

BYCATCH LESSONS FROM ALASKA

Findings from an industry workshop in Peterhead are set to extend the use of the BATmap bycatch avoidance tool in Scottish fisheries. This week: the background to the project

REDUCING THE CATCH of unwanted species is a major goal for fisheries globally. The challenge can be acute in UK waters because of the mixed fish community and legislation banning the discarding of commercial species at sea. Avoidance of endangered wildlife such as marine mammals and seabirds is also a key priority for the UK fishing industry.

Real-time reporting (RTR) is the term used for the rapid, semi-automated collation, processing and sharing of catch data to avoid locations associated with high catches of unwanted species. RTR requires skippers to share catch and location information of high catches of unwanted species or sizes of fish. While the development of the software to do this is technically straightforward, implementation can be impeded by the reluctance of fishermen to voluntarily share their data.

Convincing fishermen to share sensitive information is difficult, but not impossible. For the past two decades, RTR has been successfully used in the Alaskan pollock fishery to reduce salmon bycatch. This fishery is widely considered to be one of the best-managed fisheries in the world, and in 2020 landings were valued at over £300m.

The fishery has approximately 120 vessels landing into ports, organised into seven different fishing co-operatives. Two other fleet sectors, the catcher-processor and mothership fleets, are also involved and operate at sea for extended periods.

The Alaskan fishery operates under strict regulatory caps on chum and Chinook salmon bycatch, and also has a ban on discarding at sea. Vessels exceeding their bycatch limits are tied up for the remainder of the season. Using RTR software, data about the location and



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magnitude of salmon bycatch is shared across fishing vessels belonging to the same fishing co-operative.

High bycatch triggers email alerts to skippers who then use the information to decide when and where to fish. The co-operative manager, or analyst, identifies areas where bycatch is too high, as well as locations where bycatches are low. Following consultation with others familiar with fishing patterns, a closed area (called a rolling hotspot closure) can be put into effect for a pre-defined period.

After initial reluctance to



▲ **The app is simple to access and use via a mobile phone, and requires the bare minimum of inputs.**

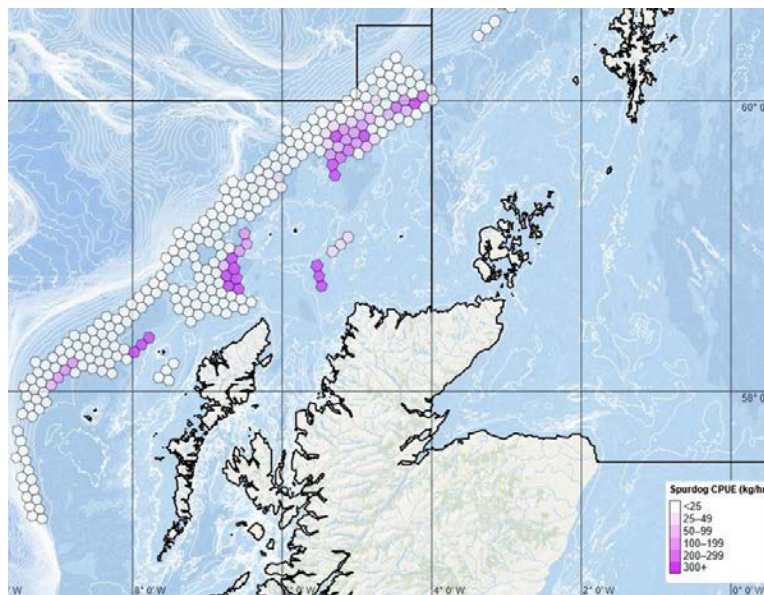


share data, Alaskan skippers quickly became 'information junkies'. There's now very high demand for the type of high-resolution information on location of catches over time that is shared using RTR. Their high-tech approach to bycatch avoidance has paid off!

The Alaskan pollock fishery is regarded as one of the cleanest in terms of incidental catch of unwanted species (less than 1%), and its success in bycatch avoidance figures prominently in its longstanding certification by the Marine Stewardship Council.

THE ALASKAN APPROACH to RTR was reviewed by the University of Aberdeen in a 2017 report commissioned by Fisheries Innovation Scotland. We described how RTR allows the Alaskan industry to meet its regulatory requirements for avoiding bycatch while minimising the risk of being tied up.

Skippers rapidly shifted from resisting RTR to relying on it. Their change in attitude was because the reporting systems were designed and developed by industry, for industry. The report concluded that this industry-based, co-design approach could work



▲ **The confidential maps, produced in real time, not only provide information to help skippers avoid species they don't want to catch, but can provide valuable indicators of the distribution and recovery of stocks – such as the spurdog featured here.**



▲ **The Venture IV is one of the vessels that has been using BATmap. Skipper Mark Lovie said: "BATmap has been useful to identify hotspots of cod and spurdog on the west coast, as well as help us avoid unwanted bycatch. More importantly, it has helped us to prove there is as healthy stock as we have seen, year on year, for the past decades."**

in Scotland, provided the right incentives for change were in place.

Incentivisation for implementing RTR came when the landing obligation was rolled out on the west coast of Scotland in 2019. Working with the same IT developer used by the Alaskan fishermen, several skippers participated in the co-design of RTR software for use in their own west coast whitefish fishery. The aim was to ensure that the resulting software would be acceptable to users with respect to confidentiality and security of information-sharing.

The resulting software, called BATmap (Bycatch Avoidance Tool using mapping), was ready by September 2019. It operates on a mobile phone, desktop or tablet, with only a few fields required to be completed for catch data entry. Position data is received automatically, making the overall data entry process quick and easy.

While initially designed for

cod and whiting, users quickly added spurdog to the reporting system, recognising that there was a need to avoid this species at particular times of the year. The catch data provided by all participating vessels is combined, and alerts, including hotspot maps, are automatically sent out when pre-defined levels of catch are exceeded in a specific location.

Currently, BATmap is being used by 13 Scottish fishing vessels operating on the west coast of Scotland. The involvement of the Scottish Fishermen's Organisation, Orkney Fish Producers' Organisation, Aberdeen Fish Producers' Organisation and North East of Scotland Fish Producers' Organisation has been critical to the uptake. To date, more than 5,000 catch reports have been entered, and over 140 alerts for high cod bycatch and over 46 alerts for spurdog have been disseminated to participating vessels.

BATmap is currently the only industry-based application of RTR for bycatch reduction in UK and European waters. Notably, its development and roll-out was primarily funded by the fishing industry, including the Scottish Fishermen's Organisation, Fisheries Innovation Scotland, the Scottish White Fish Producers' Association, Seafish and the Scottish Fishermen's Trust.

In 2021, BATmap was awarded the prestigious Sustainability Award by *Fishing News*. We followed up in 2022 with an industry workshop in Peterhead.

More information about BATmap and links to further reading can be found at: info.batmap.co.uk

NEXT WEEK

What comes next for BATmap