



FISH & CLICK

Citizen science to study abandoned, lost and otherwise discarded fishing gear

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CONTEXT

In 2008, Abandoned, lost and otherwise discarded fishing gear (ALDFG) represented over 11.000 tons per year in European seas. If lost at sea, ALDFG could have impacts on marine environment. Their long life cycle is a source of pollution through the introduction of synthetic materials into marine foodwebs. To make a census of the plastic pollution generated by fishing activities, the Fish & Click website and application have been developed to inventory and to map the distribution of ALDFG through citizen observations at sea and on the shore. The program targets the English Channel and the North of the Bay of Biscay.

METHODS



Data collected by citizens concern the type and quantities of fishing gear or pieces of gear found (Rope, Net, Trap, Line, Weight, Buoys, Other gears).

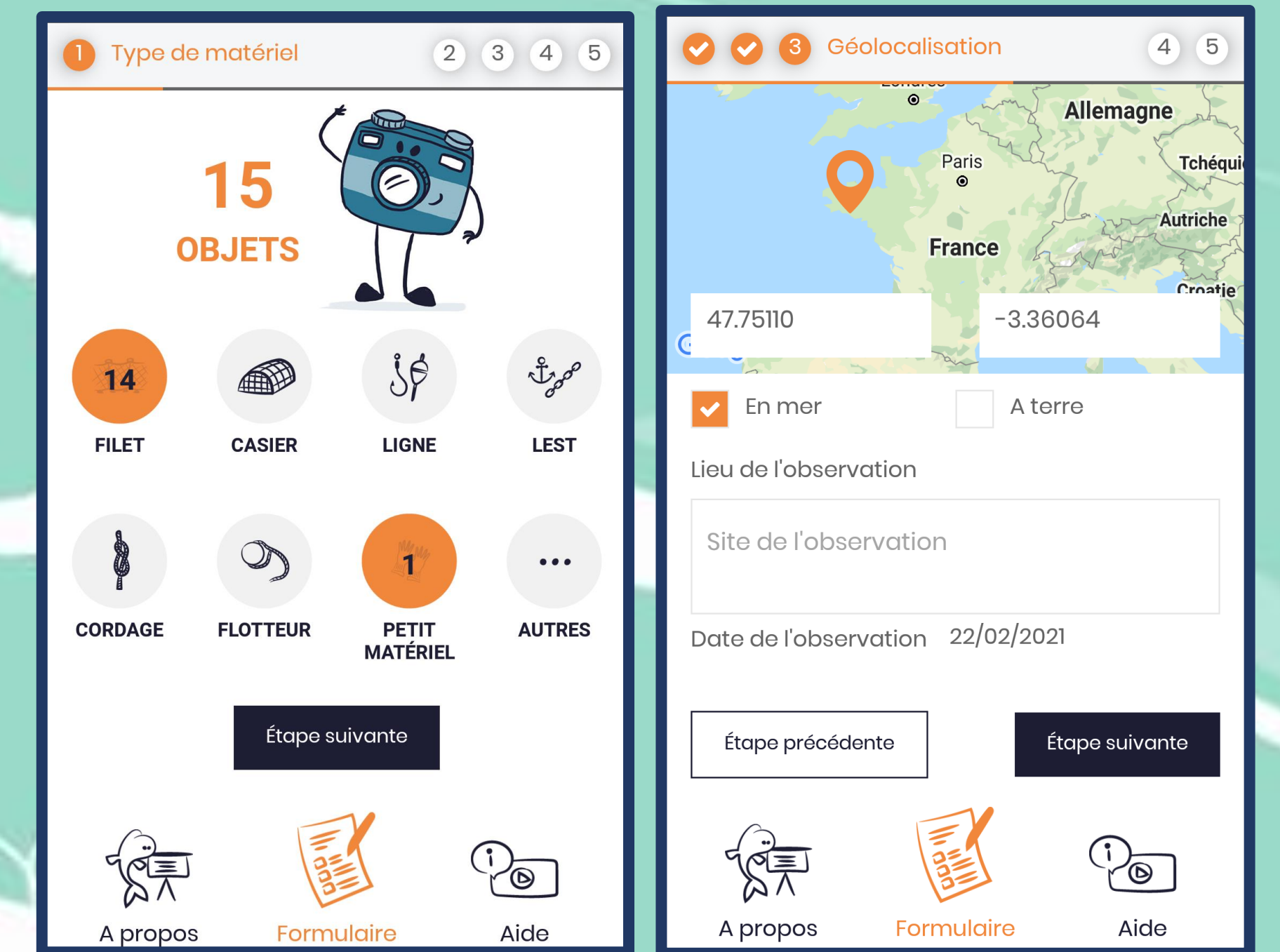


Figure 1. Fish & Click application interface

All the observations are georeferenced. Photographs can be recorded and the possible presence of entangled species can be informed.



Data are opportunistic observations that need to be validated for observation errors and bias before data analysis.

RESULTS

➤ Within each type of location (sea/shore), reports distribution is used as a proxy of the observation effort to standardize gear quantities (Fig. 2).

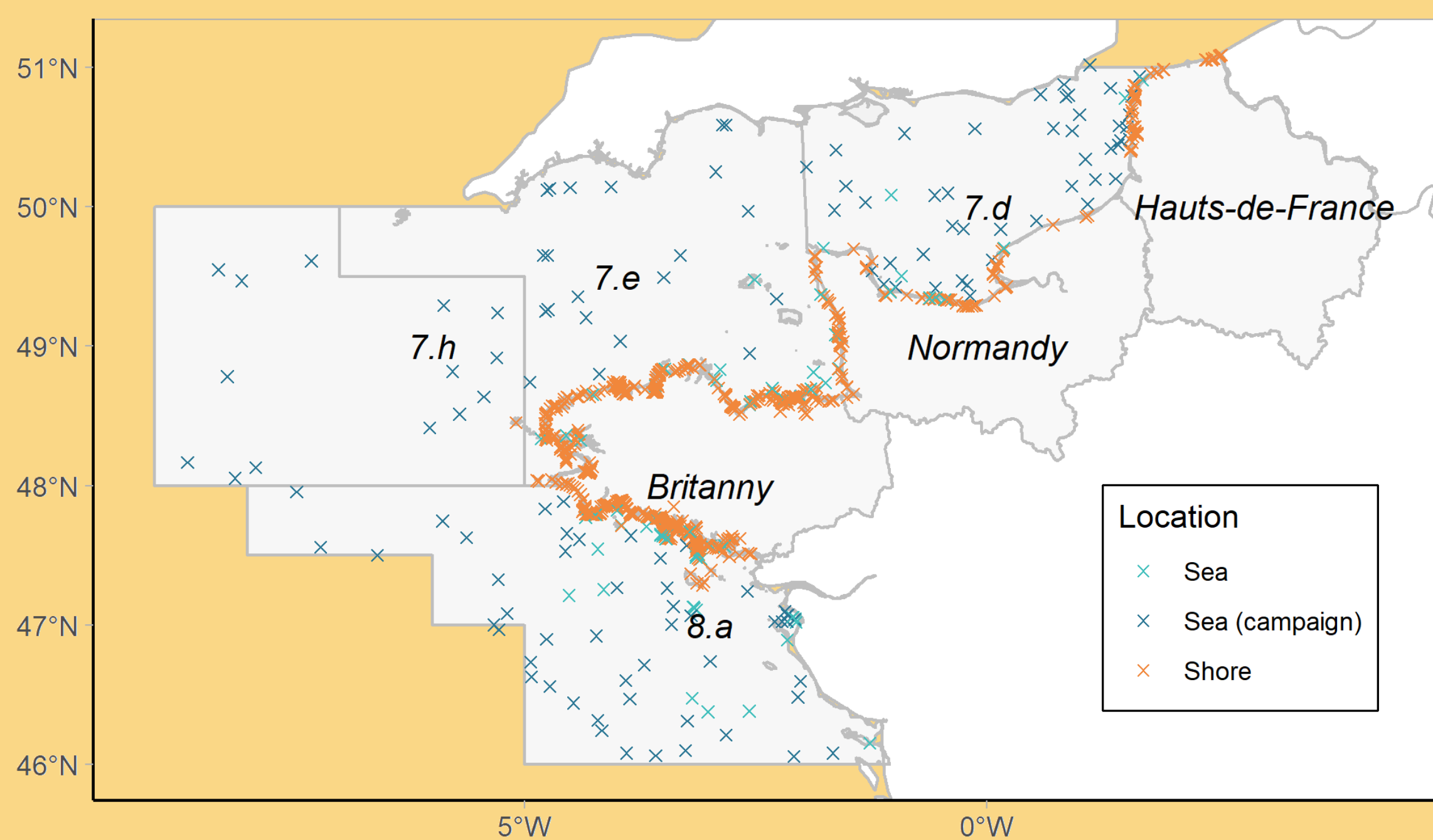


Figure 2. Map of the reports from May 2020 to November 2021

➤ More than **500** observers and **18 000** reported pieces of gear in 2 years

➤ Types of gear from sea and shore are generally reported in similar proportions. Ropes are the most often reported material, followed by lines and nets (Fig 3.). A substantial part of the fine ropes found at shore comes from trawls mending. Important quantity of uncategorized material are reported at shore which often corresponds to aquaculture material ('Other' category) and more traps are found at sea.

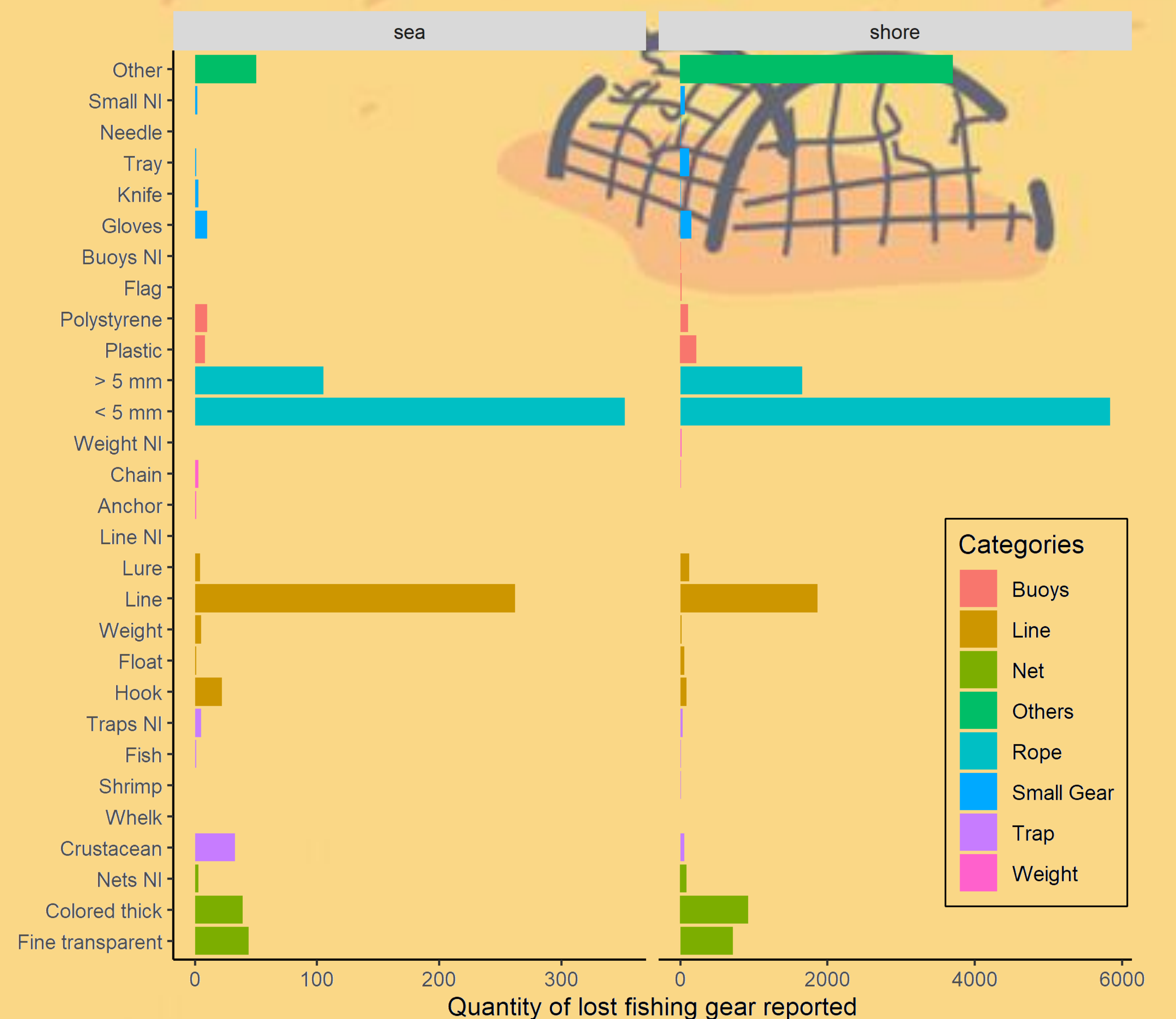


Figure 3. Quantity of gear or pieces of gear reported by category and location type

CONCLUSION & PERSPECTIVES

The heterogeneous spatial distribution of these opportunistic observations makes the analysis of such dataset challenging. Also, the identification of the fishing activity related to each gear can be tricky, especially for ropes as they come from a wide variety of gear types. Pictures analysis is useful to refine categories (e.g. aquaculture material in the "Other" category at shore) and determine the material composition.

➔ The results from Fish & Click will help to orientate research on the development of biodegradable materials for fishing gear and adapt their lifespan to their use and risk to be lost.

