# **Central Fisheries Board**

Protocol for a Pilot Salmon Fishery in inner Castlemaine Harbour in 2010

May 2010



The Central and Regional Fisheries Boards

# <u>Protocol for a Pilot Salmon Fishery in</u> <u>Castlemaine Harbour in 2010</u>

# **Introduction**

The Minister of State at the Department of Communications, Energy & Natural Resources requested advice on how a commercial salmon fishery could be operated on salmon stocks in the Castlemaine Harbour Special Area of Conservation in a sustainable manner, maximizing the opportunities for commercial fishing while ensuring that stocks are not over-exploited. A proposal for a Pilot fishery, setting out the rational and general proposal was drawn up by the Central & South Western Boards on foot of this request and should be read in conjunction with this Protocol. This current document sets out a specific Protocol for the operation of the Pilot fishery.

The purpose of this study is to assess salmon populations (2010 run) in the Castlemaine harbor area. It will be undertaken by the South Western Regional Fisheries Board (SWRFB) in conjunction with the Central Fisheries Board. Sample fish will be caught by local fishermen using a variety of methods in five areas in the Harbour. These fishermen will be issued a Section 18 authorisation by the SWRFB to undertake this work. Samples will be analysed by UCC, the SWRFB and CFB. The project will be monitored on the ground by SWRFB staff and a contractor contracted by the SWRFB Board.

# Pilot Fishery Locations

Fishing will take place in five areas within Castlemaine Harbour. These are marked as areas A and B, to the Western side of Cromane Point, and areas C, D and E, to the Eastern side of Cromane Point, on the attached map (Map 1).

Fishing will take place at multiple locations within each defined Area.

Each of the locations fished will be physically marked with a buoy or other marker.

Each marker will have a unique identification number and associated GPS coordinates.

The location of each unique marker will be ascertained and recorded by Fisheries Board staff using GPS equipment.

Due to the varying topography, geography and tidal conditions prevailing in the five study areas, sample locations will be selected, in consultation with local commercial fishermen and fishery board staff, using the following criteria;

- Safety
- Areas where nets can/cannot be deployed
- Areas where fish can/cannot be expected
- Tidal conditions

- Weather/exposed areas
- Obstructions

#### Pilot study/duration and catch levels

The purpose of this study is to determine the genetic makeup of salmon stocks from contributing rivers, over time and location, within Castlemaine Harbour in the year 2010.

It is therefore important to begin the study as soon as possible and to continue the fishing effort into the last weeks of August. Further samples may also be taken after this date if Fisheries Board staff deem it necessary.

As A and B are relatively small and in close proximity a sample size of one hundred and twenty eight fish (128) per area is deemed sufficient for analysis purposes.

In Areas C, D and E the sample size to be taken is one hundred and eighty four fish (184) per area.

This will give a total of eight hundred and eight fish (808) to be taken and sampled over the duration of the Pilot Fishery.

Fishing will take place in each of the five Areas over eight fishing periods. Fish will be taken at a rate of sixteen fish (16) per period from Area A and Area B and at a rate of twenty three fish (23) per period from Area C, Area D and Area E over the duration of the Pilot Fishery.

All fishing will be monitored by board staff and contractor.

# Fishing Times

Fishing will take place on four days a week only, from 6am Tuesday to midnight Friday inclusive.

No fishing will take place from Saturday to Monday.

No fishing will take place if, for any reason, Fisheries Board staff are not available to take, record and preserve samples.

Fishing in each distinct Area will cease when the catch total for that Area, for that period, (either sixteen or twenty three fish) has been reached.

All fish will be sampled by Fishery Board staff or contractor

# Fishing Methods

In order to examine the efficiency of different fishing methods a protocol similar to that used in the Cork Harbour Fishery Study of 2004 will be used.

Fishermen will use several different fishing methods :-

- Traditional 3 crew method
- Modified traditional using monofilament
- Modified traditional (staked) method
- Modified traditional (staked) using monofilament

These methods will be used on a rotational basis, under Fisheries staff supervision, at each of the marked fishing locations. Fishing methods will be recorded by Fishery Board staff and contractor.

# Fishing Records

Data on netting method, location, tide, weather, salmon quality by each catch method, capture rate and by catch will be recorded on a Castlemaine Pilot Fishery Fishing Effort Record sheet. (see Appendix 1)

Each fish caught will be tagged with a uniquely numbered orange Gill Tag.

The unique number of each tag used will be recorded on the Castlemaine Pilot Fishery Fishing Effort Record sheet. Weight, length and sex, if determinable, will also be recorded here.

These completed sheets will be held by Fisheries Board staff.

All fish caught will be given to Fisheries Board staff/contractor, for sampling and sale, on landing or as close as possible to landing.

Receipt of fish will be signed for on the 'Chain of Custody Form' by both fisherman and Fisheries Board staff/contractor. (see Appendix 2)

# Sampling

Two biological samples will be taken and retained from all salmon captured during the Pilot Fishery :-

- 1. A tail punch sample, which will be preserved in alcohol in an individual container
- 2. A scale sample, which will be preserved in an individual envelope

An internal biological sample, to determine fecundity, will also be taken from approximately 25% of fish caught during each period. Ovaries will be frozen in a plastic bag with the same coding used to identify individual fish.

Data on weight, length, sex ratio, etc. will also be recorded for each fish.

All sampling will be done by Fishery Board staff/contractor.

All samples will be retained under the control of Fishery Board staff/contractor until delivered to the assigned laboratory for analysis.

(See Appendix 2, 'Sampling and Chain of Custody', for a fuller review of this.) (Internal sampling methodology to be supplied by CFB)

# Sale of Fish

The sale of fish taken during this project will be undertaken by Fishery Board staff/contractor.

Tenders will be sought from local licenced salmon dealers for a standard contract price per kilo for all fish caught.

All fish caught will be sold to this one approved dealer.

No fish will be retained for private consumption or for private sale.

Fish will be delivered to the approved salmon dealer under the supervision of Fisheries Board staff/contractor.

All income from the sale of these fish will be payed directly to the Fisheries Board.

# <u>Appendix 1</u>

Haul Code:	Date:
CAS10/	
Location :	Fishing period:
Fisherman :	Fishing Method
Start Time:	Finish Time:
Tide:	Weather:

	CASTLEMAINE FISHERY	FISHING EFFORT RECORD
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Fishing Method:	Net mark Category:					
1. Traditional 3 Haul	1. Little or no	1. Little or no sign of net marks				
2. Mono Haul	2. Some net i	2. Some net mark damage mostly on dorsal fin				
3. Staked Traditional	3. Net marks	3. Net marks on dorsal fin and body				
4. Staked mono	4. Considerat	4. Considerable net marks visible and fish quality poor				
By-Catch: Total Number:						
Species	Length	Weight	Net Mk.			

Salmon:		Total Number			Total Weight (Kg)		
Gill Tag Number	Weight (ka)	Fork Length	Sex	Net Mark	Samples Taken		ken
(ISW KY 1038)	1.21	(mm)		Cat.	Gill	Scale	Gonad
<u> </u>							
<u> </u>							
<u> </u>							

Comments:

Collection Point:

# Appendix 2

# Sampling and Chain of Custody

The chain of custody procedure incorporates a number of controls to assure the integrity of a sample. The purpose of the procedure is to ensure that the sample has been in the possession of, or secured by, a responsible person at all times. It should remove any doubt about sample identification or that the sample has been tampered with.

# Sample Types

Three types of samples will be collected during the Pilot Fishery :-

- 1. External samples from all fish, for biological analysis these will be both :
  - a. <u>a scale sample</u> this will be preserved in an individual envelope, this can then be identified as a sample from a particular fish, taken at a particular location and at a particular time.
  - b. <u>a tail punch sample</u> this will be preserved in alcohol, in an individual container, which can be identified as a sample from a particular, individual fish, as with the scale sample.
- 2. An internal sample from 25% of the fish for biological sampling. This will involve opening salmon to take gonads and determine sex rates.
- 3. We will also collect data on length/weight/sex of each fish caught.

# Sample Number

All salmon caught will be assigned a <u>unique tag number</u>.

All samples taken from this fish will be given a sample number generated from a combination of

- the area code letter of the area in which the fish was caught
- the unique tag number from each individual Gill Tag used (District codes can be ignored)

In this way, a fish caught in Area C, and tagged with Gill Tag ISWKY1012 1001 would generate the sample number of - C1001

This number will follow the sample through analysis to the final report.

It will be used to identify the sample on the container, on the chain of custody form, on all data sheets, in computer entry and in reports. This method would be consistent for all samples.

# Sample Label

A label should be attached to each sample container. This should contain the sample number, and if room allows, the date & location of sampling and the name (initials) of the person collecting.

# Field Notebook

The Fishery Board staff member/contractor responsible for taking the samples will keep a field notebook.

In this will be recorded data on each sample taken – sample number, date, location, type of sample, who presented the fish to be sampled. Also anything about the sample and the sampling that may be needed for future reference or that may have been unusual. Recording information like this may be important (1) to explain unusual lab results and (2) also to doubly verify the authenticity of a sample.

# Chain of Custody Form

This Form should be filled out at sample collection and should accompany the sample through every person involved in the chain of possession until it reaches the laboratory.

It will include information such as sample number, date, location, name of person collecting the sample, type of sample.

Every time the sample changes possession, both the person relinquishing the sample and the person receiving the sample must sign and date the Chain of Custody Form.

Logging in at Laboratory

When samples are delivered to the laboratory they should be logged in by laboratory staff under their own procedures.

The integrity of the samples should be checked at this stage – eg samples correctly preserved, tamper proof seals intact if in use, proper signatures present on Chain of Custody Form.

The handing over to laboratory staff should be signed for on the Chain of Custody Form, which is retained by the Fisheries Board staff member/contractor responsible. A copy should be retained by the Laboratory.

	_	_	LANDING RECORD		SAM	SAMPLES (√)		
<u>.</u>	Sample No.	<u>Date</u>	Caught By	Received By	<u>Fin</u>	<u>Scale</u>	<u>Gonad</u>	
	l verify that I	,	, have de	livered all <b>FIN CLIP</b> sampl	es on this	sheet to	Э,	
		, of, _	,	, on this date				
	I verify that I,		, have de	, have delivered all <b>SCALE</b> samples on this sheet to,				
		, of, _	<i>,</i>	, on this date				
	l verifv that l		, have de	, have delivered all <b>GONAD</b> samples on this sheet to				

verify that I, \_\_\_\_\_, of, \_\_\_\_\_\_, have delivered all **GONAD** samples on this sl \_\_\_\_\_\_, of, \_\_\_\_\_\_, of, \_\_\_\_\_\_, on this date \_\_\_\_\_\_



