flammable liquid from a large container.
- For specific information regarding chemical handling, contact your supervisor, safety rep or Health & Safety Executive.

14.196 Formaldehyde (30 – 55% W/W)

Hazard:	Toxic, Flammable, Corrosive
Level of Risk:	Medium
Controls:	See details outlined below

- Formaldehyde is flammable, toxic and corrosive.
- Staff handling Formaldehyde must receive chemical handling training and consult the material safety data sheet prior to use.
- The number of staff handling formaldehyde must be restricted to the minimum practicable. Handling exposure should be reduced to the absolute minimum.
- The following personal protective equipment must be worn:
 - Chemical resistant coveralls (e.g. disposable Tyvex suit)
 - Protective rubber boots must be worn.
 - A full-face respirator meeting the EN141 standard must be worn. Consult with the health and safety executive if you are unsure about the correct masks or filters or fitting of equipment.
 - Protective gloves of butyl rubber, nitrile or viton gloves must be worn.
- Formaldehyde must be stored in a bunded area, away from strong acids, sources of ignition or flammable substances.
- Formaldehyde must never be stored beside sodium percarbonate or any other oxidising material.
- Formaldehyde must be stored in a well-ventilated area.
- Manual handling techniques must be employed when handling formaldehyde. Where practical use mechanical aids for transportation (loadall, pallet truck etc).
- Hand pumps should be used to decant barrels. Tipping barrels should be avoided where practicable.

14.197 Sodium Percarbonate

Hazard:	Oxidiser and Irritant
Level of Risk:	Medium
Controls:	See details outlined below

- Sodium Percarbonate is an oxidising chemical it is also a harmful chemical and an irritant.
- Staff handling this chemical must receive chemical handling training and consult the material safety data sheet prior to use.
- The number of staff handling sodium percarbonate must be restricted to the minimum practicable. Handling exposure should be reduced to the absolute minimum.
- The following personal protective equipment must be worn:
 - Chemical resistant coveralls (e.g. disposable Tyvex suit)
 - Protective rubber boots must be worn.
 - A dust respirator with a P2 filter must be worn. Consult with the health and safety executive if you are unsure about the correct masks or filters or fitting of equipment.
 - Protective goggles.
 - Protective gloves of pvc, neoprene or rubber must be worn.
- Sodium percarbonate must be stored in isolation, in a dry ventilated area out of direct sunlight.
- Manual handling techniques must be employed when handling the chemical. Where practical use mechanical aids for transportation (loadall, pallet truck etc).
- Avoid dust creation as far as is reasonably practicable and only handle in ventilated areas.

14.189 17 α Methyltestosterone Hormone

Hazard:	Suspected carcinogen and reproductive toxin.
Level of Risk:	High
Controls:	See details outlined below

14.198.1 Storage

- The hormone is securely stored in the office safe. Access to the hormone is controlled by Jon Cowen.

14.198.2 Safe Handling

- Staff are prohibited from handling the hormone without the expressed permission of Jon Cowen. Staff must be trained in the safe handling of the hormone if they are to handle it.
- Staff must wear protective gloves meeting the EN 374 standard. A plastic scoop must be used to reduce the likelihood dermal exposure.
- Staff must read the Material Safety Data Sheet before using 17 α Methyltestosterone.
- Staff must wear respiratory protective equipment. A full-face mask must be worn with P2 filters.
- A dated record must be kept of amounts of 17 α Methyltestosterone used and signed off by the handler.

14.198.3 Procedure for use

- The hormone is supplied in single 3mg doses, dissolved in isopropyl alcohol (approx. 5ml) in a cuvette.
- A clean glass beaker should be filled with 120ml of Ethanol.
- A single 3mg dose (for Rainbow Trout), or two 3mg doses (6mg total for Brown Trout) should be poured into the 120ml of Ethanol in the beaker. Approximately 30ml of Ethanol should then be used to rinse thoroughly, the supplied cuvettes into the beaker.
- 1Kg of feed should be placed in the mixing tray and the 150ml of ethanol/hormone mix should be poured slowly over the feed while being mixed with the glass rod.
- Once emptied, 50ml of ethanol should be used to rinse the beaker into the feed, again being thoroughly mixed as before.
- All equipment must be clearly labelled and not used for any purpose.
- The mixing should be done in the evening in a well-ventilated area. This is to allow the ethanol to evaporate overnight thus reducing the risk of exposure to staff.
- The hormone containing feed is then stored in a freezer before use.
- The container used must be clearly labelled and stored securely when not in use.

14.199 Chloramine T

Hazard:	Corrosive and harmful.
Level of Risk:	Medium
Controls:	See details outlined below

- Chloramine is corrosive and harmful.
- Staff must read the Material Safety Data Sheet before using Chloramine T.
- Use only in a well-ventilated area. Avoid contact with skin and eyes.
- Respiratory protection meeting the EN 149 standard must be worn.
- Gloves, goggles and proactive coveralls should be worn.
- Keep container tightly closed.
- Store in a cool, dry place. Keep container closed when not in use.
- Avoid storage and use near strong oxidising agents, acids or ammonia.
- Store in a secure chemical locker.

14.200 Fish Grader & Pump

Hazard:	Moving parts, pressurised vessel, noise, chemicals.
Level of Risk:	Medium
Controls:	See details outlined below

- The fish pump should be transported using another vehicle to tow it.
- Avoid manual transporting around the farm. Staff must read the operating manual before using the fish pump.
- Before use ensure the pump is levelled using jacks.
- Staff should avoid contact with the exhaust, compressor and vacuum unit when using the pump.
- The compressor must never be allowed exceed a pressure of 10 bar.
- Compressor to be inspected as part of annual engineering inspections.
- Care must be taken when working around the pumps flexi hosing at the inlet and outlet.
- Staff are trained in manual handling techniques.
- Team lifting is conducted as required.
- Mechanical aids are available and used as appropriate. Staff should lift items only when it is safe to do so.
- Ensure safety data sheets are available for chemicals used (oils, fuels etc.)
- PPE to be worn as recommended.
- Staff operating the Loadall must be trained.
- Staff working around the Loadall, and pump must withdraw a safe distance when the Loadall is operating.

14.201 Oxymat Oxygen Generation

Hazard:	Oxidisers, high pressure vessels
Level of Risk:	Medium
Controls:	See details outlined below

- Read and follow the manufacturer's operating manual for safe operation and maintenance.
- Exhaust gas from the oxygen generator contains only 8-12% oxygen. Exhaust gas must be piped out of the room to the outside; the room housing the generator must be well ventilated.
- No vaping/smoking or sources of ignition should be present while venting oxygen. Venting oxygen should not come in contact with clothing or hydrocarbon material.

14.202 Aerators

Hazard:	Electricity
Level of Risk:	Medium
Controls:	See details outlined below

- Read and follow the manufacturer's operating manual for safe operation and maintenance.
- Check the warranty and keep all records of purchase.
- Manual handling of aerators requires a two-man lift.
- The aerators must be positioned in the pond before connecting to 3 phase power.
- The power must be switched off before connecting cables to the aerator. All electrical power connections and cables must be suitably IP rated. Cables must be protected against complete and continuous submersion.
- All aerators must be regularly inspected, and any blockage removed.
- All aerators must be cleaned and maintained at least every 3 months.
- All engines and motors should be maintained as recommended by the manufacturer. Electric motors should be protected from splashing, and all drive shafts should be checked periodically for proper alignment.

For electrical safety:

- Do not drive over live wires.
- Make sure that power is shut off at the control box before any maintenance work is done.
- Use qualified electricians to install wiring.
- Place exposed wiring in conduits to prevent damage to the wiring.
- Switch off aerators before entering the pond.

14.203 Vaccinators

Hazard:	Injection and manual handling
Level of Risk:	Low
Controls:	See details outlined below

The following vaccines are used at the fish farms:

AquaVac™ ERM – Enteric Redmouth Vaccine, Concentrate for dip suspension.

AquaVac™ ERM Oral – Enteric Redmouth Vaccine, Oral Emulsion.

AquaVac™ FNM^{plus} – Non-Mineral Oil Injection Applied Furunculosis Vaccine.
Refer to Material Safety Data Sheets for details.

Other vaccines may be used as required.

14.203.1 Accidental injection

- If you have been accidentally injected with fish vaccine, seek the assistance of a doctor immediately, even if the injected amount is small.
- Take the package insert from the vaccine package with you to the doctor.
- If pain persists for more than 12 hours after medical examination, you must consult the doctor again.
- Unintentional injection of fish vaccine can lead to severe pain and swelling, especially if the preparation is injected into a limb or finger. In rare cases, the loss of an affected finger may be the result if treatment is not commenced immediately.
- If a dose has been injected, one may see a local reaction with redness and swelling affecting the hand and part of the arm. One may see a red stripe ("blood poisoning") which extends up the arm.
- Repeated self-injection may result in an allergic reaction to the fish vaccine. If allergic patients inject themselves there is a risk of anaphylactic shock, which can be life threatening without prompt and appropriate treatment.
- Signs of anaphylactic shock start in a matter of a few minutes. The patient becomes unwell, can have itchiness of the skin, eyes and mouth. They can feel warm and develop an urticarial rash and appear anxious and listless.
- The shock phase will present with breathing difficulties and rapid breathing difficulties and rapid heart action. They may have stomach pain, with vomiting and diarrhoea. In very serious cases they may be confused and become unconscious. Urinary or faecal incontinence may occur.

14.203.2 First aid when a person develops shock after injection

- If the patient has breathing difficulties, they should lie with their upper body slightly raised.
- The patient must be observed until the doctor arrives. If they vomit place them on their side. The patient must rest. If they have to be moved, they should be carried and not walk themselves.

14.203.3 Information for the Doctor

- The injection of even a small amount of a fish vaccine product can result in ischemic necrosis or even the loss of an affected finger.
- The site of injection must be immediately examined by a surgically competent person, and if necessary, incision and irrigation of the affected area must be performed, especially when ligaments or soft tissue are involved.
- Repeated self-injection may reinforce the reaction or result in anaphylactic shock.

14.203.4 Manual Handling

The use of the vaccinator requires staff to load the vaccinator table with fish. The following precautions should be taken:

- Staff using long handled nets must take great care to avoid awkward postures.
- Staff members with a history of back pain are prohibited from participating.
- Manual handling techniques must be deployed.
- To reduce the risk the person lifting the fish must be regularly rotated to eliminate repetitive strain injury.
- All available mechanical aids must be used.
- Staff must be given regular breaks.

14.204 Hatchery Operations

Hazard:	Low temperatures
Level of Risk:	Very Low
Controls:	See details outlined below

- Staff must wear the warm clothing provided when required e.g. thermals warm coats hats etc.
- Waterproof gloves should be worn e.g. Sealskinz.
- Anti-fatigue mats are provided where required.

14.205 Water Pumps

Hazard:	Heat, fumes, noise
Level of Risk:	Low
Controls:	See details outlined below

14.205.1 Safe Operation of Generator

- Read and follow the manufacturer's operating manual for safe operation and maintenance.
- Employ manual handling techniques when lifting pumps or connecting pipes.
- For safety, never pump flammable or corrosive liquids such as petrol or acid. Also, to avoid pump corrosion, never pump sea water, muddy water, chemical solutions, or caustic liquids.
- Operate the pump on a level surface. If the engine is tilted, fuel spillage may result.
- To prevent fire hazards and to provide adequate ventilation, keep the pump at least 1 metre (3 feet) away from building walls and other equipment during operation. Do not place flammable objects close to the pump.
- Know how to stop the pump quickly and understand the operation of all controls. Never permit anyone to operate the pump without proper instruction.
- Petrol is extremely flammable and is explosive under certain conditions.
 - Refuel in a well-ventilated area with the engine stopped.
 - Do not smoke or allow flames or sparks in the area where the engine is refueled or where gasoline is stored.
 - Do not overfill the fuel tank there should be no fuel in the filler neck.
 - After refuelling, make sure the tank cap is closed properly and securely.
 - Be careful not to spill fuel when refuelling. Spilled fuel or fuel vapor may ignite. If any fuel is spilled, make sure the area is dry before starting the engine.
 - Never run the engine in an enclosed or confined area. Exhaust gas contains poisonous carbon monoxide gas; exposure can cause loss of consciousness and may lead to death.
- The muffler becomes very hot during operation and remains hot for a while after stopping the engine. Be careful not to touch the muffler while it is hot. Let the engine cool before storing the pump indoors.
- Exhaust gas contains poisonous carbon monoxide. Avoid inhalation of exhaust gas. Never run the pump in a closed garage or confined area.

14.205.2 Equipment Safety

- Ensure the pressure safety-valve ring is properly operating.
- Moisture can condense in a unit, so it is extremely important to drain the tank after each day's use. If left in the tank, moisture could cause rust and weaken the tank.

14.205.3 Personal Safety

- Always read the manufacturer's operator manual.
- Carefully follow all safety and operation rules.
- Always wear safety glasses and hearing protection when using a water pump.

14.206 Fish Transfer, (Un)Loading and Truck Transport

Hazard:	Slippery surfaces, vehicle traffic and movement, Manual handling
Level of Risk:	Low
Controls:	See details outlined below

Fish Loading

- A staff member accesses the truck bed using the fitted ladder.
- The tank lids are opened.
- The staff member using the fitted ladder alights the truck bed and stands in a safe position away from the vehicles.
- The loadall operator drives the machine toward the truck raising its load over the fish tanks on the truck. The loadall boom must not be extended beyond its safe working load.
- The loadall operator then unloads the fish into the truck tanks.
- The loadall operator then lowers the load all tank to ground level.
- Any remaining fish are removed using a hand net and manually placed into the truck tanks.
- Repeat steps above as required.

Fish Transfer

- A staff member with CPC qualifications and the appropriate category drivers licence transports the fish to the relevant fishery.
- Where the driver needs to access the truck bed the ladder provided must be used.

Fish Unloading

- Access to the truck, truck bed or tanks by third parties is strictly prohibited.
- The preferred method of unloading fish is by fixing an extension hose/pipe onto the tanks sluice and open it allowing the fish to exit with the tank water.
- If fish have to be removed using a long handled the net the staff member must not overload the net. Regular rest breaks are essential to reduce the risk of back strain.

14.207 Netting Trout (Fish Farm)

Hazard:	Deep water, manual handling
Level of Risk:	Low
Controls:	See details outlined below

- Lifejackets must be worn at all times when hauling nets.
- Correct manual handling techniques must be used at all times.
- When hauling nets of fish an adequate number of staff must be deployed to ensure musculoskeletal injuries are avoided. **The person conducting the manual handling must be rotated regularly. A minimum of four staff are required.**
- Mechanical aids must be used where available.

14.208 Pond Bed Scraper

Hazard:	Tractor Operation, entanglement
Level of Risk:	Low
Controls:	See details outlined below

- The pond bed scraper must be used with the fish farm tractor.
- The operator must have a category W driver's licence.
- Staff must not work in the pond in which the tractor and scraper are operating.
- The PTO must be guarded.

14.209 Weed Cutting in Ponds & Channels

Hazard:	Deep water, sharps
Level of Risk:	Low
Controls:	See details outlined below

- Staff clearing weeds from ponds and channels must wear a personal flotation device.
- Staff using a slash hook or similar tool must wear steel toed waders.

14.210 Vermin Control

Hazard:	Slips, trips and falls, biological agents
Level of Risk:	Low
Controls:	See details outlined below

- Staff setting mink traps must take care when placing trap in a run. Suitable footwear must be worn.
- Good hygiene practices should be implemented.
- Wash hands before and after handling traps or after handling dispatched vermin.
- PPE should be worn when setting rodenticides.
- For the safe use of firearms refer to section 14.38.

14.211 Lone Working

Hazard:	Encountering violent people
Level of Risk:	Medium – High
Controls:	See details outlined below

- Staff are to follow the lone working procedures detailed in section 14.9.
- Staff must wear a personal flotation device.
- Where a lone working device system is operable in the farm/hatchery this must be used.
- Refer to Section 14.167.

14.212 Work at Height

Hazard:	Falls from height, fragile roofs, unprotected edges, poor weather
Level of Risk:	Low
Controls:	See details outlined below

Refer to Section 14.60.

14.213 Use of Fish Cages (Lough Allua)

Hazard:	Work on or adjacent to water, fish transport truck, work at height, manual handling.
Level of Risk:	Medium
Controls:	See details outlined below

14.213.1 Fish Transport

- Staff operating the truck have a C licence and completed CPC training.

14.213.2 Fish handling (loading truck)

- Staff are trained in manual handling techniques. A two-man lift is conducted. The bins are lifted/gripped by the base and handle. Staff are not under time pressure when transporting the bin to the trailer/truck and only carry loads of fish which they find they can carry comfortably. Job rotation is implemented to reduce the risk of back strain. When transporting into the trailer tank the bin is rested on the ground to allow staff to reposition themselves before emptying into the tank. If the truck is used, then the bin is positioned a third time at bed height before being emptied into the tank.

14.213.3 Fish handling (unloading truck)

- Staff are trained in manual handling techniques. Fish are removed from the tanks using a long handled net and placed in a bin. Staff are not under time pressure when transporting the bin to the trailer/truck and only carry loads of fish which they find they can carry comfortably. Job rotation is implemented to reduce the risk of back strain. Bins are handled as described above (transporting fish) but in reverse order.

14.213.4 Access to cages from shore

- Staff travel to the cage aboard a 12' fibreglass boat. Occupancy is restricted to a maximum of two staff. Staff wear a 150 N lifejacket with crutch strap. In cold water conditions a dry suit is worn. Access is postponed on days when weather conditions are unsuitable e.g. gale coming from open side of the lake. An additional boat is kept at shore for emergency access.

14.213.5 Feeding

- Staff are trained in manual handling. Manual handling techniques are used when carrying fish feed onto the cage. Fish feed is stored in bins on cages. Staff are not under time pressure to feed stock. Care is taken when moving around the cages. Lifejackets are worn.

14.213.6 Netting

- Staff netting fish have completed manual handling training. Care is taken to hold the handle as close to the net as possible to avoid strain. Staff are not under time pressure when netting and only carry loads of fish which they find they can carry comfortably. Job rotation is implemented to reduce the risk of back strain. Care is taken to avoid twisting the back by moving the foot position as required.

14.213.7 Moving Cages

- 3-4 staff are required when moving cages. The cage is tied to a rope which is then pulled toward the shore.

14.214 Aasleagh Fish Trap

Hazard:	Noise, lifting equipment
Level of Risk:	Medium
Controls:	See details outlined below

14.214.1 Training

- Staff must be provided with on-the-job training.
- All novice operators must read the SOP document before commencing training.
- Novice operators can only operate the fish trap under the supervision of an experienced operator.
- The new operator can only operate the fish trap alone when the experienced operator is satisfied that the novice has sufficient knowledge and experience to work safely.
- All novice operators must sign and date a training record when they have read this document and completed the training.

14.214.2 Safe Operating Procedures

- The lifting equipment is inspected and certified annually.
- Hearing protection is worn.
- The Vaki counter must be constantly monitored.
- When the Vaki counter has registered fish entering the trap, press the **GREEN** start button on the control panel for the hydraulic ram.
- Close the entrance door to the trap by pushing forward the left hydraulic lever.
- Press the **GREEN** start button (inside control panel) to power on the electrical hoist.
- Using the wall mounted controls (outside) press the white button to lift the fish trap tray.
- The tray must be lifted to the correct height. The correct height is reached when the plumb is just resting on the tray.
- Pull the shoot lever fully down to the ground. This ensures the shoot is securely under the tray.
- Remove any ranch fish in the tray.
- Lift the release door to allow wild fish to escape.
- Close the release door.
- Raise the shoot lever.
- Using the wall mounted controls (outside) press the black button to lower the fish trap tray.
- Pull the left lever towards your body on the hydraulic controls.
- Press the **RED** stop button on the hydraulic ram control panel.
- Press the **RED** stop button (inside control panel) to power off the electrical hoist.
- **The Electric Winch can be stopped at any time by hitting the Red Emergency Stop Button**

14.214.3 Trouble Shooting

14.214.3.1 An Off Level Tray

- Switch off the switch which is located under the inside electrical hoist control panel.
- Use the outside electrical control panel to level the tray as required.

14.214.3.2 Cleaning the Tray Screens

- Lone working is prohibited when cleaning screens.
- Take care accessing/egressing the tray.
- Ensure suitable footwear is worn.
- Use the brush provided.

14.214.3.3 Hoist Power Trip Out

- Staff must wear insulated protective gloves.
- Inspect gloves and ensure there are no holes or cracks.
- Remove the cover of the control panel using an insulated screwdriver.
- Using the insulated screwdriver press in the two contactors.
- Replace cover on the panel.

14.214.3.4 Entering the Tray (e.g. Sand Removal)

- Lone working is strictly prohibited.
- A ladder must be used to safely access/egress the tray.
- Ensure suitable footwear is worn.

14.214.3.5 Cleaning Centre Grate

- Lone working is strictly prohibited.
- Use the long handle drag to remove the debris.
- Do not raise the centre gate.

Business Development

14.215 Cautionary Statement

Note that while this section deals with activities that relate specifically to Business Development there are many other sections throughout the document which apply to staff working in Business Development e.g. 14.144 Excursions involving journalists/groups/organisations. You are obliged to make yourself familiar with all sections of the safety statement that are relevant to your work activities. If there is a need for specific risk assessments, you should liaise with the H&S Executive.

14.216 Angling Promotion & Shows

Hazard:	Driving, Manual Handling
Level of Risk:	Medium
Controls:	See details outlined below

- Staff must comply with the driving for work handbook and driving related sections of this safety statement.
- Staff must complete manual handling training.
- When loading/unloading vehicles with promotional material manual handling techniques should be applied. Use mechanical aids, team lifting and job rotation to minimise the risk.
- Great care should be applied when (dis)assembling or erecting banners, stands and other promotional material.
- Staff driving in other jurisdictions must familiarise themselves with differences in and comply with the local road traffic laws.
- Be aware that some countries require winter tyres during part of the year.
- You may also require the following equipment for European driving:

Universal headlamp adaptors

Warning triangle

Hi Vis vest

IRL sticker

European DIN spec first aid kit

Bulb kit

Breathalyser (in date)

14.217 Casting & Fishing Lessons

Hazard:	Flying hooks, deep water
Level of Risk:	Medium
Controls:	See details outlined below

- Activities should be avoided so far as is reasonably practicable in areas of deep water, dangerous currents or where there are falls from heights into water e.g. on high walled piers.
- Be aware of any safety signs in the vicinity.
- Avoid water ways which show signs of pollution.
- Ensure all those participating wear safety glasses and a hat.
- When instructing children the ratio of children to the instructor should not exceed 6:1.
- PFDs should be worn on or adjacent to water.
- A throw line must be made available at all times.

14.217.2 Instructing children

- Any instruction with groups of children must be conducted in accordance with child protection codes of practice. Staff must be trained in child protection and Garda vetted. For Further information please contact Emma Fortune 01 8842600.
- When working with schools e.g. The Something Fishy Programme it is important to liaise with school management and obtain copies of indemnities. The H&S checklist and risk assessments found in Appendix V & VI must be completed.
- When instructing children the ratio of children to the instructor should not exceed 6:1.

14.218 Angling Competitions

Hazard:	Cold/hot temps, inclement weather, sea/lake/river state
Level of Risk:	Medium
Controls:	See details outlined below

- Where staff are providing assistance at angling competitions the skills required will vary with the nature of the completion and the angling environment. Please note that training and/or licencing is required in the following situations:

Use of Boats
Use of ATVs (Quads)
Use of VHF Radios
Use of Vehicles
Towing Trailers

Under no circumstances should third parties operate IFI Equipment without provision of insurance, indemnities, proof of competency and local management approval.

- Foul weathering clothing appropriate to the weather conditions and season should be worn. Suitable gloves should be worn if regularly releasing/handling fish in cold water.
- Avoid water ways which show signs of pollution.
- A personal flotation device should be worn on or adjacent to water.
- A throw line must be made available at all times.

Education and Outreach

14.219 Field Trips

Hazard:	Weather, access/egress, boats, traversing lands.
Level of Risk:	Medium – High
Controls:	See details outlined below

- Where field trips are been organised, you must ensure that there is adequate insurance coverage for it. You must establish whether the liability for the trip lies with IFI or a third party. Contact Michael Cusack for insurance details.
- Staff working with children must have completed child protection training and Garda vetting.
- Ensure there is adequate control for the trip.
- When instructing children the ratio of children to the instructor should not exceed 6:1; a risk assessment of the proposed field trip site should be conducted in advance. See appendix V & VI.

14.219.1 Water Safety

- Activities should be avoided so far as is reasonably practicable in areas of deep water, dangerous currents or where there are falls from heights into water e.g. on high walled piers.
- Be aware of any safety signs in the vicinity.
- Avoid water ways which show signs of pollution.
- Do not allow children to play in icy areas.
- When instructing children the ratio of children to the instructor should not exceed 6:1.
- A throw line must be made available at all times.

14.219.2 Typical hazards

- People participating in a field trip must be made aware of biological hazards such as Leptospirosis (Weils Disease), Giant Hogweed, syringes etc.
- Ensure activity locations are assessed to identify slip, trip and fall hazards. Be on the lookout for broken glass, syringes, boat painters etc.
- If a class of children is arriving by bus, as far as is reasonably practicable identify a meeting area which will avoid crossing a busy road.
- Ensure a mobile phone is always carried in case of emergency.

Further safety details are available in the Fisheries Awareness Week and the Something Fishy Programme Risk Assessment Templates. This document must be completed by supervising staff.

14.220 Open Days

Hazard:	Safe access/egress, fire safety.
Level of Risk:	Low
Controls:	See details outlined below

- Where an IFI building is open to the public for an open day or public consultation meeting:
 - Ensure that there is adequate security and supervision.
 - Attendees must sign into and out of the IFI visitors book to ensure a roll call can be used in the event of a fire. A fire warden should be present at any public open days.
 - Staff working with children must have completed child protection training and be garda vetted.
 - Members of the public should be escorted where required.
 - Ensure measures have been taken to ensure the safety of persons with disabilities. A personal emergency egress plan may be required. See Section 230 and contact the health and safety executive for further information.

14.221 Chartered Boats

Hazard:	Weather, access/egress to boats, boats, sharps and hooks, cold water, physical fitness.
Level of Risk:	Low – Medium
Controls:	See details outlined below

- If a chartered boat has been hired for an excursion you must confirm with the operators that they fully comply with current safety regulations and standards set down by the Maritime Safety Services.
- Furthermore, before commencing the charter trip, you should ask to see relevant insurance and safety documentation which should be prominently displayed on board.
- IFI staff must not hire a chartered boat without a skipper and crew.
- The skipper must provide lifesaving devices for all passengers aboard the vessel.

Protection of Pregnant, Post Natal and Breast-Feeding Employees

14.222 Risk Assessment

Hazard:	Bio-agents, chemicals, lead, diving, lone working, manual handling etc.
Level of Risk:	Low – Medium – High
Controls:	See details outlined below

When an employee informs her employer that she is pregnant, has recently given birth or is breastfeeding, IFI is legally required to conduct a risk assessment. As the earliest stages of pregnancy are the most critical ones for the developing child it is in the employee's best interest to let the H&S Executive know she is pregnant as soon as possible.

Hazards which may affect a pregnant employee include:

- Physical shocks - including direct blows to the abdomen
- Vibration - of whole body, there are guidelines on vibration
- Handling a load - there are guidelines on handling of loads
- Noise – there are guidelines on noise
- Excessive heat or cold
- Diving
- Movement and postures which are abrupt or severe or give rise to excessive fatigue
- Ionising radiation
- Non-ionising radiation
- Biological agents – including viruses, bacteria etc.
- Chemicals – including substances, which cause cancer, mercury, anti-cancer drugs and carbon monoxide.

Hazards Specific to pregnant employees

Unless the risk assessment indicates that there will be no injury to the employee or the developing child, pregnant employees must not work with:

- Pressurisation chambers
- Diving
- Rubella – unless adequately immunised
- Toxoplasma
- Lead and lead substances

Hazards specific to breastfeeding

Unless the risk assessment indicates there will be no injury to the employee or the developing child, employees who are breastfeeding must not work with:

- Lead and lead substances

14.223 Protective or Preventative Measures

Hazard:	Bio-agents, chemicals, lead, diving, lone working, manual handling etc.
Level of Risk:	Low – Medium – High
Controls:	See details outlined below

The Health & Safety Executive shall conduct a risk assessment with any pregnant, post-natal or breast feeding employee. Controls shall be implemented where risks are identified.

IFI is legally required to provide an area in which pregnant, post natal and breast-feeding employees can lie down and rest in appropriate conditions when required.

14.223.1 Alternative Working Arrangements

If after carrying out a risk assessment, a risk is revealed to the pregnant employee, the unborn or breastfeeding child, and it is not practical to ensure the safety or health of the employee through protective or preventive measures, the IFI will attempt to adjust the working conditions or the hours of work or both.

14.223.2 Health & Safety Leave

If a risk is identified, the employer must remove the risk/adjust the work. If the employer cannot remove the risk, the employee must be provided with suitable alternative employment. If the employer cannot provide suitable alternative employment, the employee must be granted Health and Safety Leave in accordance with Section 18 of the Maternity Protection Act, 1994. During Health and Safety Leave, employers must pay employees their normal wages for the first 3 weeks, after which Health and Safety Benefit will be paid from the Department of Social and Family Affairs,

14.224 Night Work

Hazard:	Cold temperatures, remote location working, trip hazards, bio-agents, chemicals, lead, diving, lone working, manual handling lack of welfare provisions etc.
Level of Risk:	Low – Medium – High
Controls:	See details outlined below

Night work means working between 11.00 p.m. and 6.00 a.m. the next day, where an employee works at least three hours (not necessarily consecutive) in that period, or, where a minimum of 25 per cent of the employee's working hours in a month are worked between those times.

IFI shall:

(a) if a registered medical practitioner certifies that it is necessary for the safety or health of an employee that she should not be required to perform night work during pregnancy or for 14 weeks following childbirth not oblige her to perform night work during that period, and

(b) in a case to which subparagraph (a) relates:

(i) transfer the employee to daytime work, or

(ii) where such a transfer is not technically or objectively feasible on duly substantiated grounds, or both, grant the employee leave or extend the period of maternity leave.

If an employee has a medical certificate stating that for health and safety reasons, she is not required to perform night work during the pregnancy or for fourteen weeks afterwards, the employer must remove her from night work by either transferring her to daytime duties, or, if this is not feasible, granting the employee leave. The employee concerned may have an entitlement to health and safety leave under the maternity protection legislation in these circumstances.

International Business Travel

14.225 International Business Travel

Hazard:	Tropical Diseases, Security, Driving
Level of Risk:	Low – Medium – High
Controls:	See details outlined below

- Staff who must travel internationally on business are covered by company travel insurance for the duration of their trip. However please consult with the H&S Executive prior to travelling to ensure adequate cover.
- Staff travelling to countries which may have specific health & safety risks (e.g. tropical diseases) should discuss their precautionary measures with the Health & Safety Executive.
- Staff should seek travel advice from the Department of Foreign Affairs as required.
- Staff driving in other jurisdictions must familiarise themselves with differences in and comply with the local road traffic laws.
- Be aware that some countries require winter tyres during part of the year.
- You may also require the following equipment for European driving:

Universal headlamp adaptors

Warning triangle

Hi Vis vest

IRL sticker

European DIN spec first aid kit

Bulb kit

Breathalyser (in date)

- Air quality in urban areas is an important issue and more than 200 cities in 10 countries across Europe are now operating Low Emission Zones where the most polluting vehicles are either banned or charged an access fee.
- If you're planning a road trip check where these LEZ are, what types of vehicles they affect, what emissions standards are required, and whether registration is required or not.
- For more information see www.urbanaccessregulations.eu

14.226 Long Haul Flights: Deep Vein Thrombosis (DVT)

Hazard:	Long distance flights
Level of Risk:	Low – Medium – High
Controls:	See details outlined below

14.226.1 What is DVT?

Deep vein thrombosis (DVT) is a condition in which a blood clot forms in one of your deep veins, usually in your leg. DVT can cause pain and swelling and may lead to complications such as pulmonary embolism.

14.226.2 What causes DVT?

The risk is mainly the result of sitting down for long periods of time, which can happen during any form of long-distance travel, whether by car, bus, train or air.

It's difficult to say whether the travelling itself directly causes DVT, or whether people who get DVT after travelling are at risk for other reasons. Generally, your risk of developing DVT when travelling is very small unless you have at least one of the other risk factors mentioned below (such as a history of DVT or cancer). **If this is the case, you should talk to your GP before you travel on long distance flights.**

You are more likely to get a DVT if you:

- Are over 40.
- Are immobile, for example, if you have had an operation (especially on a hip or knee) or are travelling for long distances - and so are not able to move your legs.
- Have had a blood clot in a vein before
- Have a family history of blood clots in veins.
- Have a condition causing your blood to clot more easily (this is called thrombophilia)
- Are very overweight (obese)
- Have cancer or have had cancer treatment.
- Have heart disease or circulation problems.
- Are a woman taking a contraception pill that contains oestrogen, or hormone replacement therapy (HRT)
- Are pregnant or have recently had a baby.

14.226.3 Signs and symptoms

In most cases, there are no symptoms. However, signs and symptoms may include a swollen, red and tender calf or thigh. The affected leg may be warmer than the unaffected leg.

14.226.4 Prevention

- Discuss this topic with your doctor before the trip; they will be able to advise you accordingly.
- Prophylactic (preventative) use of anticoagulants for patients undergoing certain surgical procedures.
- Avoid prolonged immobilization.
- Wear gradient elastic support stockings if you are at risk of DVT to prevent venous stasis.
- Do not sit with your ankles crossed for prolonged intervals.
- Avoid dehydration.

Occupational Health

14.227 Work Related Stress

Hazard:	Poor coping skills, poor personal health, organisational change, emotional well-being, poor organisational communication.
Level of Risk:	Low – Medium
Controls:	See details outlined below

What is Stress?

Stress means a negative reaction to pressure, accompanied by fear of not coping, loss of control and lack of support. It is a physical and emotional experience and involves increases in blood pressure, hormone activity, and digestive disturbance and affects sleep patterns. Thoughts are also affected and mood and behaviour changes considerably. Stressed people often don't realise they are stressed, but those around them probably do.

How do I know if I am stressed?

Stress is a reaction to pressure and involves feelings, thoughts and behaviors as well as physical symptoms. It is a state of being and not an illness in itself. We all suffer from stress at certain times and know the feeling – it can be compared to panic, feelings of being overburdened to the extent that you cannot cope, feelings of disaster just around the corner. It involves behaviours that range from being irritable, cranky, angry, aggressive and hostile or certain people become withdrawn, fatigued, demoralised and depressed, depending on your personality type.

I feel stressed – what should I do?

If you are feeling this way, then you may be stressed and should consider the many possible causes before jumping to any conclusions. Life events, which are extremely stressful, include good things as well as bad. It is the change, which can be stressful, even if the change is something you want. Bereavement is stressful, moving house is stressful and having money worries is stressful.

How do I know if it is work-related stress?

Work Related Stress (WRS) is stress caused or made worse by work. It simply refers to when a person perceives the work environment in such a way that his or her reaction involves feelings of an inability to cope. It may be caused by perceived/real pressures/deadlines/threats/anxieties within the working environment.

If you have the symptoms of stress outlined above and are unsure why you are feeling this way, you need to reflect on your life and maybe for the first time try to diagnose where the stress or the pressure is coming from. Ask yourself the following questions and try to be honest with yourself.

- Is this feeling coming from the environment at home?
- Is it coming from relationships?
- Is it coming from within yourself, or from memories which you find upsetting?
- Is it a recent event, which has caused this reaction in you?
- Have you felt this way before or is this a new feeling/experience for you?
- What else has changed in your life at the same time as the stress feelings began?
- Is it associated with work? If so, is it the job you do or some social aspect of the workplace itself?

If I think the stress is coming from a number of things, what can I do?

You have done the right thing so far in that you have stopped, taken a step back and tried to identify where the stress is coming from. You have recognised that it is not a pleasant experience and decided that it is one you wish to control. That is all positive and part of good stress management. Now, take those aspects of life, which you have identified and see if any or all of them can be changed. Can you alter the relationship? Can you change the thing that you feel is causing you stress? If you can, go about it systematically and look for many ways around the problem, good stress management is about good problem solving. If you cannot alter the stressor, then can you alter your reaction to it? Can you do things differently in order to get a different outcome? Can you equip yourself with new and better skills and would that help? If it is work related, do you need training? Do you need support? Do you need to re-engineer some aspect of your job, and if so, can you discuss this with a manager/employer?

What is IFI's responsibility for work-related stress?

IFI has a general duty of care to all employees within the organisation in so far as is reasonable. That means that we must have a reasonable system of work, so that working would not damage. Damage means physically or mentally injured or harmed. For stress, IFI is entitled to expect that employees who take on jobs are equipped to perform the general duties of that job. IFI is entitled to expect employees to handle pressure and master the work environment, once it is reasonable and 'the norm' for that category of work. IFI must abide by legislation and various regulations in terms of working time and office equipment and space as well as health and safety legislation in order to protect employee's safety and well-being.

I feel totally overcome by stress and cannot eat or sleep – what should I do?

If the situation has gone on for some time and you feel overcome, you need to take immediate and effective action as you may be at risk for stress-related illness. You should visit your GP if you are feeling so overcome that your functioning has totally disintegrated. There are various treatments for stress.

Medication, short-term or over the longer term can be very effective. Therapy – cognitive, behavioural, or other forms of counselling related to the type of stress you are experiencing, and also lifestyle changes to include a more physically and mentally healthy way of living. Your GP may refer you to specialist psychological treatment, or you could contact the Irish representative bodies for counseling and therapy directly. IFI has introduced an employee assistance programme (EAP) whereby staff

can avail of professional support free of charge. The programme includes special information services and professional counseling. You can contact the EAP on **1800 200 314** 24 hours a day any day of the year or email: **eap@workplaceoptions.com**

What aspects of jobs are usually thought to be stressful?

There are no specifically 'stressful jobs'. What is stressful for one person may not be for another; it is the interaction of the person and the job, which must be looked at. These aspects of work have been found through research mainly since the 60's, to be stressful for most people. Relations within the workplace, the role or roles a person has, supports or lack of them, the structures you work within, the culture of the organisation and the complexity of the tasks you do. As you will note, some of these are social in origin, although workplace-based and others are task-specific and to do with the type of work you do.

What does IFI do about stress?

HR can give information and advice to individuals and to groups on the topic. Employees can be helped to put in place a system for addressing and controlling stress. Work Positive is one tool which is used by IFI to manage work related stress. Work Positive is a comprehensive risk management process that incorporates a risk assessment covering the major causal factors associated with workplace stress.

IFI also offer staff support through the Employee Assistance Program (EAP). The EAP can provide staff with information, professional support and counseling.

How can I manage stress?

Manage your time

Identify your best time of day (you may be a morning person or an evening person) and do the important tasks that need the most energy and concentration at that time.

Make a list of things you have to do. Arrange them in order of importance, and try to do the most urgent ones first.

Try to vary your tasks in a day. Vary dull jobs with interesting ones, tiring jobs with easier ones.

Try not to do too many things at once. You could try to start something else if you have to wait for the next stage in a previous task, but if you have too many things going on at the same time, you will start to make mistakes.

Act positively

Once you've finished a task, take a few moments to pause and relax.

Maybe have a healthy snack or try a relaxation exercise.

Have a change of scene. A short walk can make a big difference to how you feel, even if it's a simple walk round the block. Try to focus on what is happening around you, rather than thinking about your worries.

At the end of each day, sit back and reflect on what you've achieved, rather than spending time worrying about what still needs to be done.

Try to get away every so often, if you can, even if it's only for a day out.

How can I learn to relax?

Develop an absorbing hobby or interest – an activity that uses your brain in a completely different way from your everyday work can be a great release. It can also be a great way to make new friends. This is sometimes easier when you are focussing on a shared activity with others, and not on yourself.

Make time for your friends. Talking to them about your day and the things you find difficult can help you keep things in perspective – and you can do the same for them. Smiling and laughing with them will also produce hormones which help you to relax.

Practise being straightforward and assertive in communicating with others. If other people are making unrealistic or unreasonable demands on you, be prepared to tell them how you feel and to say no.

If you find yourself in conflict with another person, try to find solutions which are positive for them as well as for you. Try to find the real cause of the problem and deal with it.

Try to accept things you can't change

It isn't always possible to change the things you don't like or find difficult, but you can try and change your own attitude to them so that you don't build up feelings of resentment or start taking your feelings out on others.

You can contact the EAP on 1800 200 314 24 hours a day any day of the year of email eap@workplaceoptions.com

14.228 Vaccination against Biological Agents

Hazard:	Polluted waters
Level of Risk:	Medium
Controls:	See details outlined below

Under the Biological Agents regulations IFI shall make effective vaccines available, when necessary, e.g. Hepatitis A & B, to those employees exposed or are likely to be exposed, taking account of the fourth schedule classification of biological hazards.

With regard to tetanus most people will have completed an immunisation programme during childhood. Note that individual immunity may wane over time. You should consult with your doctor regarding immunity.

The following wounds are considered tetanus-prone:

- Wounds contaminated with soil, faeces, saliva or foreign bodies
- Puncture wounds, avulsions, burns or crush injuries
- Wounds or burns requiring surgical treatment which has been delayed for more than 6 hours
- Compound fractures.

In any of these situations a tetanus shot may be required.

See also Appendix VIII Info & Records of Vaccination Provisions for Employees.

Personal Emergency Egress Plans (PEEP)

14.229 PEEP Template

Why should you fill in the form?

Inland Fisheries Ireland has a legal responsibility to protect you from fire risks and ensure your health and safety at work. To do this properly we need to know:

- (a) if you require information about our emergency egress procedures.
- (b) if you need assistance during an emergency.

It shouldn't take you more than a few minutes to complete the form.

What will happen when you have completed the form?

We will be able to provide you with information you need about the emergency egress procedures in the building(s) in which you occupy.

If you need assistance, we will be able to work out a "Personal Emergency Egress Plan" for you. To do this, we will discuss the best ways of getting you out quickly and comfortably. We will involve you, your manager (where applicable) and the person(s) in charge of the building(s). But don't worry - we do not see you as the problem – you are not a safety risk. The problem belongs to us and the building in which you are currently present. If you are a visitor and not an employee of IFI please answers the questions which are relevant.

NAME:-

JOB TITLE:-

DEPARTMENT:-

BRIEF DESCRIPTION OF DUTIES:-

LOCATION

1. Where are you based for most of the time?

Please name: the building, the floor and the room number

Building:-		Floor:-		Room:-	

2. Will your job take you to more than 1 location in the building in which you are based?

YES		NO	

3. Will your job take you to different buildings?

YES		NO	

AWARENESS OF EMERGENCY EGRESS PROCEDURES

4. Are you aware of the emergency egress procedures that operate in the building(s) in which you work?

YES		NO	

5. Do you require written emergency egress procedures?

YES		NO	

5a. Do you require written emergency egress procedures to be supported by ISL interpretation?

YES		NO	

5b. Do you require emergency egress procedures to be in Braille?

YES		NO	

5c. Do you require emergency egress procedures to be on tape?

YES		NO	

5d. Do you require emergency egress procedures to be in large print?

YES		NO	

6. Are the signs which mark the emergency exits and the routes to the exits clear enough?

Yes		No	

EMERGENCY ALARMS

7. Can you hear the fire alarm(s) provided in your place(s) of work?

Yes		No		Don't know	

8. Could you raise the alarm if you discovered a fire?

Yes		No		Don't know	

ASSISTANCE

9. Do you need assistance to get out of your place of work in an emergency?

Yes		No		Don't know	

If NO, please go to question 13

10. Is anyone designated to assist you to get out in an emergency?

Yes		No		Don't know	

If NO, please go to question 12. IF YES, give name(s) and location(s)

11. Is the arrangement with your assistant(s) formal (that is, is the arrangement written into their job description)

Yes		No		Don't know	

11a. Are you always in easy contact with those designated to help you?

Yes		No		Don't know	

In an emergency, could you contact the person(s) in charge of evacuating the building(s) in which you work and tell them where you are located?

Yes		No		Don't know	

GETTING OUT

13. Can you move quickly in the event of a fire?

Yes		No		Don't know	

14. Do you find stairs difficult to use?

Yes		No		Don't know	

15. Are you a wheelchair user?

Yes		No		Don't know	

Thank you for completing this questionnaire. The information you have given us will help us to meet any needs for information or assistance you may have.

Remember, we do not see you as the problem – you are not a safety risk.
The problem belongs to us and the building in which you work.

Please return completed form to:- dermot.broughan@fisheriesireland.ie

PERSONAL EMERGENCY EGRESS PLAN

NAME: -

DATE:-

POSITION:-

DESIGNATED ASSISTANCE:

ASSISTANCE METHODS/TECHNIQUES:

EQUIPMENT PROVIDED:

EMERGENCY EVACUATION PROCEDURE(S): (a step-by-step guide, from alarm to safety, of the evacuation procedures from different floors and buildings)

EVACUATION ROUTE(S): (preferably with diagrams)

Relevant HR Policies

14.230 Relevant HR Policies

Staff with grievances relating to safety, health or welfare at work may seek to have their issues addressed through the Dignity at Work or Grievance Policies. Section 27 of the 2005 Act protects employees generally from penalisation for any safety and health issues.

The following policies are available from the HR Department

- **Dignity at Work**
- **Disability**
- **Employee Assistance Programme**
- **Intoxicants**
- **Training & Development**
- **Smoke-Free at Work**
- **Sick Leave**
- **Maternity**
- **Retirement on Grounds of Ill-Health**

Night Work & Shift Work

14.231 Night Work & Shift Work

Hazard:	Driving while fatigued, effects on circadian rhythms, sleep disorder
Level of Risk:	Low
Controls:	See details outlined below

A night worker is defined as one who works at least 3 hours of his or her working time between midnight and 7am and the number of hours worked by whom during night time, in each year equals or exceeds 50% of the total number of hours worked during that year.

If you are a night worker as defined above, you must inform the Health & Safety Executive so that risk assessments and health assessments can be conducted.

The following controls may be implemented for night work and shift work to reduce the overall level of risk.

- Planning an appropriate workload that accords with the length of the shift.
- So far as is reasonably practicable demanding work is scheduled for periods when workers are most alert and less likely to be fatigued.
- Where possible demanding, dangerous and safety critical work shall be avoided at night time, in the early hours of the morning or at the end of long shifts.
- Where possible, a variety of tasks will be scheduled into the shift and if practicable, allow workers some choice regarding their order of completion.
- Permanent night shifts are avoided.
- Adequate time at shift handover is ensured so that a new shift team is fully aware of any issues in the previous shift.
- Workers have a minimum rest period of 11 hours in each 24 hours and one period of 24 hours rest per week preceded by a daily rest period.
- Shifts are rotated every two to three days where possible.
- 12-hour night shifts are limited to 2 to 3 consecutive nights where possible.
- Under the 1997 Act workers are entitled to a 15-minute break after 4.5 hours and 30 minutes after 6 hours.
- Workers may be given some control over the length and regularity of breaks to help reduce fatigue where work is self-paced.
- Workers are encouraged to report any shift related problems.
- Young persons and pregnant employees will be assessed as required.

14.231.1 Driving

Fatigue increases the risk of having a vehicle accident, especially after a long shift or night work or before commencing an early shift. Therefore, you should consider measures to remove or reduce this risk:

- Get a lift, or use public transport or a taxi if possible
- Share lifts
- Drive carefully and do not speed
- Do not drive if overtired
- Stop for a quick rest if you feel sleepy while driving

14.231.2 Maintaining your health and wellbeing

In order to ensure your health as night or shift worker you should inform your GP of your working arrangements. Take note of the following factors to ensure health and wellbeing.

14.231.2.1 Sleep pattern

- Try to develop a regular sleep pattern including at least seven to eight hours sleep. If you cannot sleep, make sure you are at least resting. Find out the best time for you to sleep and stick to this pattern.
- Find out if you sleep better by going to bed soon after returning home from work or waiting up and going to sleep before the next shift.
- Have a short sleep before your first night shift.
- Have a short sleep after coming off night shifts and go to bed early that night.

14.231.2.2. Sleep environment

- Creating the right environment will help you to sleep and rest. Daytime cues make it more difficult to sleep and therefore should be minimised.
- Use your bedroom for sleep and not as an entertainment room (e.g. no television).
- Avoid falling asleep in the living room.
- Choose a quiet room as your bedroom, where there is least disturbance from outside and internal noise and sounds.
- Blackout the bedroom as much as possible to keep out daylight, this will help you sleep and encourage melatonin production, vital for the suppression of tumours.
- Consider using heavy curtains or blinds, which can help in blacking out the room.
- Put your mobile on silent and landline ringing volume on low.
- Ask your family to keep the noise levels down from voice, radio, television and not to disturb you.
- If necessary, let your neighbours know your schedule and request them to avoid use of noisy machines such as grass mowers and power tools when you should be sleeping.
- Use earmuffs and eye shields if necessary.
- Maintain a cool temperature: not too warm in the bedroom.

14.231.2.3 Promoting sleep

- Do some gentle exercise such as a short walk (but don't over exercise as it stimulates the body and raises temperature).
- Get relaxed by reading or listening to music or watching a television programme.
- Have a shower or bath.
- Avoid drinking caffeine or other stimulants a few hours before going to sleep.
- Drink very little alcohol as it reduces the quality of sleep.
- If you are hungry eat a light meal; don't go to bed hungry or overfed.

14.231.2.4 Diet

- Digestive problems are common with shift workers both because of the timing of meals and the quality of food. Plan your meals so that they help keep you alert at work and sleep and rest during your rest period.
- Eat regular light meals as heavy meals can cause drowsiness.
- Avoid fatty foods as they are more difficult to digest.
- Choose foods that are easily digestible such as pasta, rice, bread, fruit and vegetables.
- Avoid sugary foods, which do provide a short energy boost, but then cause a dip in energy levels.
- Eat plenty of fruit and vegetables, which are a good option as their sugar is converted slowly into energy and they also provide vital vitamins, minerals and fibre.
- Drink plenty of water to avoid dehydration which affects both physical and mental performance.
- However, don't drink too much before sleeping as it will result in you waking up early to relieve your bladder.

14.231.2.5 Stimulants and sedatives

- Caffeine and cigarettes are stimulants which can keep you alert while alcohol and sleeping pills are sedatives which make you drowsy and sleepy. However, they should be avoided as regular use reduces these effects and can lead to dependence and associated health problems.
- Caffeine is a mild stimulant found in coffee, tea, cola, energy drinks and in tablet form. It can improve reaction time and feelings of alertness for short periods. Occasional use of caffeine is fine, but it should not be used to keep you awake. You also need to be aware of what might happen when its effects wear off.
- Alcohol can promote the onset of sleep. However, it is associated with waking up early, disrupted sleep and poorer sleep quality. Excessive use can result in dependency and addiction and lead to long-term damage to your physical and mental health, work performance and family and social relations.
- Regular use of sleeping pills can lead to dependency and addiction.

14.231.2.6 Physical activity

- Regular exercise keeps you fit, burns off calories and helps you sleep.
- Regular exercise promotes a healthy heart and keeps weight down, thereby reducing the risk of diabetes.
- At least 30 minutes daily exercise is recommended, and this can be split into two if necessary. Exercise can be as simple and inexpensive as a walk, jog, cycle, or exercising at home. Bringing the family dog on a daily walk is both beneficial to you and the dog.
- Joining a sports club or gym should be considered. It does not take long to play a game of squash, tennis, badminton or volleyball where the physical activity levels are high. Swimming is good as you use most of the muscle groups.
- If possible, it is recommended that physical activity is carried out with a friend or colleague as it leads to social interaction, which is beneficial not only for physical but also mental health.

14.231.2.7 Social Support

- Let family and friends know your shift schedule well in advance. This means that social and family activities can be planned around your shift schedule.
- Get involved as much as possible with family activities such as meals, household chores, sport and going out together.
- Plan your domestic chores and duties so that they do not disrupt your rest and sleep schedule.
- Try to carry out some social activities with work colleagues who share similar shift schedules to you as they may be available when family and friends are not.

Security & Access Equipment

14.232 Lifts & Chair Lifts

Hazard:	Lift malfunction (trapping), Crushing, Fire
Level of Risk:	Low
Controls:	See details outlined below

14.232.1 Lifts

- Lifts must never be used in the event of a fire.
- The maximum weight/number of people detailed in the lift must never be exceeded.
- Lifts are inspected and thoroughly examined by a competent person. Inspections are completed under maintenance contract and independently under the Engineering Insurance Policy.
- The lifts are fitted with a sensor to prevent the door closing on a person or object.
- In the event of person becoming trapped in a lift they should follow the alarm procedure. E.G. Press and hold the alarm button for 5 seconds to be put a call through to the manufacturers rescue centre. Follow the instructions given and try to remain calm and wait for assistance.

14.232.2 Powered Chair Lifts

- Lifts must never be used in the event of a fire.
- The maximum weight for the stair lift must never be exceeded.
- Lifts are inspected and thoroughly examined by a competent person. Inspections are completed under maintenance contract and independently under the Engineering Insurance Policy.
- Before using the lift ensure that any obstructions in your path are removed.
- Where provided seat belts must be worn.
- Any malfunction of the lift should be reported to your line manager and maintenance and repairs arranged.

14.232.3 Evacuation Chairs

- Where provided an evac-chair can ensure a non-ambulant person can safely egress a building in an emergency using a stairs.
- Staff assisting a non-ambulant person must complete training.

14.233 Automatic Gates & Roller Doors

Hazard:	Entrapment/Crushing Point/Impact
Level of Risk:	Low
Controls:	See details outlined below

14.233.1 Automatic Gates

- Access via automatic gates is generally restricted for vehicle access only.
- The gates are fitted with beam detection. Should a person or other object be detected it will cause the gate to stop closing and reopen in order to prevent damage or injury.
- Automatic gates must be inspected annually by a competent person and preventative maintenance completed. Records must be retained on file.
- Any staff member who identifies a problem with the gates must report it to a member of the logistics department in the case of Citywest properties or their line manager for regional properties.

14.233.2 Roller Doors

- Any sliding door or gate has a device to prevent it coming off its track during use.
- Any upward opening door or gate has a device to prevent it falling back.
- Any powered door or gate has suitable and effective features to prevent it causing injury by trapping any person.
- Where necessary, any powered door or gate can be operated manually unless it opens automatically if the power fails.
- Any door or gate which is capable of opening by being pushed from either side is of such a construction as to provide, when closed, a clear view of the space close to both sides.
- Roller doors must be inspected annually (or more frequently if recommended by the manufacturer), by a competent person and preventative maintenance completed. Records must be retained on file.
- Any staff member who identifies a problem with the gates must report it to a member of the logistics department in the case of Citywest properties or their line manager for regional properties.

Drones

14.234 Safe use of Drones*

Hazard:	Water, livestock, powerlines, controlled air space, urban areas, public areas
Level of Risk:	High
Controls:	See details outlined below

*To be read in conjunction with operational specific SOPs and risk assessments

- Drone operators must be trained and have obtained a Specific Operating Permission to fly by the Irish Aviation Authority.
- So far as is reasonably practicable operation near livestock, public and urban areas and controlled airspace should be avoided.
- Read and follow the manufacturer's operating manual for safe operation and maintenance.
- Routine maintenance and checks must be completed prior to use.
- The procedures set out in the relevant divisional IFI flight operations manual must be strictly adhered to.
- Drones must not be operated in inclement weather (rain, snow, high winds, poor light or visibility e.g. fog).
- All firmware and software must be kept up to date before operating.
- Operators must have completed an eyesight test before use, where corrective lenses are required, they must be worn.
- Operators must complete and record the operations manual pre-flight checklist and Site Safety Assessment.
- Operators should hone their skills at designated safe sites (open areas away from structures and people) before using for work activities.
- **Operation out of line of site is strictly prohibited.**
- The operator must conduct a dynamic risk assessment for the duration of the drone flight.
- If the operator feels that the risk of injury or property damages increases (due to unforeseen circumstances) during the course of the flight they must end the survey work and return the drone to the predetermined launch/recovery site or an alternative designated safe landing zone.
- The activities must be planned so that the drone returns to the designated landing location before the maximum flight time has occurred.
- Personal flotation devices must be worn when working on or adjacent to water.
- Sunglasses should be worn in bright conditions.
- Batteries should be stored, charged, transported and used in accordance with manufacturer's instructions.
- All incidents and dangerous occurrences must be reported to the H&S Executive.

IT Management

14.235 Server Rooms

Hazard:	Work at height, electricity, fire.
Level of Risk:	Low
Controls:	See details outlined below

- IT staff who engage in maintenance and installation works which may fall under the definition of construction work must hold a valid safe pass card. Examples of such situations may include accessing a site under construction, accessing equipment using ladders, and the installation, commissioning, maintenance, repair or removal of telecommunication and computer systems.
- Where server equipment is accessed on high shelves suitable stools/step ladders are provided and must be used when required.
- Server rooms are fitted with fire doors, fire detection systems, suppression systems and fire extinguishers are kept in close proximity.
- Lone workers should implement the lone working buddy system where appropriate.
- Electrical systems are inspected periodically by a competent person.

14.236 Manual Handling

Hazard:	Handling e.g. server units (SANS) etc.
Level of Risk:	Medium
Controls:	See details outlined below

- Manual handling training must be completed. Note that the handling of servers (particularly san units) is a high risk. Server units should not be racked above shoulder height. Units' weigh approximately 18kg to 70kg. Due to their weight and unwieldy nature, they require a two-person lift.
- Once removed from a rack mechanical aid such as trolleys should be used for safe transport. If you require a mechanical aid or specific manual handling risk assessment, contact the Health & Safety Executive.
- Mechanical aids provided should be used. Team lifting should also be practised. Job rotation should be implemented where repetition and or long duration manual handling occurs.

14.237 Fine Dusts

Hazard:	Dust
Level of Risk:	Low
Controls:	See details outlined below

- Staff handling server units and components should where a build-up of fine dust occurs, wear protective cotton gloves.
- Where practicable units should be vacuumed using an antistatic HEPA filter handheld device.
- If dust levels in the air are an issue a minimum FFP2 dust mask must be worn.

14.238 Housekeeping

Hazard:	Trailing cables, unsuitable storage, liquid spills
Level of Risk:	Low
Controls:	See details outlined below

- IT staff must ensure their office areas, storerooms and server rooms are kept in a good state. Aisles and exits must be kept clear.
- Any trip hazards due to damaged flooring must be reported to the Logistics department.
- IT equipment should be safely stored. Heavy items should not be stored above shoulder height.
- Use step ladders to access high shelving.
- Ensure waste packaging and other combustible material is regularly disposed of and not allowed to accumulate.
- Ensure adequate lighting is maintained. Faulty lighting should be reported to the Logistics Department.

Event Management

14.239 Event Management

Hazard:	Water, casting, traffic, large crowds
Level of Risk:	Medium
Controls:	See details outlined below

14.239.1 Planning*

- Insurance details of contractors and venues should be obtained at the planning stage.
- Evacuation drills for venues should be known prior to an event. Participants should be informed of the location of emergency exits and the assembly point before activities commence.
- Consideration must be given to the attributes of participants. Personal emergency evacuation plans may be required for those with disabilities.
- Consideration must be given to the adequacy of welfare facilities when selecting a venue.
- *Refer also to Education and Outreach Event Management Plan Document where appropriate.

14.239.2 Supervision

- Children must be supervised at all times.
- Event organisers must ensure that safe supervision ratios are maintained for the number of event participants. Bear in mind that ratios will be lower when dealing with young children and those with special needs.

14.239.3 Weather & Environmental Conditions

- Weather forecasts should be obtained in advance of the event. If conditions forecast to be come hazardous e.g. a red weather warning for the locality the event should be cancelled, and cancellation communicated to all relevant parties.
- If conditions deteriorate during an event to an extent that it becomes hazardous the event should be stopped and participants encouraged to return to a point of safety.
- If the weather and physical landscape is challenging participants should be advised of suitable clothing and footwear to bring to the event.

14.239.4 First Aid

- Staff trained in first aid must be in attendance.
- First aid kits must be made available at the venue.

14.239.5 PPE

- Depending on the nature of the activity and water hazards at the venue personal flotation devices should be available to participants.

Lithium-Ion batteries

14.240 Charging Electric Vehicles (EV)

Hazard:	Electrical shocks. Electrocution.
Level of Risk:	Medium
Controls:	See details outlined below

- Familiarise yourself with the EV's user manual and follow instructions in full.
- All IFI, EV chargers should be maintained in good repair.
- To charge park if possible, the EV with the charging port close to the charging unit.
- Keep the charging cable neat and avoid creating a trip hazard.
- When charging use the correct sequence when connecting and disconnection the charger to power as outlined the equipment's user manual.
- When charged remove the charging cable and place safely back on the charging unit, or if it's the cars cable safely back in the car's boot.
- For safety, you cannot shift the gear while the charging cable is connected.
- If the EV catches fire, maintain a safe distance from the vehicle and immediately call emergency services and alert people in the vicinity to the fire.
- Advise them that an electric vehicle is involved.
- If the fire spreads to the high voltage battery, large amounts of water are needed to put out the fire.
- Using a small amount of water or fire extinguishers not meant for electrical fires could cause serious injury or death from electrical shocks.

14.241 Charging Electric Bikes (EBikes)

Hazard:	Electrical shocks. Electrocution.
Level of Risk:	Medium
Controls:	See details outlined below

- Familiarise yourself with the E Bike's user manual and follow instructions in full.
- Batteries are not designed to be on the bike during transportation by car.
- Batteries must be taken off the bike(s) and transported inside the car securely.
- If the bike is not used for a longer period (one month or more) the batteries is best stored at 60% of its capacity.
- Charge the battery at room temperature ($\pm 20^{\circ}\text{C}/68^{\circ}\text{F}$).
- Charging below 0°C or above 40°C ($32^{\circ}\text{F}\sim 104^{\circ}\text{F}$) can lead to insufficient charging and can have a negative impact on the battery life cycle.
- When charging use the correct sequence when connecting and dis-connection the charger to power as outlined the equipment's user manual.
- Do not touch any electrical parts while operating the. Ebike, electrical parts may cause shock or electrocution.
- Ensure all electrical connections are insulated against accidental short circuit.

14.242 Charging Power Tool Batteries

Hazard:	Electrical shocks. Electrocution.
Level of Risk:	Medium
Controls:	See details outlined below

- Familiarise yourself with the tool's user manual and follow instructions in full.
- If the tool is not used for a longer period (one month or more) consult the user manual for storage guidance.
- When charging use the correct sequence when connecting and dis-connection the charger to power as outlined the equipment's user manual.
- Charge the battery at room temperature ($\pm 20^{\circ}\text{C}/68^{\circ}\text{F}$).
- Charging below 0°C or above 40°C ($32^{\circ}\text{F}\sim 104^{\circ}\text{F}$) can lead to insufficient charging and can have a negative impact on the battery life cycle When charging use the correct sequence when connecting and dis-connection the charger to power as outlined the equipment's user manual.
- Do not touch any electrical parts while operating the tool. The electrical parts may cause shock or electrocution.
- Ensure all electrical connections are insulated against accidental short circuit.

14.243 Charging Electric Outboard Motors

Hazard:	Electrical shocks. Electrocution.
Level of Risk:	Medium
Controls:	See details outlined below

- Familiarise yourself with the Outboard's user manual and follow instructions in full.
- Suitable safe lift equipment must be used to lift, move, and mount the outboard onto the boat.
- The batteries used for the outboard will be heavy. Make sure safe lifting procedures or suitable cranes or hoists are used when moving and installing them.
- Deploy manual handling training.
- Do not touch any electrical parts while operating the motor. The electrical parts may cause shock or electrocution.
- Ensure all electrical connections are insulated against accidental short circuit.
- **NEVER SHORT OUT THE BATTERY TERMINALS, INCLUDING WHEN CHECKING THE REMAINING BATTERY CHARGE THIS WILL RESULT IN A SPARK AND MAY CAUSE AN EXPLOSION OR FIRE.**
- Do not store or use the battery at high temperature, this prevents overheating.
- Do not use the battery in areas with a strong magnetic field or static electricity.
- Should the battery leak, and electrolyte gets into your eyes, do not rub them. Instead rinse your eyes with clean water and seek medical attention immediately.
- If the battery secretes an odour, generates excessive heat, or becomes discoloured or deformed at any time, remove it from the device or battery charger and stop using it.
- If the battery terminals become dirty, clean with a dry cloth before use. This prevents potential loss in efficiency due to poor connections.
- Discarded batteries may cause fire or explosions: tape the battery terminals to insulate them. (Dispose of batteries according to approved regulations)
- Do not immerse the battery in water and keep the battery in a cool dry environment.
- Do not leave the battery near a heat source.
- Use the correct charger for the battery.
- Do not reverse the positive and negative terminals.
- Do not connect the battery directly to a mains power electrical outlet.
- Do not connect the positive and negative terminals to metal objects, this will cause the battery to short-circuit.
- Take care when transporting the battery, ensuring not to store it with metal objects.
- Refer to the user manual for correct sequence when connecting and disconnecting the charger to power,

APPENDICES

Appendix I.

Required Content of First Aid Kit

The table below shows the recommended contents of first aid boxes and travel kits.

Materials	First Aid Travel Kit Contents	First Aid Box Contents		
		1-10 persons	11-25 persons	26-50 persons* ¹
Adhesive Plasters	20	20	20	40
Sterile Eye Pads (No. 16) (bandage attached)	2	2	2	4
Individually Wrapped Triangular Bandages	2	2	6	6
Safety Pins	6	6	6	6
Individually Wrapped Sterile Unmedicated Wound Dressings Medium (No. 8) (10 x 8cm's)	1	2	2	4
Individually Wrapped Sterile Unmedicated Wound Dressings Large (No. 9) (13 x 9cm's)	1	2	6	8
Individually Wrapped Sterile Unmedicated Wound Dressings Extra Large (No. 3) (28 x 17.5cm's)	1	2	3	4
Individually Wrapped Disinfectant Wipes	10	10	20	40
Paramedic Shears	1	1	1	1
Examination Gloves Pairs	3	5	10	10
Sterile water where there is no clear running water* ²	2x20mls	1x500mls	2x500mls	2x500mls
Pocket Face Mask	1	1	1	1
Water Based Burns Dressing Small (10x10cm's)* ³	1	1	1	1
Water Based Burns Dressing Large* ³	1	1	1	1
Crepe Bandage (7cm)	1	1	2	3

Appendix II.

Statutory Examination Intervals of Lifting and Other Equipment (Non-Exhaustive)

If you have equipment that required statutory examinations, please contact the H&S Executive Dermot Broughan, 087 2595286.

Table of Statutory Examinations	
Equipment	Statutory Frequency (Months)
Passenger Lifts/Hoists etc.	6
Service Lifts	12
Chains, Ropes, Slings and shackles	6
Tail Gates (goods vehicles)	6
Forklift (if lifting persons)	12 (6)
Cranes	12
Teleporters (if lifting persons)	12 (6)
Mobile Elevated Work Platform	6
Air Receivers, Steam Receivers	26
Fire Extinguishers	12
Personal Flotation Devices	12
Safety Harness & Lanyards	6
MEWP (Cherry Picker)	6
Safety Lines	12
Wheelchair Lifts	6
Steam boilers (Boiler House)	14
Steam Calorifiers (boiler/plant rooms)	26
Steam Jacketed Pans	26
Steam Cafe Boilers	14
Autoclaves	14
Sterilisers	26

Appendix III.

List of Forms Required by the Health & Safety Authority

Category	Form
HSA Accident Report	IR1 (For 4+ days absence or light duties only)
Asbestos	Notification form to be used for any work involving asbestos
Biological Agents	Form of Notification for First Time Use of a Group 2/3 or 4 Biological Agent
Construction	Approved Form (AF 1) Particulars to be notified by the Client to the Health and Safety Authority before the design process begins
	Approved Form (AF 2) Particulars to be notified by Project Supervisor for the Construction Stage to the Health and Safety Authority before the construction work begins
	Approved Form (AF3) Thorough Examination of: (a) Excavations, Shafts, Earthworks, Underground Works or Tunnels; (b) Cofferdams or Caissons
	Approved Form (AF4) Results of Inspection & Thorough Examination of Personal Flotation Devices
	Approved Form (AF5) Client seeking exemption from appointing a Project Supervisor Design Process for a further 12-month period
Dangerous Occurrences	IR 3 Form. Notification to HSA of Dangerous Occurrence
Lifting Equipment	Report of Thorough Examination (Form GA1)
	Report of Weekly Examination (Form GA2)
Work at Height	Inspection of Work Equipment for Work at Height (Form GA3)
Diving	Diving Notification

Appendix IV.

Display Screen Equipment Safety

Good Working Positions

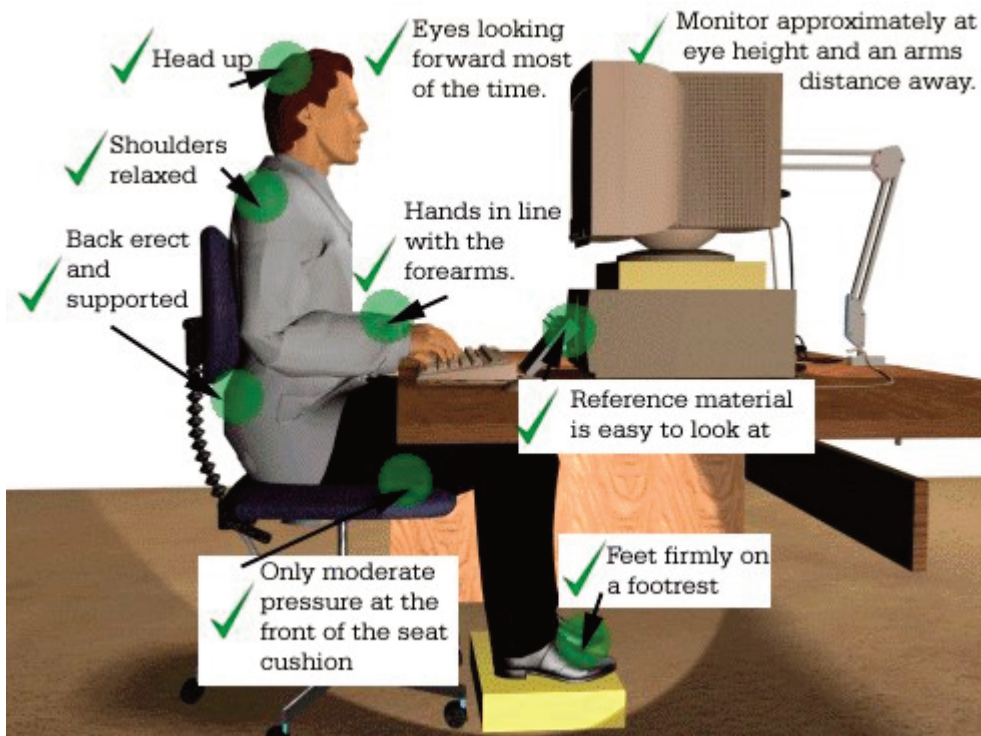


Figure. I Good Working Posture

Working Duration

Micro break: Short breaks which should be taken during heavy typing or mouse use e.g. check your voicemail. Employees are advised to break up continuous keyboard/mouse activities.

Regular PC Breaks: PC activity should STOP during this time. Non-PC related work or do an activity that takes you away from your desk e.g. photocopy, phone calls or coffee break. A minimum 5 minutes every thirty minutes and 15 minutes every two hours.

Appendix V.

Something Fishy Checklist

Something Fishy School Health & Safety Checklist

Name of School: _____

Date: _____

Yes

No

Has the school board of management approved the excursion?

☐☐

Has the school insurance to cover excursions?

☐☐

Has the school indicated the number of children participating and
the required ratio for supervision?

☐☐

Have the teachers accompanying the children first aid training?

☐☐

Have emergency school contact telephone numbers been obtained?

☐☐

Do any of the children have any disabilities, special needs, health.
problems or communication difficulties?

☐☐

Have photo permissions been obtained (if relevant)?

☐☐

Signed: _____

Date: _____

Appendix VI

Fisheries Awareness Week Risk Assessment

For details contact: Dermot Broughan, H&S Executive

Tel: 087 2595286

Email: dermot.broughan@fisheriesireland.ie

Appendix VII

**Incident Report Form Will be completed on IFI's H&S reporting platform.
Example of the information that is required.**

Report Event

Initial Details

Purpose of Processing: The purpose of this report is to find the cause(s) of the accident or dangerous occurrence and determine what action is required to prevent similar occurrence. Only record personal information in fields which explicitly request it. It may also be used in contemplation of legal proceedings. All personal data that Inland Fisheries Ireland (IFI) may use is collected, processed and held in accordance with the provisions of EU Regulation 2016/679 General Data Protection Regulation ('GDPR') and the Data Protection Act 2018.

Reporting Location:

If the incident occurred on IFI premises, please select from the list below:

Primary Event Type:

Date and Time of Event:

Date and Time Reported:

Is this Legally Privileged?:

Details Of Event

Geo Location - Click on Map Icon:

Specific Location Description:

Details of the activity being done at the time:

Description of the Event:

Immediate remedial actions taken:

Witness and Vehicle Details

Were there any witnesses?: Yes No

Were there any vehicles involved?: Yes No

Person Reporting

Type of Person:

Reporter Name:

Employer Name:

Email:

Appendix VIII

Information & Record of Vaccination Provisions for Employees

Tetanus Information & Record of Vaccination Provisions for Employees

Immunisation against Tetanus is recommended for field staff who are likely to come in contact with soil, dust or manure and various equipment in the field. Staff who suffer an open wound in the field could be prone to tetanus infection. Tetanus (Lockjaw) is a serious disease that causes muscle spasms it can lead to fits and difficulty in breathing. It can be fatal.

The full course of the tetanus vaccine consists of five doses. The primary course consists of three injections, which provide protection against the infection for a number of years. The fourth and fifth doses are booster doses, which help maintain protection.

After the fifth dose, immunity remains for life and further boosters are not usually required, unless there is doubt about a person's vaccination history or you are travelling to a remote area of the world where treatment for a tetanus infection may not be readily available.

This vaccine has been available for all children born in Ireland and the UK since 1960s. You should check your vaccination history with your GP before participating in a vaccine programme.

In some cases, after getting the vaccine, you may have discomfort, redness or swelling around the area where the injection was given. You may be irritable and have a fever.

Recovery from these minor side effects is typically within a day or two. Serious side effects are very rare.

Indications: (reason to get immunised)

To produce active immunisation against tetanus.

Contraindications: (Do not take the vaccine if one or more of these conditions exist)

1. Moderate to severe acute illness
2. History of allergy to component of vaccine
3. Significant allergic or neurologic reaction to previous immunisation with this vaccine
4. Pregnancy

Adverse reactions:

1. Soreness at injection site
2. Redness and/or swelling around injection site
3. Fever (uncommon)
4. Rash and lymphadenopathy (occasionally occur)

If you are unsure whether or not you should get the vaccine you can seek advice from the company physician in your area.

CONSENT TO TETANUS TOXOID VACCINATION

I have read the information about tetanus and the tetanus toxoid vaccine.

I have had an opportunity to ask questions of a qualified physician and understand the benefits and risks of tetanus toxoid vaccination. However, as with all medical treatment, there is no guarantee that I will become immune or that I will not experience side effects from the vaccine.

Signature of Employee

Date Signed

DECLINE OF TETANUS TOXOID VACCINATION

I UNDERSTAND that due to my occupational exposure, I may be at risk of acquiring.

tetanus infection. I have been given the opportunity to be vaccinated with tetanus, at no charge to myself. However, I decline Tetanus vaccination at this time. I understand that by declining this vaccine, I continue to be at risk of acquiring tetanus, a serious disease. If in the future I continue to have occupational exposure and I want to be vaccinated, I can consult the appointed physician and receive the vaccination series at no charge to me.

☐ **Check here if you are declining vaccination because you previously received the Tetanus vaccination series.**

Signature of Employee

Date Signed

Hepatitis A & B Information & Record of Vaccination Provisions for Employees

Immunisation (Vaccination) against hepatitis A & B is recommended for those who may be exposed to human blood/blood-stained body fluids in the course of their work. For example, field staff may have a risk of exposure when working on or near polluted waters containing faeces or sewage. Hepatitis is a serious disease it can cause chronic liver disease, cirrhosis, and cancer. It can be fatal.

Vaccination schedules should ensure that the full course of injections is completed. A full course of hepatitis A & B vaccine consists of 3 injections at intervals of 0, 1 and 6 months. A single booster maybe required if at continued risk after 5 years.

A blood test is required after the third dose of vaccine to ensure good immunity has been achieved.

Indications: (reason to get immunised)

To produce active immunisation against Hepatitis A & B.

Hepatitis A & B vaccine & pregnancy: If you are pregnant consult with the physician before taking part in the vaccination programme.

Before you receive your vaccination:

This vaccine may cause side-effects.

You should inform the physician if you have any allergies or are feeling unwell or feverish.

Side-effects: Local effects at the site of injection such as redness, soreness may occur after vaccination. Fever, rash, malaise and influenza-like symptoms are less common reactions.

If you are unsure whether or not you should get the vaccine you can seek advice from the IFI physician in your area.

CONSENT TO HEPATITIS A & B VACCINATION

I have read the information about Hepatitis A & B and the Hepatitis A & B vaccine. I have had an opportunity to ask questions of a qualified physician and understand the benefits and risks of Hepatitis A & B vaccination. I understand that I must have 3 doses of the vaccine to obtain immunity.

However, as with all medical treatment, there is no guarantee that I will become immune or that I will not experience side effects from the vaccine.

Signature of Employee

Date Signed

DECLINE OF HEPATITIS A & B VACCINATION

I UNDERSTAND that due to my occupational exposure to blood or other potentially infectious materials I may be at risk of acquiring Hepatitis A & B infection. I have been given the opportunity to be vaccinated with hepatitis A & B vaccine, at no charge to myself. However, I decline Hepatitis A & B vaccination at this time. I understand that by declining this vaccine, I continue to be at risk of acquiring hepatitis A & B, serious diseases. If in the future I continue to have occupational exposure to blood or other potentially infectious materials and I want to be vaccinated with hepatitis A & B vaccine, I can contact the physician and receive the vaccination series at no charge to me.

☐ **Check here if you are declining vaccination because you previously received the Hepatitis A & B vaccination series.**

Signature of Employee

Date Signed

Appendix IX

Site Safety Details Including Fire Safety, Evacuation & First Aid

Names of First Aid Trained Staff on Site

1	
2	
3	
4	
5	
6	
7	
8	
9	
10	

Names of Fire Warden Trained Staff on Site

1	
2	
3	
4	
5	
6	
7	
8	
9	
10	

Location of Fire Assembly Point:

Location of Fire Hydrants, Where Applicable:

Location of Hazardous Chemicals & Compressed Gas, Where Applicable:

Date of Fire Drills & Sign Off

No.	Date	Signature
1.		
2.		
3.		
4.		
5.		

Appendix X

Schedule Guide of PPE (Non-Exhaustive)

PPE Schedule Guide

Personal Flotation Devices & Dry Suits	General Usage Description
150N	Used for general work on or adjacent to water
275N Mullion Mariner (Single Chamber)	Used for work on or adjacent to water when wearing a drysuit (excluding seagoing operations)
275N SOLAS approve PFD	Used for work on seagoing Delta RIBS
50N Buoyancy Aid	Used with jetskis and kayaks
Dry Suits	Worn at sea and on inland waters with a water temperature of less than 10°C
Work Wear Standard Issue	General Usage Description
Logoed Work Wear (shirts, trousers, fleece, caps etc.)	General day to day field duties
Rain Coats & Trousers, & Thermal Wear.	Foul weather clothing
Boots	General day to day field duties
Wellingtons & waders	General day to day field duties
Sunscreen	General day to day field duties
Laboratory Work	General Usage Description
Lab Coats	General lab work
Nitrile/Rubber Gloves (or other per safety data sheet)	Chemical handling
Goggles	Chemical handling
Respiratory Protection (per safety data sheet)	Chemical handling where there is respiratory exposure and fumehoods are not available
Kevlar Gloves	Use of scalpel/sharps
Pesticide Spraying/Chemical Handling	General Usage Description
Coveralls (per safety data sheet)	Chemical handling
Gloves (per safety data sheet)	Chemical handling
Goggles (per safety data sheet)	Chemical handling
Visor (per safety data sheet)	Chemical handling
Respiratory Protection (per safety data sheet)	Chemical handling
Boots (per safety data sheet)	Chemical handling
Construction/Development Work	General Usage Description
Hard Hat	Where falling/moving hazards and hazards at height pose a risk.
Respiratory Protection	When handling chemicals or creating nuisance dust.
Safety Boots S3 Standard	General construction work
Gloves	General construction work
Hearing Protection	Work in noisy environments or working with noisy equipment
Hi Vis Vests	General construction work
Goggles	General construction work

PPE Schedule Guide

Fish Farming	General Usage Description
150N	Used for general work on or adjacent to water
Hi Vis Vests	Used for general work on or adjacent to water
Welding	General Usage Description
Welders Mask	General welding
Welders Apron/Coveralls	General welding
Welders Curtain	General welding
Respiratory Protection	General welding
Gloves	General welding
Quads (ATV/UTV)	
Helmet (BS ISO 6658)	General quad bike use
Goggles or visor	General quad bike use
Chainsaws	General Usage Description
Safety Helmet	General chainsaw work
Hearing Protection	General chainsaw work
Goggles/Visor	General chainsaw work
Chainsaw Gloves	General chainsaw work
Chainsaw Boots	General chainsaw work
Chainsaw upper body protection	General chainsaw work
Chainsaw leg protection	General chainsaw work
Electro-fishing	General Usage Description
150N	Electro-fishing
Insulative linesman gloves	Electro-fishing
Polaroids	Electro-fishing
Sun Screen	Electro-fishing
Hearing protection with Communications	Boom boat and multi boat electrofishing.
Rubber soled boots	Electro-fishing
Mobile Phone/VHF Radio/Tetra	Electro-fishing
Kill Cord	Electro-fishing
Bicycle Patrols	General Usage Description
Hi Vis Vests/Lights	On public roads
Bicycle Helmet	All bicycle patrols
Bell	All bicycle patrols
Mobile Phone/VHF Radio/Tetra	All bicycle patrols
Vehicle Patrols/Roadway works	General Usage Description
Hi Vis Vests/Lights	For use in the event of a breakdown or work adjacent to the roadway.

PPE Schedule Guide

RIB Patrols	General Usage Description
Thermal Layer	All RIB Patrols
Dry suit	All RIB Patrols
275N PFD	All RIB Patrols
Helmet with visor	All RIB Patrols
Knife	All RIB Patrols
Radio	All RIB Patrols
EPIRB	All RIB Patrols
Sunscreen	All RIB Patrols
Polaroids	All RIB Patrols
Mobile Phone/VHF Radio/Tetra	All RIB Patrols
Kidney Belt	Optional (Issued on request)
Kill Cord & Spare (Coxswain)	All RIB Patrols
Jet Ski (Sea Doo) Patrols	General Usage Description
Dry Suits & thermal layer	Worn at sea and on inland waters with a water temperature of less than 10°C
Kidney belt	Optional (Issued on request)
Helmet with visor/goggles	All patrols
Buoyancy Aids	All patrols
Sunscreen	All patrols
Polaroids	All patrols
Mobile Phone/VHF Radio/Tetra	All patrols
Kill Cord & Spare	All patrols
Gloves	All patrols
Lake Boats	General Usage Description
Personal Flotation device 150N or 275N with Drysuit	All
Drysuit if water temp is below 10°C	All
Mobile Phone/VHF Radio/Tetra	All
Sun Cream	All
Suitable Clothing	All
Kill Cord & Spare	All
Polaroids	All
Knife	All
Protective Gloves	Fish Processing

PPE Schedule Guide

Kayak/Canoe	General Usage Description
Buoyancy aid	All patrols & research surveys
Whistle	All patrols & research surveys
Helmet	All patrols & research surveys
Throw rope bag	All patrols & research surveys
First Aid Kit	All patrols & research surveys
Torch	All patrols & research surveys
Knife	All patrols & research surveys
Spare Paddle	All patrols & research surveys
Mobile phone/Radio/Tetra	All patrols & research surveys
Food/Drink	All patrols & research surveys
Sunscreen	All patrols & research surveys
Polaroids	All patrols & research surveys
Phone Dry Bag	All patrols & research surveys
Carabiners	All patrols & research surveys
Drysuit	On inland waters with a water temperature of less than 10°C
Environmental Sampling	General Usage Description
Protective Gloves (Nitrile or Rubber)	Water Sampling
150N PFD	Used for general work on or adjacent to water
Disinfectant Wipes/Gels	Field Work

Appendix XI

Safety Checklists Jetskis/PWCs, Kayaks/Canoes, Inland Boats & Communications

Kayak/Canoe Safety Checklist

Vessel Identification No./Name:				
Date:	District/Area		Forecast:	
Launch Location & Time:				
Recovery Location & Time				
Patrol Members:				
Prelaunch Checks		Yes ✓	No ✗	
Weather forecast obtained				
Condition of hull and body				
Condition of paddle				
Shore back up				
Twin patrol				
Communications Check (Phone VHF or Tetra)				
PPE	Kayak 1 Yes ✓	No ✗	Kayak 2 Yes ✓	No ✗
Buoyancy aid				
Whistle				
Helmet				
Throw rope bag				
First aid kit				
Torch & Knife				
Hypothermia Blanket				
Spare paddle				
Mobile phone /radio/tetra				
Food/drink				
Disinfectant gels/wipes				
Sunscreen				
Polaroids				
Phone & drybag				
Carabiners				
Drysuit if water temp is below 10°C				
Defect Details:				

Comunications Log:			
Time:		Time:	
Time:		Time:	
Time:		Time:	
Time:		Time:	
Operators Signature: Date: Time:			
Line Managers Signature (required where remediation is required): Date: Time:			

Inland Boat Safety Checklist (Open boats generally less than 7m in length)

Vessel Identification No./Name:		
Date:	District/Area:	Forecast:
Launch location & time:		
Planned Recovery location & time:		
Patrol Members:		
Pre Launch & Visual Checks	Yes ✓	No ✗
Hull & transom in operational condition		
Outboard is secured to boat		
Adequate fuel & oil		
Weather forecast obtained		
Equipment	Yes ✓	No ✗
Boat hook & fire extinguisher		
(2) Orange smoke canisters		
Fog Horn powered or aerosol		
Bailer (bucket)/bilge pump		
Anchor (min 10m rope/chain)		
Deck cleat/anchor point		
Waterproof torch		
Appropriate tool kit		
First aid kit in dry bag/box		
Painter (3/4 length of boat)		
Suitable knife		
Oars & oar locks		
Sling & Carabiners (where practicable)		
Communications Check (Phone VHF or Tetra) Min x 2 onboard and 1 onshore		
Prop cover for Towing		
Pump & paddles (Dinghys Only)		
PPE	Yes ✓	No ✗
PFD 150N or 275N with Drysuit		
Drysuit if water temp is below 10°C		
Sunscreen & Polaroids		
Suitable clothing		

Kill cord		
Defect Details:		
Staff member in charge Signature:		
Date:		
Time:		
Line Managers Signature (required where remediation is required):		
Date:		
Time:		

Inland Boat(s) Safety Communication Log

[illegible]

Time:		Details: (e.g. Boat name/ref)	
Time:		Details: (e.g. Boat name/ref)	
Time:		Details: (e.g. Boat name/ref)	
Time:		Details: (e.g. Boat name/ref)	
Time:		Details: (e.g. Boat name/ref)	

PWC (Jetski) Safety Checklist

Vessel Identification No./Name:					
Patrol Date:		District:			
Launch Time & Location:					
Planned Recovery Time & Location:					
Operator:		Time LW:		Time HW:	
Patrol Team Members:					
Sea area or inland lake area forecast					
H.Q. Patrol Authorisation given by:					
OIC Signature:					
Prelaunch Checks					Yes ✓
No X					
Local byelaws / speed restrictions noted					
Weather forecast obtained					
Tides checked					
GPS unit (when other device does not contain GPS)					
Steering and propulsion system check					
Fuel & engine oil level					
Seats, hatches secured & hull drain bungs secured					
External hull in good condition (check for cracks)					
D –rings secure & passenger handholds secure					
Engine Inspection (impellor intake grate & engine bay)					
Engine stops tested using killcord & killcord conditon					
Compass, passage plan & local sea area chart					
Twin patrol					
VHF & tetra (phone additional option) with dry bag					
Shore back up					
PPE		Yes ✓ No X		PPE	
No X				Yes ✓	
Helmet with visor/goggles			Collapsible Paddle Food & Water		
Buoyancy aid			Basic 1 st Aid Kit		
Drysuit			Kill Cord & Spare		

Sunscreen			Serrated knife		
Gloves			Water proof torch		
Whistle			Fire Extinguisher		
Tow Rope (6m x 8mm Nylon)			Flare Pack (2 x pin-point red & 2 orange smoke)		
Folding anchor & rope 2x Hypothermia Bags Fog Horn			Basic Tool Kit (Seek manufacturers guidance)		
Polaroids			Kidney Belt(optional)		

Defect Details:		
Operators Signature:	Date:	Time:
Line Managers Signature (mandatory where defects are identified):		
Date:	Time:	

PWC (Jetski) Communication Log

[illegible]

Time:		Details:	
Time:		Details:	
Time:		Details:	
Time:		Details:	
Time:		Details:	

Cheetah Safety Equipment Checklist

1.0 Lifesaving Equipment	☐
1.1 150N or 275N Lifejacket	
1.2 Drysuit & Woolly bear (Water temps less than 10°C)	
1.3 Life Raft (Check Hydrostatic release is in date)	
1.4 Emergency life raft grab bag	
1.5 Throw bag	
1.6 Life rings (2)	
1.7 Boarding ladder & Boat hook	
1.8 First Aid kit	
2.0 Flares (all to be within expiry date)	☐
2.1 Handheld distress flares (4)	
2.2 Red parachute distress flares (4)	
2.3 Orange smoke signal canisters (2)	
3.0 Radios and Communications	☐
3.1 Marine VHF with DSC Facility	
3.2 EPIRB registered in the name of the vessel	
3.3 Radio received capable of receiving shipping forecasts and national/local weather forecasts.	
4.0 Fire Fighting	☐
4.1 Fire Extinguishers	
5.0 Navigation Equipment	☐
5.1 Foghorn/Powered Sounder	
5.2 Echo Sounder	
5.3 Speed Log	
5.4 GPS	
5.5 Radar reflector	
5.6 Clock	
5.7 Navigation lights	
5.8 Navigation plotter/Charts	
5.9 Steering compass	
5.10 Plotter	
6.0 Bilge Pumping	☐
6.1 Manual Bilge Pump	
6.2 Bucket with capacity for 8-12 litres fitted with suitable lanyard.	

7.0 Anchors and Warps	□
7.1 Anchor with at least 4 metres which is suitably connected permanently to a rope having a length of at least four times the length of the vessel.	
7.2 Boats should have a suitably reinforced deck cleat/Samson post on the foredeck, and means of closing over the bow roller or fairlead used when anchoring	
7.3 An adequate supply of warps and fenders, these should include suitable warps to allow the craft to be towed if necessary.	

Appendix XII

Safety Checklists Vehicles & Trailers

Driver Manual Vehicle Daily Checks*

Outside Vehicle (walk around the vehicle)	
➤	Check for body damage, dents, scrapes, bumper damage, cracked or damaged lamps, indicators, windscreen, loose or missing parts (including number plate).
➤	Check wheels and rims. Tyres. Check pressure, check for wear, cuts or bulges (min 1.6 mm thread depth across the central three quarters of the width and full circumference of the tyre). Wheel rims for damage.
➤	Wheel nuts – missing or loose (watch for rust stains).
➤	Don't forget the spare wheel.
➤	Leaks. Fuel, oil or fluids under van.
➤	Mirrors, wiper blades and glass.
➤	Check the towbar condition and security / electrical socket condition.
Under Bonnet (only required for older vehicles – weekly)	
➤	Oil level - dipstick check.
➤	Fluid levels (visible through clear plastic containers).
➤	Brakes, coolant, power steering and windscreen washer.
➤	Oil and fluid leaks.
Inside Vehicle (Cab)	
➤	Seat - adjust to suit including head restraint.
➤	Seat belts - check operation and condition of belts, buckles and stalks
➤	Handbrake - with engine running.
➤	Check gauges, warning control lights, indicators, wipers and washers, hooter, interior lights, all exterior lights.
➤	Vehicle Emergency Pack - first aid kit - warning triangle - high vis vest - torch - accident/incident report form -2 x cones (if fitted).
Inside Vehicle (Rear)	
➤	Check jack, wheel brace and tool kit (location varies - see handbook).
➤	General cleanliness (unsecured items are dangerous in the event of a collision).
Driving	
➤	Check mirrors.
➤	Check brakes and trailer brakes if towing.
➤	Check handbrake.
➤	Check steering.
➤	Check clutch/ gearbox operation.

*Checks to be recorded using driver app.

Driver Manual Trailer Checks*

Outside Trailer (walk around the Trailer)
➤ Check for body damage, dents, scrapes, cracked or damaged tail lamps, indicators, brake lights, number plate lamp, and reflectors, loose or missing parts (including number plate).
➤ Wheel rims, tyres and chocks.
➤ Tyres. Check pressure, check for wear, cuts or bulges. (min 1.6 mm thread depth across the central three quarters of the width and full circumference of the tyre)
➤ Wheel rims for damage.
➤ Wheel nuts - missing or loose (watch for rust stains).
➤ Don't forget the spare wheel (where applicable).
➤ Check handbrake operation, breakaway cable / chain.
➤ Check jockey wheel condition and security.
➤ Check hitch condition and security / electrical plug and suzie.
➤ Check towing vehicle tow bar condition and security/electrical socket condition.
➤ Check security of load / boat / watercraft, ensure safely strapped, correctly positioned, where possible using winch to aid securing.
➤ General cleanliness (unsecured items are dangerous in the event of departure while in motion).
Before Coupling
➤ Ensure trailer is parked on level ground.
➤ Check chocks are in place on both sides.
➤ Handbrake is applied correctly, and hitch in open position.
➤ Check hitch height v's vehicle towbar height (adjust if necessary).
➤ Reverse vehicle up to trailer aligning towbar with hitch (hitch higher than towbar ball).
After Coupling
➤ Check hitch coupling is locked in position (if in doubt open lock, use jockey wheel to raise hitch, uncouple and couple again ensuring hitch is locked in position.
➤ Clip on breakaway cable.
➤ Raise jockey wheel and lock in position.
➤ Connect trailer electrical socket, check operation of lights.
Commence Driving
➤ Check mirrors ensure that you can clearly see down each side of the trailer and load Check operation of trailer brakes. Observe speed limits when towing a trailer (80kph maximum).

*Checks to be recorded using driver app.

Appendix XII

Safety Checklist for Electrofishing

Electrofishing Safety Checklist

Date:	Location:	Equipment Ref Numbers:
1.0 Training		☐
1.1 Staff are trained in safe electrofishing operations		
2.0 Personal Protective Equipment		☐
2.1 150N Personal Flotation Device and not overdue service		
2.2 Protective gauntlet gloves		
2.3 Hearing Protection (for work in close proximity to generators)		
3.0 Electrofishing Equipment		☐
3.1 Service tag fitted to equipment and not overdue service		
3.2 Equipment is not overdue service		
3.3 The Equipment is in good condition on visual inspection		
4.0 Sign Off		
Checks Completed by:		

Appendix XIV

Staff Sign Off

I have been made aware of the content of the IFI Safety Statement. I recognise my duty to familiarise myself with the sections relevant to the responsibilities of my role.

[illegible]

I have been made aware of the content of the IFI Safety Statement. I recognise my duty to familiarise myself with the sections relevant to the responsibilities of my role.

[illegible]

I have been made aware of the content of the IFI Safety Statement. I recognise my duty to familiarise myself with the sections relevant to the responsibilities of my role.

[illegible]

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[illegible]

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[illegible]

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[illegible]

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[illegible]

Notes

