

Diet of Pike in Irish Lakes—Project FAQs



Introduction

Pike can prey on many food sources, and their feeding activity has been shown to alter fish community structure. Researchers have shown the potential negative impacts of pike in Irish trout waters. Several studies conducted in Ireland found that trout was the preferred food source for pike, but most studies were conducted prior to the spread of the invasive fish species roach across Ireland.

Recent research suggests that pike may prefer roach where this species is present and that this may alleviate predation pressure on brown trout. To date, only short-term studies of pike diet in selected waters have been undertaken. Targeted seasonal studies are necessary to provide adequate understanding of the pike's dietary habits and its impacts on other species.

In summer 2016, Inland Fisheries Ireland (IFI) began a new project to address some of the knowledge gaps surrounding the impact of pike predation on fish stocks currently resident in Irish lakes:

[Pike in Ireland: Developing Knowledge and Tools to Support Policy and Management](#)

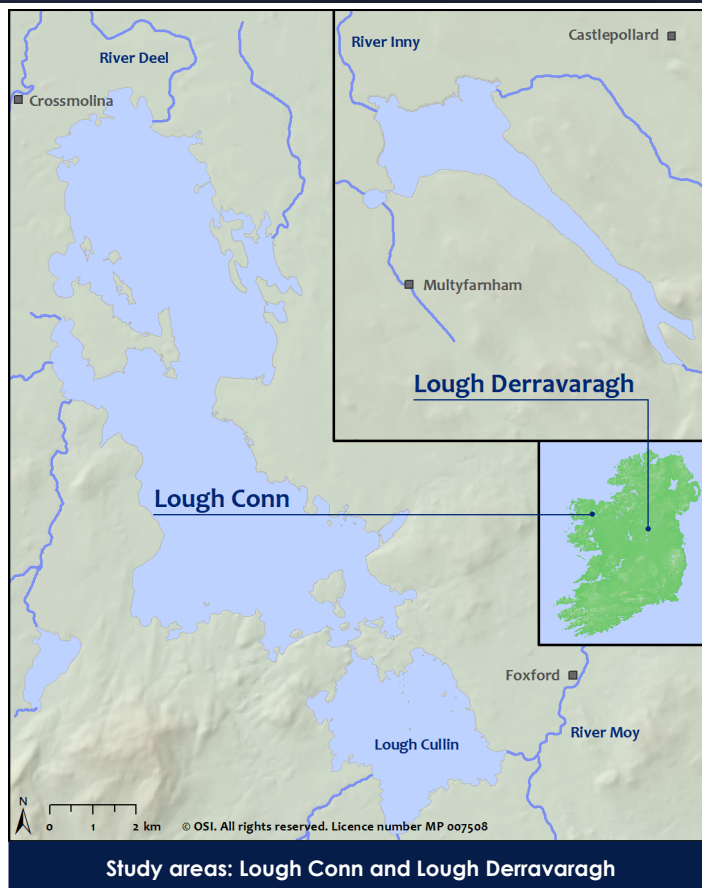


Pike captured on boom boat

What are the aims of the new project?

The project combines archived IFI data on pike ecology with empirical research on seasonal pike diet from two lakes: a managed lake with active pike removal (Lough Conn) and an unmanaged lake with no pike removal (Lough Derravaragh).

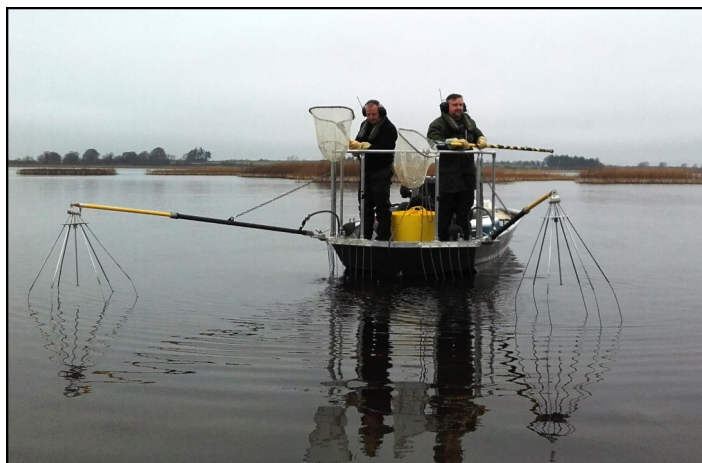
All of the information will be incorporated into a cutting-edge mathematical modelling tool that will predict the population consequences of pike removal and other fisheries management strategies over decadal timescales and that will support objective decision making.



How are pike being captured for the project?

Electrofishing is the main method used to capture pike for the project. A limited amount of netting and angling may also be used from time to time.

Electrofishing involves immersing electrodes that emit an electrical charge into the water. This electric charge induces a physiological effect on the fish, causing them to turn and swim towards the electrode, enabling their quick and safe removal from the water using hand nets. The fish are placed into the onboard live well on the boom boat. The goal is to attract, rather than stun, the fish and prevent any harm to them.



Boom-boat electrofishing, Lough Derravaragh

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How is the diet of pike being examined?

Gastric lavage (or stomach pumping) involves flushing the contents of the fish's stomach with a small amount of water and retrieving the regurgitated stomach contents.



Gastric lavage equipment

How does the gastric lavage apparatus work?

The lavage consists of a small hand pump, to which various sized flexible tubes can be attached. A suitably sized flexible tube is inserted into the fish's mouth and pushed gently into the stomach. Fresh water is then pumped into the stomach via the pump, using just enough pressure to ensure that any stomach contents are regurgitated.

All regurgitated food items are preserved in alcohol for later examination in the laboratory.

What happens to the pike after the procedure?

When the procedure has been completed, the fish are allowed to recover in an oxygenated recovery tank of fresh water prior to release back to the lake.



Gastric lavage: a small pike regurgitates its stomach contents

Will gastric lavage harm the pike?

All staff involved in the project are trained in handling live pike. The technique is minimally invasive, and all fish are returned alive to the water following the procedure.



Releasing a pike

What information is collected?

Information on the location of capture, habitat type, and length and weight of each pike is recorded on site. The dietary material of each pike is examined in the laboratory using a microscope and identified to species level if possible. Other information such as gape length of each pike is also recorded, as well as the size and weight of the dietary material.



Pike stomach contents

What will be the project's output?

A report will be produced describing the diet of pike in the two lakes. In addition, a mathematical modelling tool will be developed that can predict the population consequences of pike removal using archival data over decadal timescales and data from the pike diet project.

What will the information be used for?

To evaluate fisheries management strategies in a structured and robust way and to support decision making.



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