

North Devon Marine Pioneer

Studying Silver Darlings in the Bristol Channel

Silver Darlings (the local name for herring) have been landed in Clovelly, North Devon for over 400 years. When fishing was good, 9000 herring could be landed at one time. Herring are typically caught in drift nets from small wooden picarooners.

The challenge

- There has been a small-scale herring fishery in the Bristol Channel for hundreds of years. Local fishermen (fishing inshore areas of North Devon and Somerset) believe these herring are spawning locally and may be a separate stock from those in the wider area.
- This fishery is potentially threatened by local development and exploitation. How can we protect the local herring population during vulnerable stages, such as spawning, and ensure the stock is exploited sustainably?
- How can we target improvements to shoreside infrastructure (such as smokeries) to open new markets and add value to this fishery and its heritage, maximising its value to the local economy?

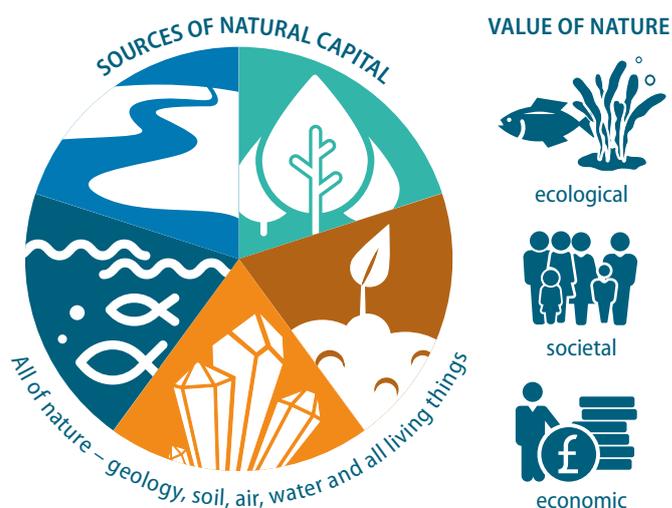
Our aims

The Bristol Channel Herring Project aims to:

- understand the population of herring in the Bristol Channel and their winter spawning behaviour by collecting physical data and using molecular techniques (stable isotope analyses and genetics)

to assess differences between the local and wider herring populations

- identify potential local impacts on spawning and assess current management effectiveness in protecting the Bristol Channel herring fishery
- develop port infrastructure to help with processing herring and add value to the fishery
- promote low-impact fishing methods to ensure sustainability well into the future
- improve demand for and value of herring to support local fishermen and put one of the UK's historically most important seafood species back on the menu.



Genetic difference determines the specific genes and genotypes, and combination of these, that are distinctive to a given group or population.

Key findings

Sampling at Minehead and Clovelly in 2018 has shown:

- herring can be caught in good numbers at both locations from September to December
- the catch comprises mainly 3–8-year-old fish
- these herring tend to be shorter than samples from the Celtic Sea
- the herring are autumn/winter spawners.

Molecular analyses are under way to compare these fish with samples from other locations.

In practice

- If herring are spawning in North Devon, this will demonstrate the value of local fishermen's knowledge and help us understand spawning habitats, timing and behaviour.
- If the stock is found to be separate, there will be implications for how we view and manage our fish stocks at national and international levels.
- Our results can be used to:
 - inform managers of inshore areas in North Devon, and help us understand the importance of protecting areas of habitat at certain times of year
 - improve our knowledge about using genetic analyses in fishery stock assessments



- support low-impact, small-scale fishermen by improving the value of their catch and promoting sustainable fishing methods.

The future

- In the winter of 2019/20, intensive sampling will take place in herring hotspots to collect genetic tissue samples and data on the catch numbers and individual lengths of fish caught by local fishermen. The spawning habitat will be mapped for decision makers.
- We will also look into the marketability of herring and ways to get the fish to market, and start promoting the provenance behind Bristol Channel herring.

Project partners

[North Devon Biosphere](#)
[Blue Marine Foundation \(BLUE\)](#)
[University of Plymouth](#)
[Bristol Channel herring fishermen](#)
[Swansea University, SEACAMS2 project](#)
[Devon and Severn Inshore Fisheries and Conservation Authority \(IFCA\)](#)

Project supporters:

[Centre for Environment, Fisheries and Aquaculture Science \(CEFAS\)](#)
[Marine Management Organisation \(MMO\)](#)

This North Devon Marine Pioneer project contributes to the policies of the Government's [25 Year Environment Plan, A Green Future](#):

- natural capital asset and risk registers
- natural capital approach to marine licensing, planning, fisheries and marine protected areas
- ecosystem approach to fisheries management.

Did you know that herring lay eggs on the seabed – one of the only fish species in the UK known to do so?

This project is a contribution to the North Devon Marine Pioneer (northdevonbiosphere.org.uk/marinepioneer)

