

EIFAAC: Citizen Science in Recreational Fisheries

Diarmuid Ryan^{1*}, Eoin Leonard¹, William Roche¹, Kieran Hyder², Paul Venturelli³, Christian Skov⁴, John Curtis⁵ & Ciara O'Leary¹



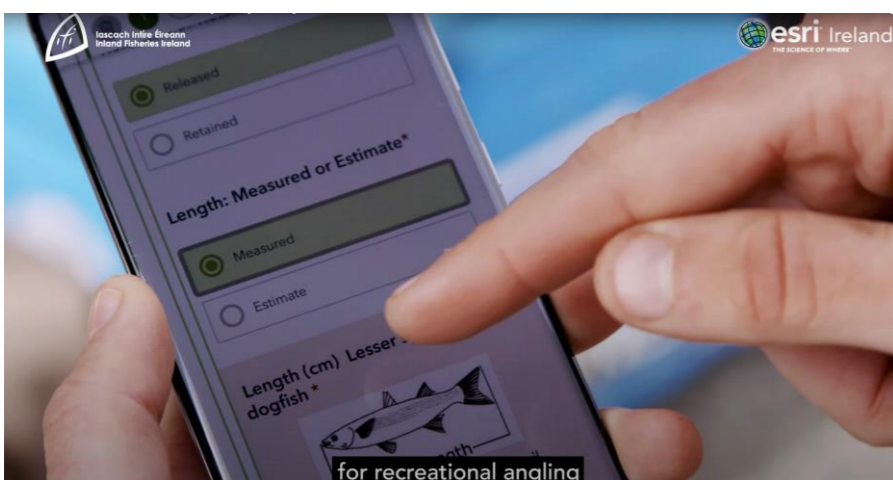
¹Inland Fisheries Ireland, Dublin, Ireland. ²Centre for Environment, Fisheries & Aquaculture Science, Lowestoft, Suffolk, UK. ³Dept of Biology, Ball State University, Muncie, IN 47306, U.S.A. ⁴DTU AQUA, Technical University of Denmark, Silkeborg, Denmark. ⁵The Economic and Social Research Institute, Dublin, Ireland.

Background

The goal of citizen science is to enlist the public to collect data across space and time. For centuries, the public have shared ecological observations with scientists.

A growing popularity in engaging with nature conservation coupled with new technology such as smart phones has resulted in an upsurge in citizen science projects.

As a result, EIFAAC has initiated a citizen science workshop programme with experts in the field.



Fisheries-Dependent Data

The appeal of citizen science to fishery managers and scientists is the potential for large sample size, extensive coverage and the ability to tap into the expert local knowledge of anglers.

Managers can use citizen science programmes to complement more routine data collection, enabling:

- Larger datasets.
- Potential to detect the presence of rare or exotic species.
- Positive stakeholder engagement.



Biodiversity & Range of Fish

Citizen science is adept at monitoring changes in the incidence of native species (Dickinson et al 2010). As aquatic ecosystems are under threat identifying changes in biodiversity is more important than ever. High water temperatures and drought conditions due to climate change can greatly affect population dynamics (Walter et al 2009, Lodge et al 2006).



Case Study: The IMREC Marine Recreational Fishing Diary

The Irish Marine Recreational Angling (IMREC) Diary gathers individual angling trip data helping researchers to estimate catch rates of all species encountered during marine recreational fishing, thus meeting some requirements of the EU data collection framework (DCF).

Longterm, this tool has potential to monitor population changes of angling species around the coast.

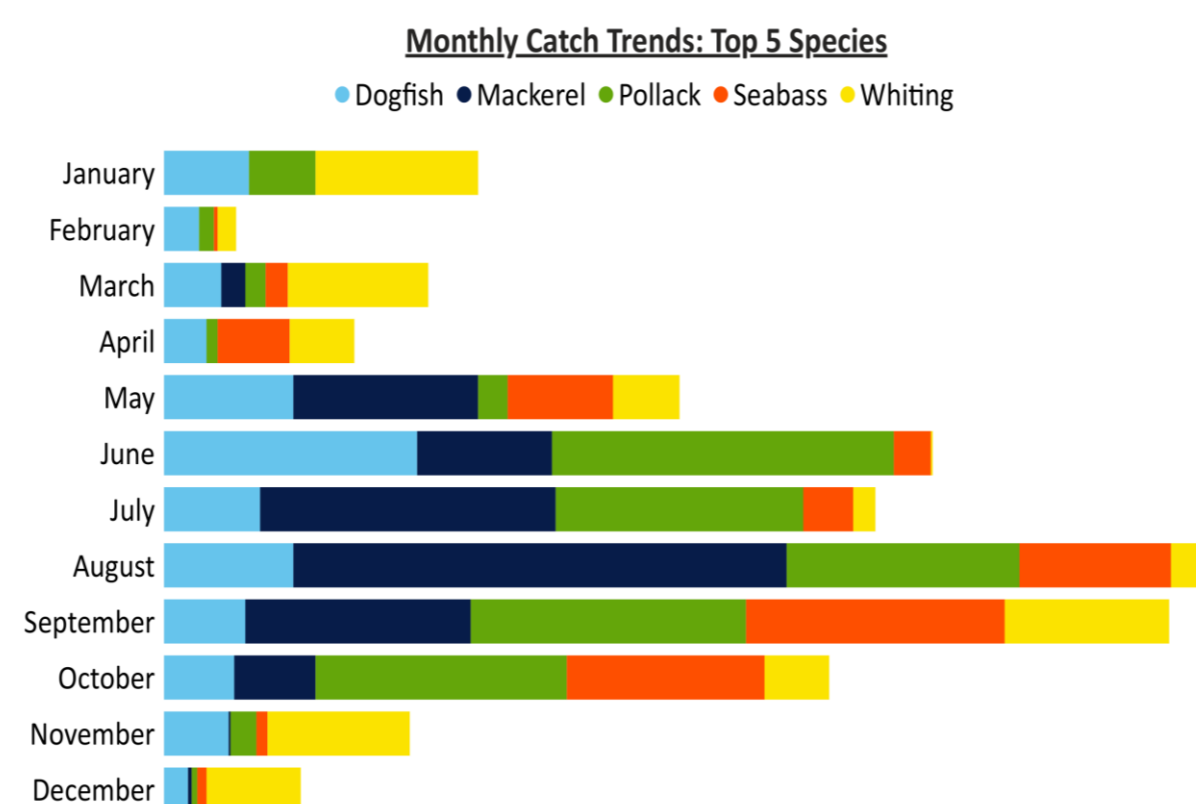
All diarists are provided with an interactive dashboard giving every angler an overview of their own trips.

The IMREC diary was first released to the public in August 2021. Between then and March 2023, citizen science anglers have logged:

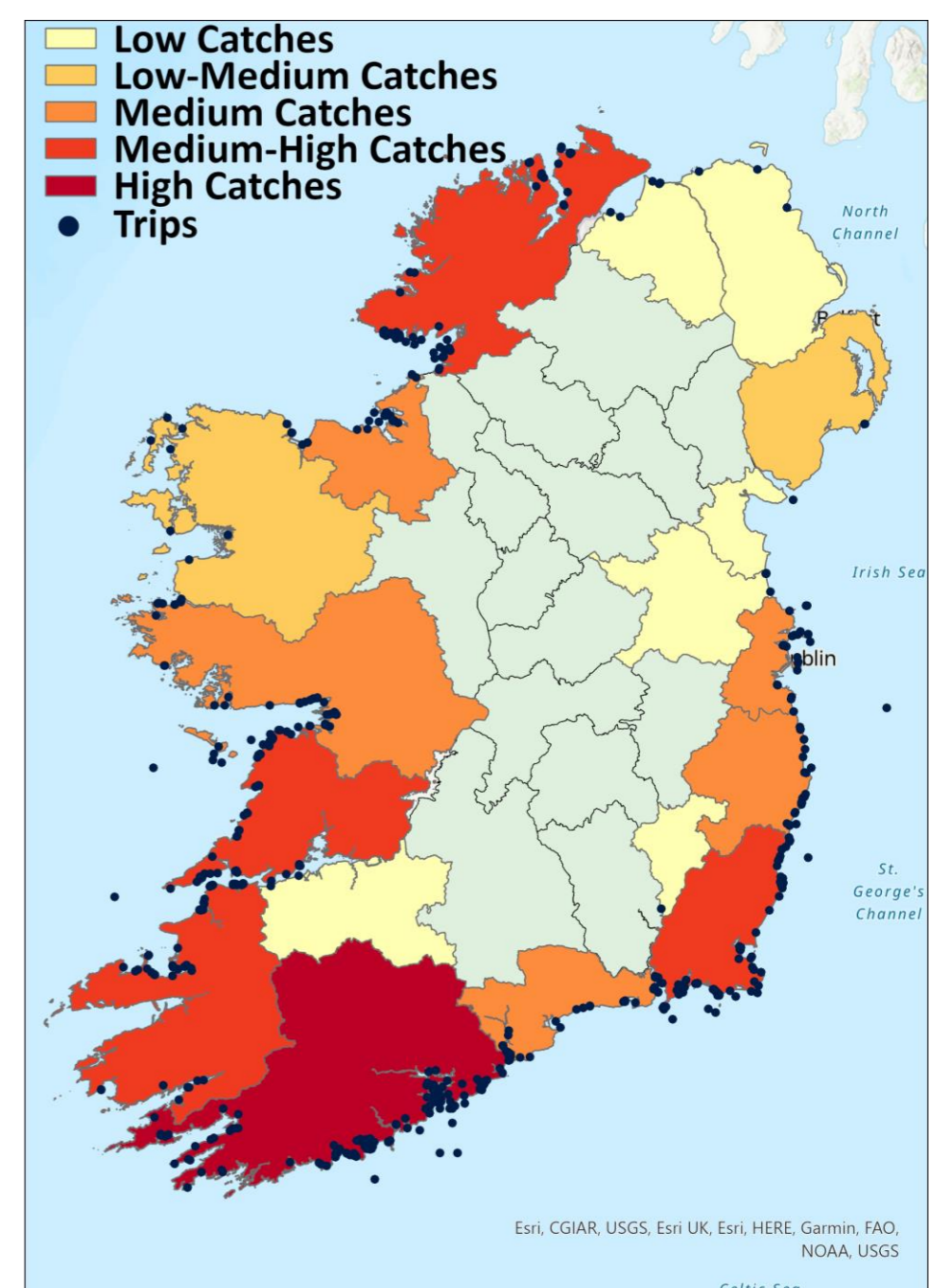
- 876 fishing trips
- 5,803 fish captures
- 62 different species

160 sampling days (creel surveys) over the same timeframe have logged:

- 182 fishing trips
- 680 fish captures
- 41 different species



This illustrates the variety of species which a citizen science programme can record, without the resources required carry out typical face to face creel surveys.



Map of Ireland showing locations of angling trips recorded by diarists.

*Email: Diarmuid.ryan@fisheriesireland.ie

