

## Press release, November 8th, 2021: Acoustic telemetry, a relevant tool for improved crawfish management in the English Channel?

The Interreg France (Channel) England project [FISH INTEL](#) will test an innovative acoustic telemetry network, to track marine species including crawfish, recording their movements and the habitats they frequent. Such monitoring comes in addition to existing management measures for crawfish adopted by fishers over the past 20 years and could help further improve their management in the English Channel.



Recording by divers of crawfish abundance along transects

A sharp decline in crawfish numbers (*Palinurus elephas*) in the second half of the last century mobilized Breton fishers to act for its conservation since 2000 with the implementation of **various management measures and research programmes**.

### Management measures

In 2007 local fisher's actions led to the establishment of a **crawfish reserve** at the south-western tip of Brittany. The reserve is located on the western half of the *Chaussée de Sein* (approximately 50 km<sup>2</sup>), a place known for its favourable environment for the species. **National measures** have also been adopted by fishers: an increase of the crawfish minimum catch size to

**preserve juveniles** from 2009, an annual closure of the fishery from January to March from 2011, and, from 2016, a ban on fishing immature females **to protect the species during its reproduction period**.

### Scientific monitoring

Since 2009, the Iroise Natural Marine Park (PNMI), the Institut Français de Recherche pour l'Exploitation de la MER (IFREMER) and the Finistère Fisheries and Marine Farming Committee coordinate monitoring activities of crawfish populations in the Sein crawfish reserve. On a wider scale, fishers and scientists have jointly developed **tagging programmes**, which have become compulsory in 2021 along France's Channel-Atlantic coastline. Collected data have helped better understand the biology and ecology of this previously little studied species. The results are very encouraging, suggesting management measures are successful at helping to rebuild the stock. **Density, biomass and number of juvenile individuals have all increased** in the reserve, as well as throughout the crawfish-populated areas.

### Contributions of acoustic telemetry to the FISH INTEL project

In the context of ecosystem-based fisheries management, scientists are interested in better understanding crawfish movements and its use of various habitats. Current monitoring approaches (tagging-recapture and spot dives) only allow for a piecemeal understanding of crawfish ecology. Scientists and fishers hope to improve their knowledge thanks to acoustic telemetry, which provides monitoring on a continuous basis. This increasingly adopted technique consists of **placing acoustic tags on individuals, which emit sound waves at regular intervals**. These sound waves are received and recorded by **receivers** placed on the seabed. Approximately 50 crawfish will be monitored using this technique within the French FISH INTEL pilot sites, in areas to be chosen jointly between scientists and Channel and Iroise Sea fishers. **Specific positioning of receivers will provide information on the movements of individuals on a fine scale**.

**Martial Laurans, French Research Institute for Exploitation of the Sea (IFREMER) - FISH INTEL partner organisation**

"The FISH INTEL project will experiment using an innovative technique across the Channel to collect valuable biological and ecological data on crawfish. We are particularly interested in knowing more about crawfish behaviour during the winter. Improved knowledge of this species will help assess the effectiveness of the measures taken to restore the stock and will contribute to improved long-term management. Furthermore, the interest of FISH INTEL lies in its regional nature, with a comparison of case studies on both sides of the English Channel.

**Erwan Quemeneur, Finistère Fisheries and Marine Farming Committee - FISH INTEL partner organisation**

"Since 2001, Finistère fishers have been working toward the preservation of crawfish stock by improving its management. A crawfish reserve around the island of Sein has been established following a study visit in Corsica and the setting up of a formal partnership with the Iroise Natural Marine Park and IFREMER. The reserve has led to real improvement of the crawfish stock, paving the way for complementary initiatives and monitoring projects on France's Channel-Atlantic coastline, such as a tagging programme on 10,000 crawfish (2015-2017). The FISH INTEL project will contribute, thanks to acoustic telemetry, to a better understanding of the species and its habitats, thereby helping further improve its management".

**Claire Laspougeas from Parc Naturel Marin d'Iroise, one of the many stakeholders engaged with FISH INTEL**

"When setting up the crawfish reserve on the Chaussée de Sein, commercial fishers have requested the support of Iroise Marine Natural Park to monitor its effectiveness. Findings show an increase in abundance as well as a seasonal sedentary lifestyle for large proportion of observed crawfish, leaving the issue of learning about non-sedentary crawfish behaviour during the winter. FISH INTEL will help on that front as well as help derive a better understanding of the functional role of coastal areas for widely distributed stocks".

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**FISH INTEL**, which includes the deployment of **acoustic telemetry**, aims to **study the movements of four commercial species (sea bass, pollack, crawfish, Bluefin tuna) across 7 pilot sites throughout the English Channel**. This will give a better understanding of the species' distribution and use of their habitats. The project involves various partners in France, England and Belgium, and has a budget of €4.1 million euro, of which €2.8 million is financed by the European Regional Development Fund via the INTERREG France (Channel) programme. Ultimately, the research will assist authorities across the FCE region to implement **Ecosystem Based Fisheries Management (EBFM) programmes** with the aim of **enhancing the condition and water quality in these habitats, as well as enabling activities** – such as fishing, civil engineering projects and extract industries – **to function in a sustainable way**.

[www.channelmanche.com](http://www.channelmanche.com)

[FISH INTEL on Interreg Channel website](#)

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