GHOST GEAR IN NORWEGIAN WATERS

NTNU

Project Summary

A summer research initiative under NTNU's Circular Plastics Programme (Kirkenes) explored how harbour infrastructure affects the loss of fishing gear. Through fieldwork, spatial analysis, and stakeholder interviews, we mapped both the extent and underlying causes of gear loss along the Norwegian coast.

Key Research Question

Does the availability of harbour waste reception facilities influence the frequency and location of gear loss?

Policy Context

Norway's EPR rules make producers responsible for collection and recycling fishing gear, but success depends on accessible harbour reception facilities.

Why It Matters

Over 380 tonnes of fishing gear are lost in Norwegian waters annually.
Only about 36 tonnes are recovered each year.
Gear continues to fish long after loss, harming marine ecosystems.
(Deshpande et al., 2020)

Methods

- Spatial datasets: BarentsWatch (registered lost gear, fishing harbours),Havforskningsinstituttet (fishing gears retrieved from seabed)
- Grid analysis: 10 × 10 km cells across Norway
- Tool: QGIS

Findings

Seasonal trends:

- February: Highest losses of gillnets
- April: Crab pots
- November: Longlines

Spatial patterns:

- Longlines most lost in Troms og Finnmark, Crab Pots peak on westers, northern coast

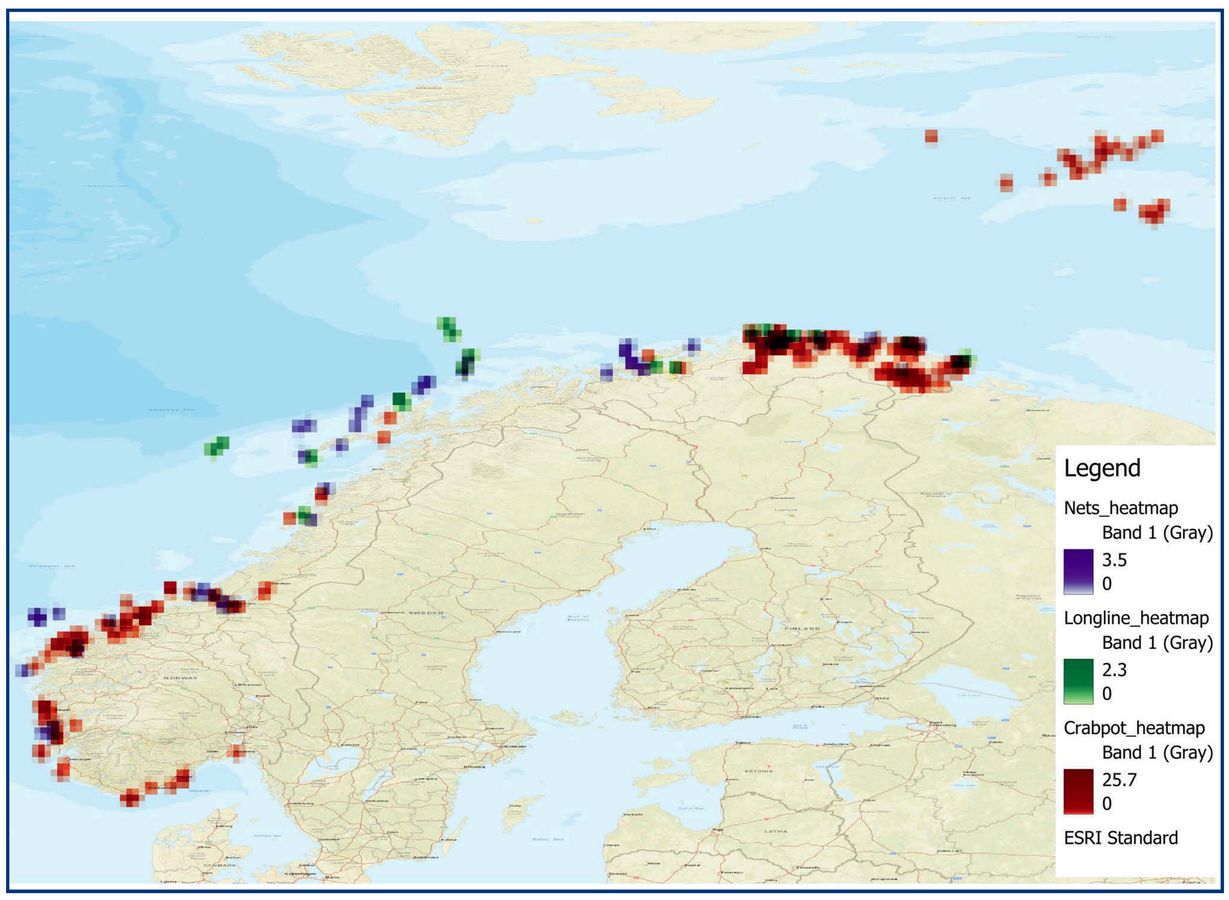
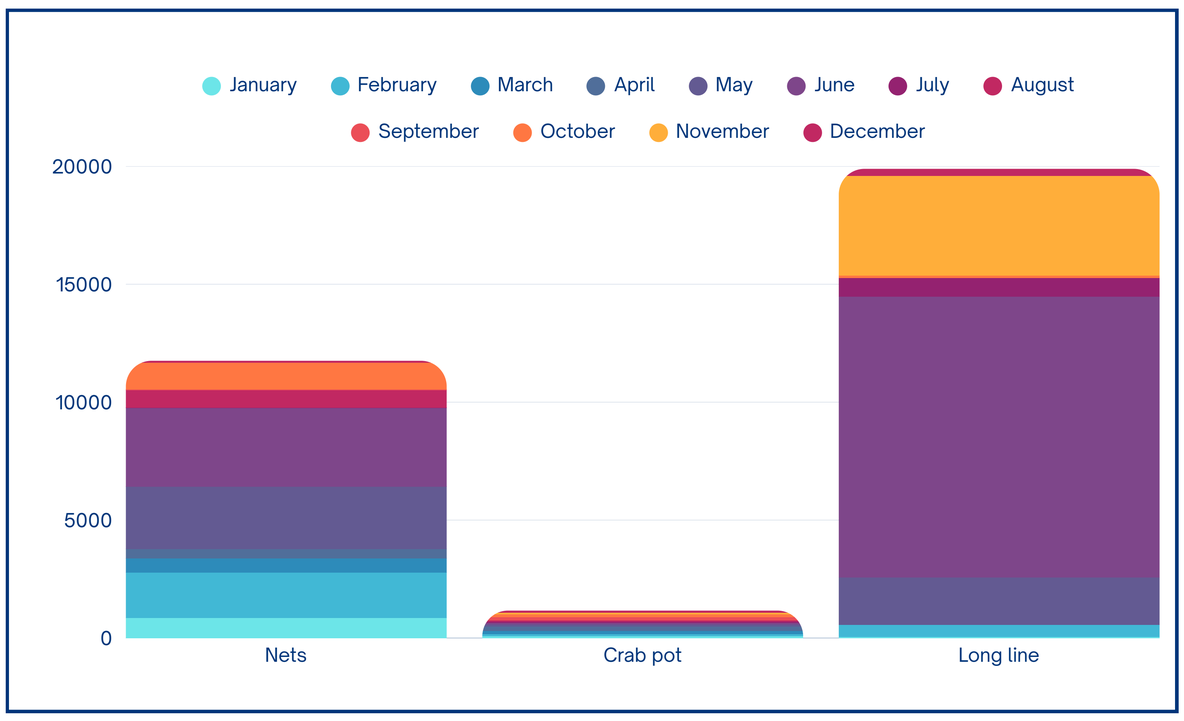


Figure 1. Density map of registered lost fishing gear in Norway (number of points)- Soruce: Barentswatch t



Data Gap

- Regional imbalance in gear recovery efforts
- No complete registry of harbours with fishing gear disposal system

Findings

The 10 × 10 km grid analysis (Figure 2) reveals a mismatch: most recovered gear is found along Norway's eastern coast, where harbour density is low. In contrast, the west coast, despite more harbours, shows fewer recoveries. This is largely due to cleanup efforts focusing on southeastern national parks, which account for most retrievals. Only 1,806 of 10,195 records come from western Norway.
Comparing fisher-reported losses (Figure 1) with seabed cleanups (Figure 2) shows a clear gap: gear is heavily retrieved in areas with few reported losses. This suggests underreporting and possibly deliberate abandonment, likely linked to sheltered waters, small-scale fisheries, and poor disposal options. The findings point to the need for better harbour reception systems and stronger reporting enforcement.

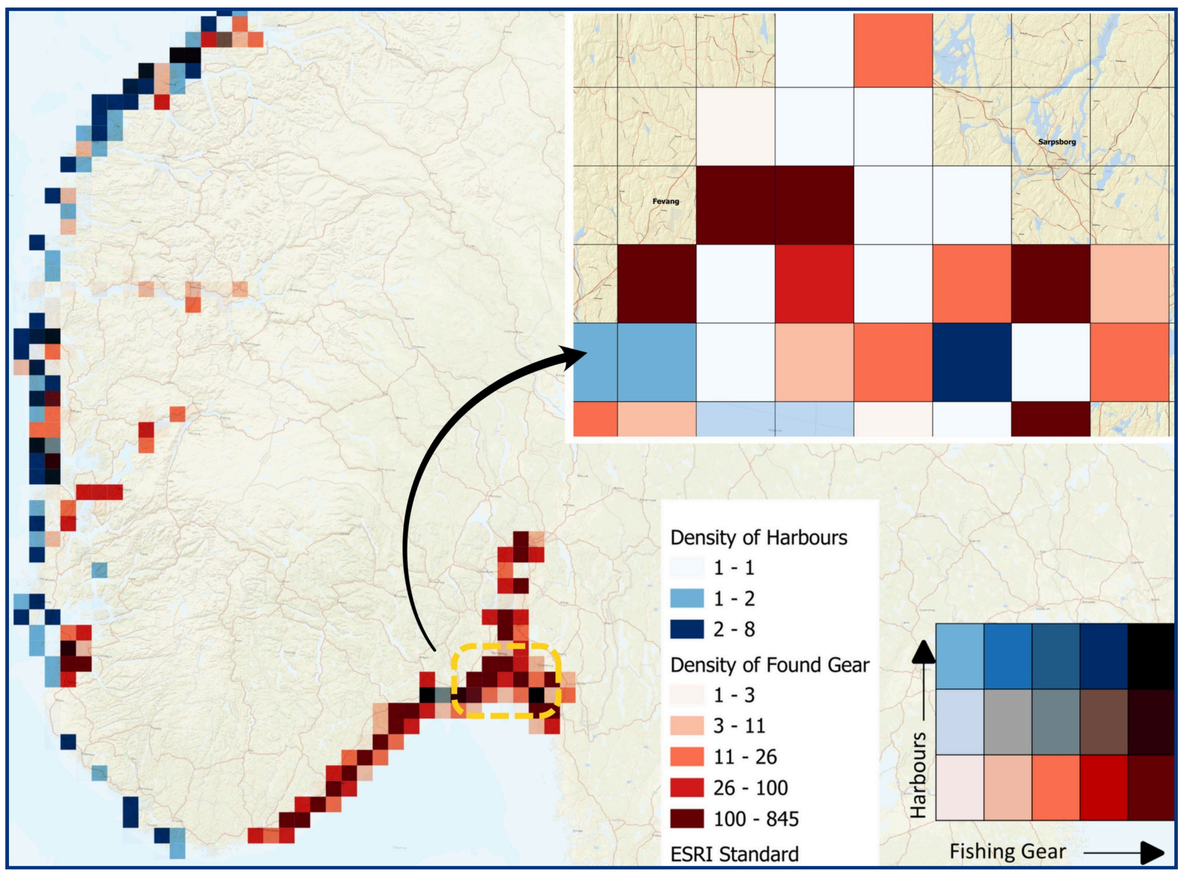


Figure 2. Density of fishing harbours and retrieved fishing gears in 10 km grid (number of points)- Source: Havforskningsinstituttet

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