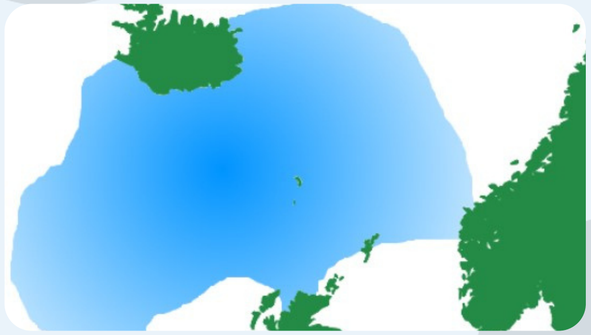
The people involved are crucial in keeping the momentum going



North-western European Shelf

Species: Mackerel & Herring

Research: Industry self-sampling, research of spatial structure

Dr. Chevonne Angus

University of the Highlands and Islands
Shetland Islands, UK

What do you see is the most pressing issue in the north-western European shelf area?

There's a lot of different issues across the area. So many, in fact, but for the case study that we're doing, we're concentrating on the pelagic fleet that fish predominantly for mackerel and herring. There's historically been a lot of mistrust between the industry and the scientists on what the stock assessment says, so one of the things that we've got buy in from the industry for is to include industry in the data collection process, with the long-term aim that better data will lead to improved assessments.

Because the pelagic fisheries are targeting one species at a time they are less complex than mixed-species fisheries. They're either fishing for mackerel, or they're fishing for herring or blue whiting, depending on the season. They have minimal bycatches so issues like discarding and choke species aren't there.

Proving the self-sampling concept and the pathways that need to happen around, for example data quality and relationship building, is all transferable knowledge that can be applied to different fisheries, whether that be shellfish or demersal fisheries. So there's a lot of transferable knowledge that we've gotten on this project.

What do you find is the biggest unknown in this case study?

It's difficult to say. We have just concentrated on self sampling and the co-sampling setup in the Scottish fleet rather than answering a big stock assessment question. We wanted to collect data to a suitable standard and quality that can then feed into the stock assessment process. We've answered questions around 'can this be done and can it be done to a standard, what's required to do it to standard, and how can it work?'

How was it working with the local fishers for self-sampling?

We've had some real wins across the project so far in terms of getting systems set up to self sample and co sample data on a far finer scale than you can do under the standard market sampling. So that's already seeing real benefits. And we've had continued good communication between ourselves, the industry, and Marine Scotland - it's a three-way partnership. The amount of time and effort to build those relationships should never be underestimated but there's a lot of industry support for continuing the work as they can see benefits.

It's good to see that there was work to improve the buy in from locals.

Yeah, it's been successful. We set a target of having three or four vessels join in the scheme and using that as a pilot. Once we had those initial three or four [vessels] very quickly, the whole fleet joined in so we now have the full 22 vessels. The data that they're coming with is really good quality. We've done a lot of work on quality control and comparisons between self-sampling and market sampling data.

Is there anything that in particular, you think, helped with that success?

Initially you certainly need buy in from a core group of fishers. I've been working with industry on fisheries research projects for more than 20 years and having a core number of skippers and vessel owners that are very keen and engaged has always been key to success. An initial buy-in leads to more becoming involved. It's a fascinating dynamic behaviour.

Key for this project has been having Dr Steve Mackinson at the Pelagic Association who, along with my colleague Dr Katie Brigden have really kept the momentum going. Much of Katie's job has been liaising with the fisherman, making sure the data is coming in, keeping the relationships going and nipping any problems in the bud. That communication role is almost a full time job and is as important as working with the actual data.

What is clear is that that the personalities and the people involved are crucial in keeping the momentum going. Methods of communication are equally important. If fishermen want to communicate on WhatsApp, that's what we use. It's important to communicate with folk as an equal. There has been the perception of the scientist sitting in the 'Ivory Tower' and that is not how equal relationships work.

Do you think that there's certain areas of UK fishing policy that could be improved?

There are always areas that could be improved but management is complex, and Brexit has added to that. For pelagic stocks, they are mobile and move across large areas and each stock is fished by multiple nations so international agreement is needed.

What solutions are starting to emerge in the region?

In terms of self-sampling in the pelagic sector, it's giving the fishermen that buy-in to the assessment process. They're seeing their data is getting recognised, and scientists are seeing it's quality data. The project has also opened up a lot of ideas about further research that can be done and further data that can be collected, particularly on the acoustic side of things.

A lot of the fleet has just recently been renewed. So they're very modern boats with fantastic facilities and equipment on board. There's an awful lot of data that the fishermen are collecting or have available to them, that could be used scientifically as well. I think having this PANDORA project has been a really good bedrock. We can move on to the next level of engaging with industry and seeing where we can take new research.

What changes do you think may happen in the industry in the next few years?

I think if the buy in and momentum in the self sampling data can be followed through and maintained, it will lead to better data feeding into the assessments. I think there will be improvements along a number of different channels that will ultimately lead to overall better stock assessment and management.

We also need to have a long term investment to maintain this data collection and develop a quality certification scheme of the data. So certainly, in order to maintain the gains that we've had there needs to be investment for it to continue. You need a person there to be that industry's go-to point.

I imagine that since you're dealing with lifetimes of entire stocks, getting consistent long term data is the most important thing to keep track of those things.

Yes, absolutely. It needs to be long-term and the data required is not just self sampling data. Other existing surveys such as the egg surveys are needed. Having that long term data means you can start seeing trends and start correlating to environmental variables. There will be a lot of noise within things and blips along the way. But the longer your time series the better in terms of seeing trends and patterns.

The older skippers have seen trends over their lifetime and changes in stock abundance and behaviour. That sort of the anecdotal evidence recorded over the longer term also becomes more valuable.

(Interview has been edited for length and clarity)

@pandora_project
pandora-fisheries-project.eu
chevonne.angus@uhi.ac.uk