



## ESB Fisheries role

ESB has statutory responsibility to manage, conduct and preserve the fisheries throughout the Shannon catchment, as well as the responsibilities of ESB Fisheries on the Erne, Lee and Liffey. Our organisation takes the responsibilities of its fisheries very seriously and considers that it has always acted in the best interests of the rivers and fisheries in discharging its responsibilities.

Despite the current economic environment, ESB has continued to commit significant resources to delivering its role of the 'good citizen:' conserving the fisheries resource; providing access to it and also enhancing the amenity value of the resource. Our company sees the establishment and development of the Shannon Fisheries Partnership and other work with angling groups as a particular success.

The Irish Government, through the Department of Communications, Energy and Natural Resources (DCENR), has set up and tasked Inland Fisheries Ireland (IFI) to ensure the effective conservation, protection, management, development and improvement of inland fish habitats and stocks. ESB works closely with, and supports IFI in this important work.

The ESB Fisheries Conservation Scientific Advisory Group, together with IFI and the Marine Institute all offer expert scientific guidance.

### 1. Fish preservation

In 1935, the Irish government ceded ownership of all fishing rights on the Shannon to ESB, to assist in preserving and developing the Shannon fishery.

The harnessing of rivers, such as Ardnacrusha, for the construction of hydro-electric dams, presented some fish passage problems for fish that migrate, such as salmon and eel and juvenile fish travelling downstream. To compensate for this, ESB built a fish hatchery at Parteen Dam in 1958. Since then, 23 million fish have been released from here into the upper Shannon River.

In total, our company operates three salmon conservation hatcheries at Parteen, Carrigadrohid and Ballyshannon. These hatcheries have no commercial remit, but annually produce juvenile salmon which are released into the upper catchment.

#### 1.1. Shannon Salmon project

ESB, in partnership with University College Cork, Inland Fisheries Ireland and the Marine Institute, together completed an EU funded AARC project on the Shannon Salmon stock.

The main focuses of this project were:

- To identify the origin of the wild and hatchery salmon populations that currently reside within the upper Shannon catchment.
- To arrange a tributary specific standstill on hatchery stocking in order to facilitate the genetic assessment.
- To assess the genetics of the current hatchery stock and review the past and future role of the hatchery salmon stock as material for restocking.
- To monitor the relative fitness and rate of successful migration of some satellite populations (within the River Suck).
- To assess locations for future stocking and to have a release strategy, complimentary to future restoration.

Further details on the Shannon Salmon project may be found on [www.fisheriesireland.ie](http://www.fisheriesireland.ie)

## **1.2. European Eel trap & transport**

ESB is also involved in a long-term study of the Shannon European Eel population. This study has been undertaken by the National University of Ireland, Galway (NUIG) research team, independently, while in partnership with the ESB.

There is a strategic focus on eel populations, with regard to the impact of hydro-electric development on the species and their various rates of escapement to sea, in accordance with the Irish National Eel Management Plan (NEMP).

### **1.2.1. About the eel**

The European eel (*Anguilla Anguilla*) is an important indigenous fish in Europe. They spawn in the Saragosa Sea, with their larvae travelling across the Atlantic Ocean on the prevailing North Atlantic Gulf Stream current, eventually reaching the coasts of Europe each year, around November/December time, as 20mm long, transparent eels (known as 'glass' eels).

In the early springtime, the eels begin to pigment and move into fresh water, where they become known as 'elvers'. It is at this stage when the ascending eels are captured by the ESB within the Shannon, Erne and Lee catchments. The catches of elver are then transported into the catchment area above the stations, and released.

Eels spend between 10 to 20 years in freshwater before sexually maturing. They then start to move down through the river systems to begin their long journey back across the Atlantic Ocean to spawn. It is at this stage that the ESB capture these downstream migrating silver eel, which are captured at

various sites above the stations on the Rivers Shannon, Erne and Lee. These catches are then released, below the stations, and to continue on their downstream migration to the sea.

### **1.2.2. ESB's eel conservation role**

Since the mid-1980's, eel stocks have been declining across Europe. In order to help restore the low European Eel stock back to its original, historically steady population; the EU Eel Directive (2007) was set-up. Two of the main outcomes of the Directive in Ireland were the complete cessation of commercial eel fishing and the development of a trap and transport system for the large scale hydro-electric regulated rivers, i.e. the Shannon, Erne and Lee River systems.

ESB has assisted in the implementation of the Irish segment of the National Eel Management Plan, through funding a research programme (2009 – 2012) and through establishing practicable eel management measures.

The expertise gained from the years of the pilot scale Killaloe trap and transport system was transferred to other Shannon sites and also to sites upon the Rivers Erne and Lee. Although some of the catchment NEMP trap and transport targets were not met in the first two years, the experience and expertise gained will prove to be invaluable in the coming years.

#### **1.2.2.1. Managing & monitoring eel stocks**

In 1992, ESB Fisheries Conservation began the Shannon Eel Management Programme, and initiated an eel survey to investigate the possibility of job creation from eel fishing.

NUI Galway produced a report in 1998 of their survey work (carried out since 1992) and its findings showed that: due to the shortage of available elvers; it was not feasible to sustain full-time employment at a commercial eel fishery on the River Shannon. Since this report, eel stocks have been closely monitored on the Rivers Shannon, Erne and Lee.

#### **1.2.2.2. Eel trap & transport**

In 2000, the ESB began a programme of 'trap and transport' of Silver Eel from Killaloe to sites below Parteen Weir, to aid the numbers of eels returning to sea.

From 2000 to 2004, a target of 10% of the total Shannon catch was released. Since 2005, the total catch at Killaloe has been released.

### **1.2.3. EU eel stock recovery plan**

In 2007, a new EU regulation\* was introduced to provide for the recovery of European eel stocks, which required each EU member to submit National Eel Stock Recovery Plans.

The EU Eel Recovery Plan was set-up around the principle that Management of river systems in each country should permit at least 40% of the biomass of spawn escapement - that migrated to sea during former, pristine conditions - to do so in the future.

*\* EU Council Regulation 1100/2007*

#### **1.2.3.1. National Report for Ireland**

In December 2008, and following a consultation with all the relevant stakeholders, the Department of Communications, Energy and Natural Resources submitted the 'National Report for Ireland on Eel Stock Recovery Plan' to the EU for consideration. It was approved by the EU Commission.

The NEMP was reviewed and updated by the Department in 2012.

The plan outlines the proposed trap and transport figures for the ESB-controlled areas of the Rivers Shannon, Erne and Lee: A link to the most recent report may be found at [www.fisheriesireland.ie](http://www.fisheriesireland.ie)

#### **1.2.3.2. Meeting our targets**

From September 2009, ESB Fisheries have implemented:

- 1 contracted fishing crew at Killaloe, on the River Shannon
- 4 contracted fishing crews on the Upper Shannon
- 6 contracted fishing crews on the River Erne

These crews operate throughout the silver eel season (September to March). The locations are also sites for ongoing scientific research, conducted on behalf of ESB by NUI Galway, regarding eel trapping methods and prediction of silver eel movement throughout the river systems.

All silver eels captured are transported from the fishing sites to release locations below the dams on each river system, using specialised ESB-owned eel transporting tanks and equipment. This ensures that eels collected from the contracted crews are released in a healthy state to continue their journey across the Atlantic Ocean.

#### **1.2.4. Riverine Habitat Development**

Since 2006, ESB Fisheries have been involved in habitat re-development work on a series of sites along the River Shannon. Staff undertake works such as bank stabilisation work, instream works and bank side fencing. Public access points are also added or developed wherever possible. In-stream works include the creation of the riffle/guide/pool sequence using large rocks/boulders and spawning gravel.

A partnership approach has formed with ESB Fisheries and the Inland Fisheries Ireland when developing the plans for such works. The Office of Public Works and the National Parks and Wildlife Service are also closely involved in these works, along with local stakeholders, i.e. landowners, angling clubs and other interested groups.

#### **1.2.5. Public amenities**

In locations, such as Leixlip on the River Liffey, ESB Fisheries provides still water canoeing facilities, picnic and recreational areas for the public. Some forest walks and certain reservoirs (such as Poulaphouca Reservoir, resting place for a migratory Greylag population) have become designated sanctuary areas.