THE MISSING SALMON PROJECT

Sarah Bayley Slater, executive director of the Atlantic Salmon Trust, introduces a major project that will study the fate of smolts

WE ALL KNOW that every year wild salmon start one of the planet's greatest natural migrations, travelling thousands of miles out to sea to return to their natal river to spawn.

It's a journey this incredible species has been making for more than 60 million years. But these remarkable fish are now dying somewhere en route in huge numbers. This year for every 100 salmon smolts that leave our rivers for the sea only four or five may return – a decline of nearly 70 per cent in just 25 years.

Over the past two decades or more, issues relating to the marine survival of Atlantic salmon have dominated the concerns of scientists, fishery managers and anglers. During that time, the seas in the north-east Atlantic have shifted to a warmer regime that has seen marked changes in the composition and production of plankton and resulted in reduced salmon abundance.

In just over 40 years Atlantic salmon numbers around the world have more than halved. The total production in the Atlantic has fallen from 8-10 million fish in the early 1970s to 3-4 million today. Seemingly no-one knows exactly where the bulk of this mortality is occurring: how many are dying at sea and how many are failing to even make it that far?

The warning is stark. If this trend continues wild Atlantic salmon will be an endangered species by the time our new generation of anglers hits middle age.

The drivers of this decline are complex and regardless of the efforts made to reduce harvest levels by nets and rods, to enhance habitat and to protect the salmon's freshwater environment, return rates from the ocean have stayed stubbornly low.

But is this completely down to the changes in the ocean or is new research starting to provide evidence that the problems are closer to home?

Smolt tagging and tracking carried out on the River Dee, Aberdeenshire, in 2017 found that mortality was as high as 70 per cent for 101 smolts tagged in a tributary of the upper catchment. Of the 50 smolts tracked along the River Deveron 60 per cent failed to reach the sea. Research conducted on the River Conon found that 70 per cent of the tagged smolts were lost before they reached the Cromarty Firth.

WHAT NEEDS TO BE DONE?

The race is now on for scientists and fishery managers to solve the mystery of the missing salmon before it's too late.

Collectively, we must take action on a scale never seen before to identify what is happening and determine how to halt this decline. Put simply, if we can find out what is happening on the salmon's journey, we can take steps to help increase survival and boost adult returns.

The task at hand is momentous but the action needed is perfectly clear. We urgently need to know: What are the migration pathways our smolts use? How do we quantify the major impacts on their mortality during this journey? How can we improve their survival rate so more fish return?

The Trust plans to track 1,000 smolts, first catching them in a trap like this one on the Spey.

Measured before its journey to the sea.

The Missing Salmon Project will deploy acoustic receivers to detect migrating smolts up to 90km from the Scottish coast.

Wild speculation on the causes of decline are no good – we need evidence.

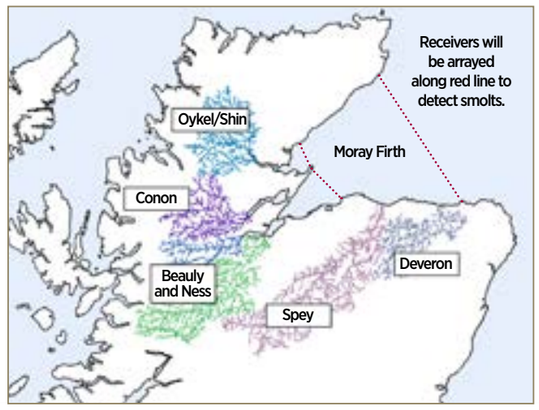
A fully integrated scientific study to find out what's happening to wild salmon on their journey down our river systems and out to sea is needed. Only then can we formulate evidence-based recommendations to inform policy and enable management solutions.

For this reason, the Atlantic Salmon Trust has launched The Missing Salmon Project.

Some of our most forward-thinking Fishery Boards and Trusts in Britain have been running acoustic-tracking projects on individual rivers for many years – they are building up incredibly valuable information. The AST plans to go further.

We plan to raise £1 million by the end of 2018, to implement the largest tracking project in the UK and track smolts further out to sea than ever before. The ambitious and ground-breaking Moray Firth Acoustic Tracking Project covers 35 per cent of Scotland's salmon populations and 20 per cent of the UK salmon resource and will help to uncover some of the secrets of what happens to our salmon smolts as they start this epic migration.

MORAY FIRTH ACOUSTIC TRACKING PROJECT
Tracking smolts from five major salmon catchments



The lessons learned from this study in the Moray Firth will provide invaluable insights that are transferable to other populations of salmon around the UK and indeed around Europe.

Our focus will be on:

Tracking 1,000 salmon smolts, from the headwaters of five major salmon rivers, up to 90km out to sea

Identifying where and why many salmon smolts are being lost and learning more about their migration and distribution patterns throughout the Moray Firth

Implementing urgent management solutions to ensure that more young salmon make it to the feeding grounds.

The scale of this project is critical to its success – it creates the dynamic to measure impacts at a population level in some of the most important UK salmon rivers. It fits into a wider research programme into wild salmon around the Atlantic and follows an evidence-based philosophy so we can influence policy makers and commence with real change at international, national, regional and river level to help salmon populations.

WHAT ARE THE NEXT STEPS?

It's vital that: we raise the funds needed to carry out The Missing Salmon Project; heighten awareness of the critical plight of one of our nation's most iconic species; research reasons why wild salmon are going missing and recommend the steps that need to be taken to improve their chances of survival.

To do that we need support from organisations who are willing to sponsor elements of the project; from retailers who will donate a percentage of sales to the campaign or offer discounts to those donors who support the project.

The challenge is clear: now is the time to get to the bottom of the mystery of wild salmon's declining numbers and to save more wild salmon smolts. Now is the time to come together and raise funds to enable the Missing Salmon Project to play a major role in discovering why wild salmon numbers are falling off a cliff and to determine tangible actions that can be taken to stabilise river populations and protect the species.

■ **To donate, visit: www.crowdfunder.co.uk/themissingsalmonproject**