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Quay Issues

FREE MAGAZINE

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Welcome to the latest edition of *Quay Issues*

It's a tough time to be a fisher in the UK. I've not met anyone who feels that Brexit delivered any benefit; in fact, most say it made things more challenging and continues to do so. Then there was Covid and all the restrictions that impacted traditional routes to market at home and abroad.

Now fuel prices are breaking new ground and impacting profitability, while finding trained and experienced crew is increasingly difficult. To cap it all, we're seeing spatial squeeze in the maritime environment brought about by a combination of the explosion in the offshore renewable energy sector and the proliferation of new Marine Protected Areas. Times are tough for sure.

This edition of *Quay Issues* shines a light on the way in which some businesses are rising to the challenges that the sector faces. As ever, we find the UK fishing sector in inventive and determined mode, keen to continue to play its part in serving up nutritious, healthy seafood to UK consumers while supporting local rural communities and supply chains with valuable employment opportunities.

By publishing *Quay Issues* we aim to share knowledge and insight to help and inspire others into their own journeys of improvement and sustained business success. We are enormously grateful to everyone featured in our stories. They have been very generous with their time and are clearly passionate about what they do, and keen for their experiences to be shared for the wider benefit of the sector.

We have articles covering a range of topics: from by-catch avoidance to fuel efficiency; from emissions to education; from climate change to safety at sea.

I hope you enjoy reading these stories and taking a peak at the ingenious and resourceful people that characterise the UK fishing industry. If these stories inspire you, please think about accessing more information and insights from the Seafish website: www.seafish.org

I hope you enjoy *Quay Issues*!



Marcus Coleman
Chief Executive Officer, Seafish



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Innovative industry: Understanding and responding to climate change

By Lewis Tattersall



Climate change is a major challenge facing us all. We are already seeing impacts, including higher global temperatures and increased frequency of extreme weather events. The good news is that seafood already has a lower carbon footprint than many other sources of protein. This makes it a climate smart food which can help meet the needs of a growing world population.

Businesses responding and adapting to climate change

There is scope to reduce emissions throughout seafood supply chains, in fishing and farmed seafood production, trading and processing. Seafood businesses will also have to adapt to the impacts of climate change. This may involve changes to the species they are able to harvest and produce, and who they sell to.

There are opportunities for businesses that respond and adapt to climate change. For example, as well as the environmental benefits of reducing carbon emissions, there are often associated economic benefits.

We have compiled case studies to help raise awareness about the good work already happening in the seafood industry to reduce carbon emissions and adapt to climate change impacts. You can read excerpts from three of these case studies here, and see further case studies on our **Climate Change and the Seafood Industry web page** (link on page 07).

Catching sector funding carbon footprint research

Understanding the carbon footprint of your activities is an important first step in identifying areas where changes might be needed. The pelagic fishing fleet in Scotland – which consists mainly of vessels over 40m long targeting mackerel, herring and blue whiting in the North Sea and northeast Atlantic – has helped support scientific research into the sector's carbon footprint. This has helped the industry understand how the footprint of pelagic fish compares to other food products, and where improvements could potentially be made.

A 2015 pilot study by the University of Aberdeen found that the Shetland pelagic fleet had a very low carbon footprint. Seeing the success of the pilot study, a number of organisations came together to co-fund a PhD position to assess the footprint of the entire Scottish pelagic fleet. The stakeholders included the Scottish Pelagic Sustainability Group, the Shetland Islands

Council, the University of Aberdeen, the University of the Highlands and Islands, and the Shetland Fish Producers Organisation.

The results of this work showed that one kilogram of pelagic fish caught by the Scottish fleet had a carbon footprint of 0.452kg Carbon Dioxide (CO₂) equivalent. In comparison, the global average footprint for one kilogram of beef is 36kg CO₂ equivalent.

Scotland has set a target of achieving net-zero emissions by 2045. Currently processed meats, beef and chicken make up two thirds of protein consumed in Scotland. This research shows that increased consumption of UK-caught pelagic fish would help reduce the nation's dietary carbon footprint, not to mention the health benefits of eating seafood and importance of supporting local economies!

Below: A catch of Scottish Mackerel



First fully hybrid aquaculture service vessel

In September 2021 the UK's first fully hybrid aquaculture service vessel was launched by Inverlussa Marine Services, based on the Isle of Mull in Scotland. Adoption of new technologies can play an important role in minimising direct greenhouse gas emissions and the new vessel will help reduce both running costs and carbon emissions.

This new build 15m NabCat vessel, the *Laurence Knight*, is powered by a combination of diesel and batteries and marks an important milestone in industry efforts to improve efficiency and reduce carbon emissions.

It will undertake general aquaculture sitework and maintenance at sites on the west coast of Scotland. Compared to a diesel equivalent, it is expected that the new vessel will use 90,000 litres less fuel each year. This represents a reduction of around 234 tonnes of carbon dioxide emissions annually.

Aquaculture work is particularly well suited to using hybrid vessels because they work close inshore and return to harbour at night, meaning the vessel can be plugged in to charge onboard batteries. However, there are already examples of hybrid technology being used in the catching sector abroad. In 2015 the world's first hybrid fishing boat was launched in Norway.

Below: Artist's impression of the *Laurence Knight*, an Inverlussa hybrid vessel





Above: A traditional beam trawl Below: A Sunwing beam trawl Images courtesy of Gus Caslake, Seafish



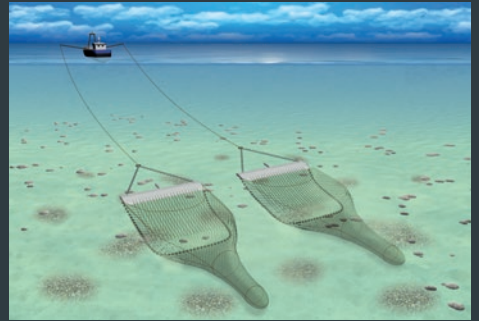
Sumwing beam trawl trials by Western Fish Producers Organisation (WFPO)

In autumn 2021 we supported WFPO with gear trials carried out on the 30m beam trawler *Margaret of Ladram*. This is a commercial fishing vessel working out of Brixham, skippered by Adam Cowan-Dickie. The sea trials tested a Sumwing beam trawl to gather information on how the new gear impacts vessel fuel efficiency and catches compared to traditional gears.

The Sumwing beam trawl replaces the traditional heavy beam with an air-filled, aerofoil shaped 'wing' to keep the net open.

Unlike traditional beam trawls, the Sumwing trawl does not have runners at each end of the beam which drag along the seabed. Instead, it relies on one central skid and hydrodynamics to keep the net on the bottom while the Sumwing itself hovers around 600mm off the seabed.

Initial results from the trial were positive, showing a 42% saving in fuel. The results were so good that the skipper continued using the gear after the trial ended and has reported on average a 30% fuel saving.



Above: Sumwing beam trawls being towed

Our economic analysis of trial data suggests that a typical southwest beam trawler, fishing for 200 days per year, could potentially save over £190,000 in fuel costs annually as a result of changing beam trawl gears.

On top of this, the reduced contact with the seabed doubles the lifespan of the gear and was shown to reduce benthic discards by 69% – resulting in higher catch quality and potentially a better market price.

A technical report on the results of the trial is available on the **Selective gear technology for fishing** page on our website.

Support available for seafood businesses

Visit the Seafish Climate Change and Seafood webpage >



Watch our short film on how climate change will impact the seafood industry



Read blogs from our Head of Responsible Sourcing and Head of Horizon Scanning on climate change mitigation and adaptation



Find more case studies of seafood businesses responding and adapting to climate change



Subscribe to our quarterly climate change and seafood email newsletter for updates relevant to the seafood industry



Access our seafood emissions profiling tool, which allows businesses to gain a better understanding of their carbon footprint



Discover lots more information and resources about climate change

For more information on our climate change work, contact climate@seafish.co.uk

From simple recipes to feed the family in a flash, to culinary adventures out and about, we believe seafood has the power to help us all live life to the fullest. Why not join in, fire up the stove and enjoy one of these recipe ideas?



Greek-style cod flatbreads

Inspired by Greek gyros (pronounced 'yee-rrors'), these quick, tasty flatbreads make a wonderful midweek meal.

Serves: 4 / Prep time: 10 mins / Cooking time: 15 mins / Skill level: Easy

Ingredients

- 4 cod loins or chunky fillets
- 3 tbsp olive oil
- 2 tsp dried oregano
- 2 tsp smoked paprika
- 1 punnet cherry tomatoes, halved
- 4 Greek-style flatbreads
- 1 red onion, sliced
- 2 little gem lettuce, leaves torn and washed
- 1 small tub tzatziki
- Salt and pepper, to taste
- Metal or wooden skewers (if wooden, soak for 30 minutes in cold water before using)

Method

Step 1: Preheat the grill to medium.

Step 2: Cut each of the cod loins or fillets into good-sized chunks and place in a mixing bowl with 2 tbsp of the oil, the oregano and smoked paprika. Season generously with salt and pepper then mix well to coat the fish. Thread the chunks of fish onto the skewers.

Step 3: Arrange the skewers on a non-stick baking sheet and place under the grill for 8-10 minutes, turning halfway and grilling until the fish flakes easily and is cooked through.

Step 4: While the fish is cooking, place the halved tomatoes in a bowl with the remaining oil and season with salt and pepper. Toss together and set aside.

Step 5: When the fish is cooked, switch off the grill and warm the flatbreads on the rack for a minute or two under the residual heat.

Step 6: Serve the warmed flatbreads with the grilled cod, tomatoes, onion, lettuce and tzatziki.



Lobster Thermidor

Nothing says special occasion quite like a lobster dish – a classic Thermidor is no exception.

Serves: 4 / Prep time: 10 mins / Cooking time: 10-20 mins / Skill level: Easy

Ingredients

- 2 whole cooked lobsters, meat removed and shells cleaned
- 2 tbsp butter
- 2 shallots, finely minced
- 1 garlic clove, minced
- 2 tbsp plain flour
- 2 tbsp dry white wine
- 175ml milk
- 50ml double cream
- 100g Parmesan cheese, grated
- 50g Gruyere cheese, grated
- Handful of chopped parsley, plus extra to garnish
- 1 tbsp Dijon mustard
- Black pepper
- Lemon, to serve

Method

Step 1: Melt the butter in a high-sided (ideally non-stick) frying pan. Add the shallots and garlic and gently cook for a few minutes until softened.

Step 2: Add the flour, whisk to combine and cook for a further 2 minutes.

Step 3: Add the white wine then slowly whisk in the milk. Bring up to the boil then immediately reduce the heat to simmer for a few minutes, until the sauce has thickened enough to coat the back of a spoon.

Step 4: Slowly add the cream, stirring until combined.

Step 5: Remove from the heat and stir in the Parmesan, Gruyere, mustard and parsley. Season with black pepper, stir and allow the cheese to melt before folding in the chopped lobster meat.

Step 6: Fill the shells evenly with the mixture and place them on a baking sheet under a pre-heated grill for 8-10 mins, or until the mixture is bubbling.

Step 7: Garnish with a little parsley and serve with lemons.

Using the right bait: Back on track to an attractive seafood sector for new entrants

By Joe Cooper

The new commercial fishing apprenticeship standard for England is aiming to roll out this year, offering a prosperous career path for those with a sense of adventure and a love of the outdoors.





Alongside creating opportunities in the catching sector for young people, the scheme has wider implications for the future of a safe, skilled and sustainable UK fishing fleet.

It is planned that the 18-month, level 2 apprenticeship standard will begin from September 2022. The course's development has been led by the Cornish Fish Producers' Organisation (CFPO) with input from a diverse group of fishers from around the English coast. South Devon College is hoping to be amongst the first to offer the course.

Chris Ranford, CEO of CFPO is proud of the collaboration that's developed this alternative opportunity for school leavers.

"This standard came from the employers, which is a diverse mix of PO Board members, skippers and young fishers; the desire was to create a new way into the industry that attracts a different type of person. The existing entry routes are good, and we still really encourage people to follow the usual process of safety courses... but to market becoming a fisher to a young person we found we needed something else as well."



The composition of the catching sector

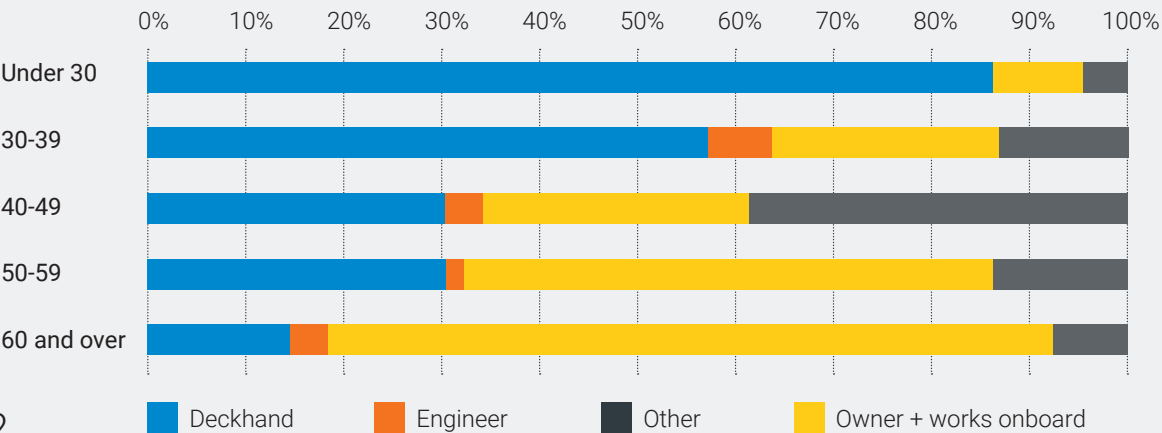
Participants in Seafish’s annual Fleet Survey often mention that it’s difficult to find and keep crew due to a lack of reliable workers entering the industry. When conducting the survey, I’m often asked: “who’s going to be skippering the fleet in 10 or 20 years?” The social data we collected in 2021 shows that under-30s make up only around a quarter of crew on vessels registered in England.

While the 2020 Migration Advisory Committee (MAC) report was an acknowledgment that migrants are crucial

to a thriving fishing industry, it didn’t solve the crewing issues faced by many smaller vessels working inside UK waters.

The MAC’s recommendation that non-UK deckhands on vessels over 9m are eligible for skilled work visas will benefit parts of the sector, however 62% of deckhands on English vessels sampled in 2021 were from the UK. This, combined with the frequency with which operators speak of their desperation for good crew, highlights why a scheme such as this is so important.

Figure 1: Job roles of English vessel crew by age





Appealing to new entrants

The development of this apprenticeship scheme highlights how industry is pushing to secure the future of the catching sector.

Market research by Seafish in 2018 explored 16–18-year-olds' attitudes towards a career in the industry and found that too often the perception was of unglamorous work with limited prospects and low pay. It's hoped this well-designed course with clear operational duties will help change attitudes by showcasing the wide range of jobs with good pay and promotional opportunities.

The course also aims to showcase that life as a fisher isn't all about handling fish. Topics such as technical conservation measures, navigation and data collection are also covered.

There are multiple training courses available to new entrants. In Scotland an apprenticeship course offered by the North Atlantic Fisheries College in Shetland was also developed in partnership with industry and provides employment while training



on the job. The CFPO apprenticeship course offers an opportunity for paid training to a wider range of candidates in England (refer to Figure 2, overleaf).

As Chris says: "Between the ages of 16 and 18 you have to be full time employed or in full time education – that alone is a big barrier to getting into the industry. Having something that is structured and professional means we can align it with other career options out there."



Figure 2: Training courses available for new entrants to the fishing industry

Course	Type	Age Group	Duration	Location	Employment included?	Organisation
Introduction to Commercial Fishing	Training Course	Any	3 weeks	UK wide	No	Seafish
Modern Apprenticeship in Maritime Occupations: Sea Fishing pathway	Apprenticeship (SCQF level 5)	16+	12 months	Shetland, Scotland	Yes	NAFC Marine Centre
Commercial Fishing Apprenticeship Standard	Apprenticeship Standard (Level 2)	16+	18 months	England	Yes	Cornish Fish Producers' Organisation
Maritime Studies – Sea Fishing Pathway	Diploma (Level 2)	16-19	Training plan and qualification dependent	Whitby, England	No	Whitby & District Fishing Industry Training School
Maritime Studies – Trainee Deckhand	NPA (SCQF Level 5)	16+	12 weeks	Peterhead, Scotland	No	North-East Scotland College



What do you graduate with?

The Level 2 Apprenticeship standard to harvest fish and shellfish will cover the skills, knowledge and behaviours needed for operational duties as a commercial fisher. Apprentices will come away with practical skills of gear management and maintenance, engineering and navigation, an understanding of catching methods, vessel types, data collection, fisheries management and safe practice.

In Chris's words: "The course is fairly ambitious in terms of the skills and the training required. You're not just learning the basics of fishing today, it's also about building an awareness around fishing issues, science and sustainability."

Apprenticeships like this can offer a future of knowledgeable and capable fishing crews for coastal communities.

In providing an educational alternative to university, the scheme also promotes the idea that working in the catching sector is a highly skilled and progressive career. In doing so, the aim is to bring in new entrants that are driven to progress and develop a career.

By providing an attractive opportunity to a wider pool of candidates, this new apprenticeship standard is helping to ensure a safe, skilled and sustainable fishing fleet for the future.

Find out more about the apprenticeship scheme here >
The CFPO's Youth Board was crucial in the scheme's creation – read more at cfpo.org.uk/youth-board



Plot a clear course with Kingfisher

By Oscar Wilkie

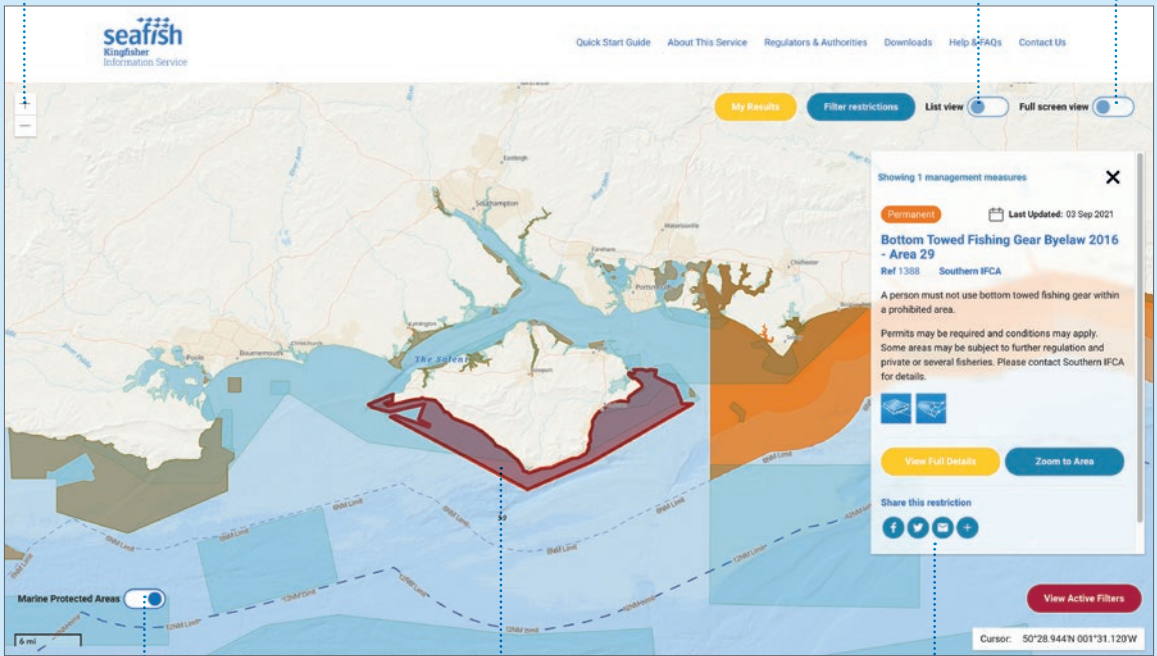
All fishing vessels are faced with restrictions that limit when, where and how they catch. These may be fully-prohibited areas, restrictions relating to species, fishing gear, or technical measures of another kind. Some may be year-round restrictions, seasonal or related to specific days of the week or times of day. The situation is complex.



Zoom in/out of map

View restrictions in a list

View map full screen



Option to include MPAs

This is on – MPAs are visible, shaded light blue

Selected restriction area

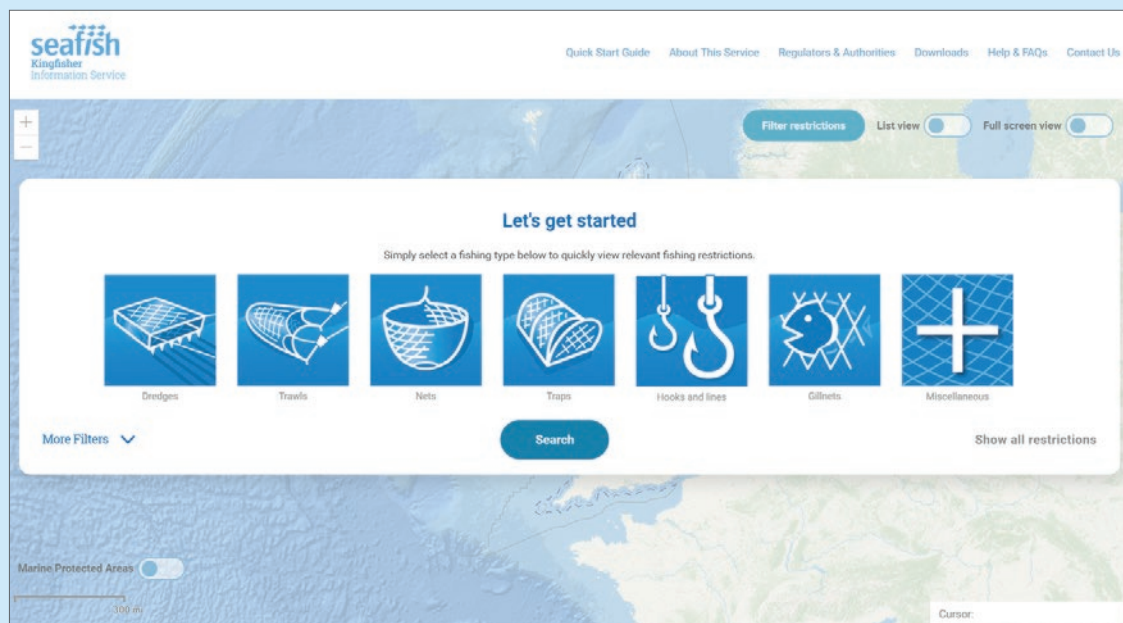
Pop-up with details of restriction area
Name, governing authority and option to view more information

Seafish's Kingfisher team have stepped in. Working with the fishing industry and regulators, they've created a free, user-friendly website and data exporting tool for use on onboard vessel plotter systems, to accurately map and explain restrictions.

The need for the project became apparent after discussions with industry stakeholders struggling to access, accurately plot and understand complex fishing legislation. This situation was historically compounded by the difficulty fishers found in accessing useable information from regulators and authorities – for use on land or at sea. Legislation was hard to come by, sparingly mapped and spread across each authority's website. Now it's all in one place.

Vessel operators can view, share and download interactive maps showing UK-wide fishing gear restrictions while at sea or in port. Fishing plotter files are also available for all major plotter systems; these can be obtained on a USB stick from fishing associations or downloaded from the website. Plotter systems will display the restriction boundary and, where possible, a unique reference code explaining the restriction and the type(s) of fishing gear affected.

It's important to use the website and plotter data in tandem to have all the information on restricted areas. In the words of **Matt Frow, Kingfisher Manager at Seafish**: "We know that fishers were having difficulty finding, interpreting and plotting the commercial fishing restrictions in UK waters. The new mapping system aims to improve understanding and create a platform which can be used with confidence."



The easy-to-use website allows you to select a gear type before showing all current relevant restrictions across the UK, with the option to show MPAs as well. Clicking onto any restriction zone will give more information about the rules in place, including the governing authority, the area name and the option to view full details.

The fleet survey carried out in the summer of 2020 showed that 40% of respondents thought their access to fishing grounds benefitted their business, with 22% feeling their fishing was hampered by restrictions on where they could fish. Those satisfied with their access to grounds represented a wide variety of gear types and target species and most were happy with rules and regulations more generally. Those unhappy with access to grounds were largely operators of under 10m vessels, particularly potters, although it was also an important issue for some larger vessels, especially scallop dredgers and nephrops trawlers.

"This project... will make it much easier, especially when at sea, to know what rules apply in a particular place, and helps to ensure no-one inadvertently breaks them, which can only be good for the industry. It also ensures that the purposes of regulations are realised, and that in turn is a sign of sound fisheries governance."

Dale Rodmell, Co-Chief Executive, Eastern England Fish Producers Organisation

Matt says: *"The reaction to the Kingfisher Fishing Restriction service has been excellent. Although the website and plotter data is now live and available to fishers, Kingfisher is committed to continuing to work with both fishers and regulators to improve, maintain and expand this service in the future."*

Find out more at kingfisherrestrictions.org or contact matthew.frow@seafish.co.uk



A Bulletin about... Bulletin

Gear restrictions aren't the only obstacles that the Kingfisher team produces up to date, interactive maps for. In addition to the six monthly updates of FishSAFE and KIS-ORCA datasets, there is the **Kingfisher Bulletin**. This service provides live information on renewable energy, oil and gas, marine aggregate, subsea cable and fishing restriction hazards, activities or news that may impede fishing efforts.

The Kingfisher Bulletin is now available in app format for smartphone or tablet. It's free to use and anyone interested can create an account, which allows you to view notices by hazard type, sea area and by the industry responsible for the obstacle.

By making a free account, you can also easily create personalised alerts and be notified every time there is an obstruction in your fishing area. Tutorial videos on the website are there to help you navigate different views, set up alerts and report notices – these are reviewed by the Kingfisher team before approval. All this information is now freely accessible in a

user-friendly format on phones and tablets through the Kingfisher Bulletin app. You can keep up to date with offshore news, share content with others and save information for offline use, among many other things. The app is available for free on the App Store (Apple products) and Google Play (Android devices) by searching for 'Kingfisher Bulletin'.

"It's easy to set up a personalised hazard alert for the area of sea you're interested in. It gives you real time latest notices and it's contributed to by operators from the oil and gas, cable and renewable industries, so always has the latest information."

Andrew Third, Industry Advisor
at Scottish Fishermen's Federation

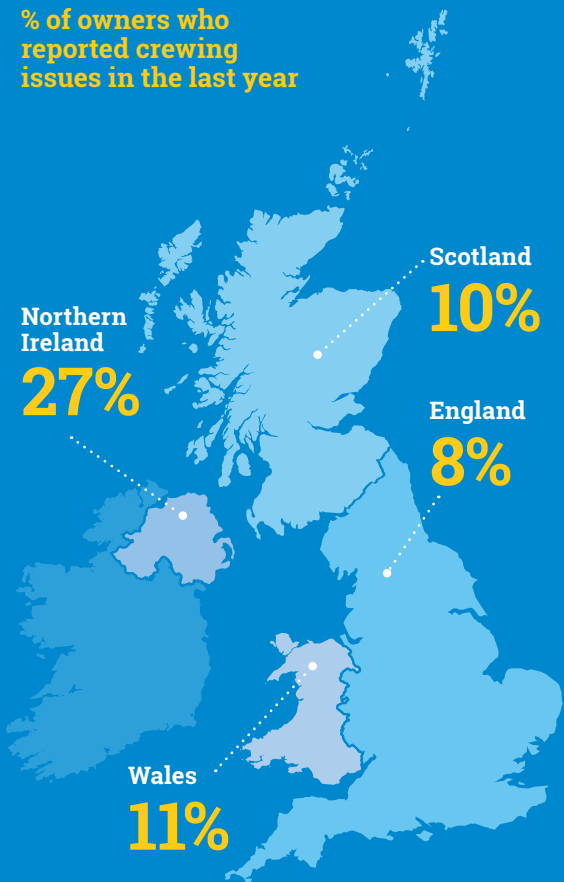
For more information visit
kingfisherbulletin.org

2021 Seafish Fleet Survey: Highlights on employment

During our 2021 Survey of the UK fishing fleet we collected demographic data on **788 workers** on **268 vessels** across the UK. Data analysed by Marta Moran-Quintana.

We asked vessel owners what factors had negatively affected their recent performance. **Over a quarter** of Northern Ireland vessel owners said crewing issues had been a challenge in the last year.

% of owners who reported crewing issues in the last year

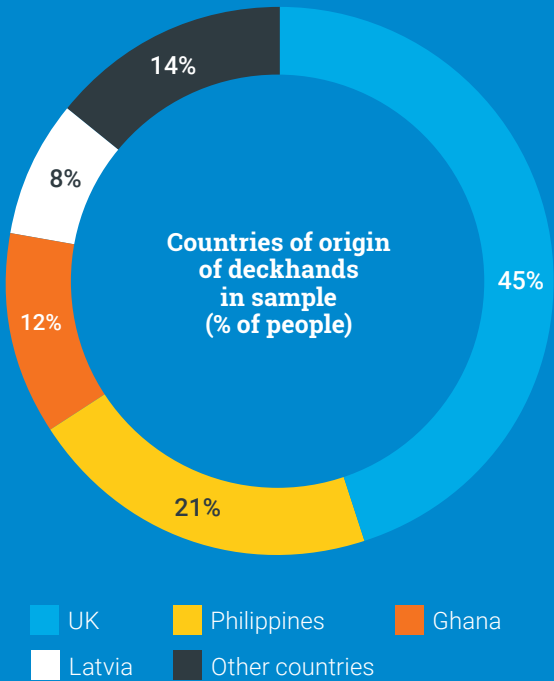


Nationality

The majority of workers in the sample were from the UK. Most non-UK workers were employed as deckhands: over half of the deckhands sampled in the survey were from outside UK.

Percentage of UK workers by job role

Owner + works onboard	Skipper	Engineer
99%	86%	64%
Deckhand	Other	
45%	100%	



Age

Deckhands were, on average, the youngest workers in the sample.

Average age (years)

50

Owner +
works onboard

43

Skipper

43

Engineer

34

Deckhand

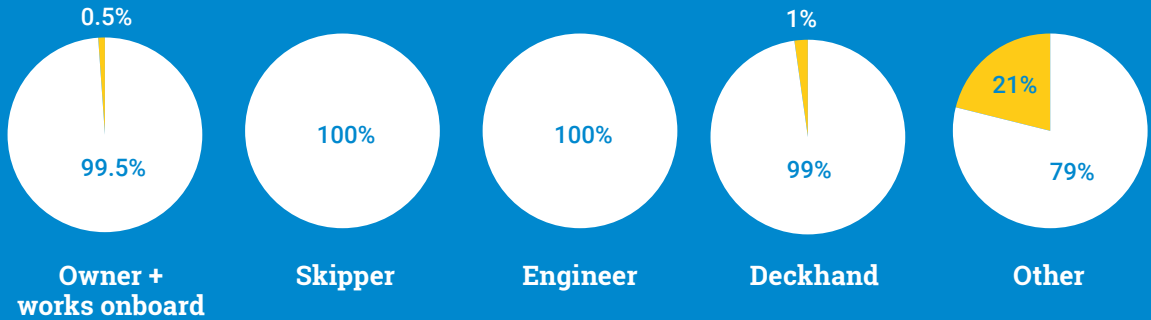
61

Other

Gender

Most workers in the sample were male

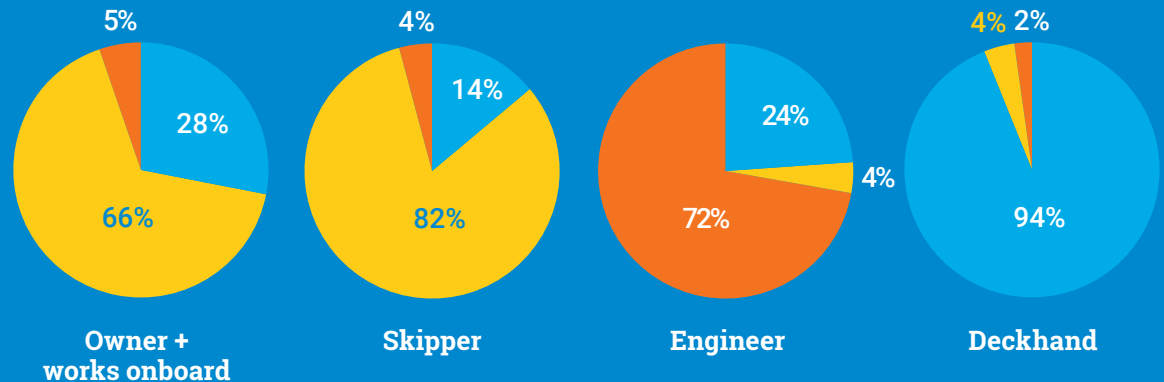
Male Female



Professional qualification

Most skippers and vessel owners had a professional fishing skipper qualification

Percentage of onboard workers by professional qualification

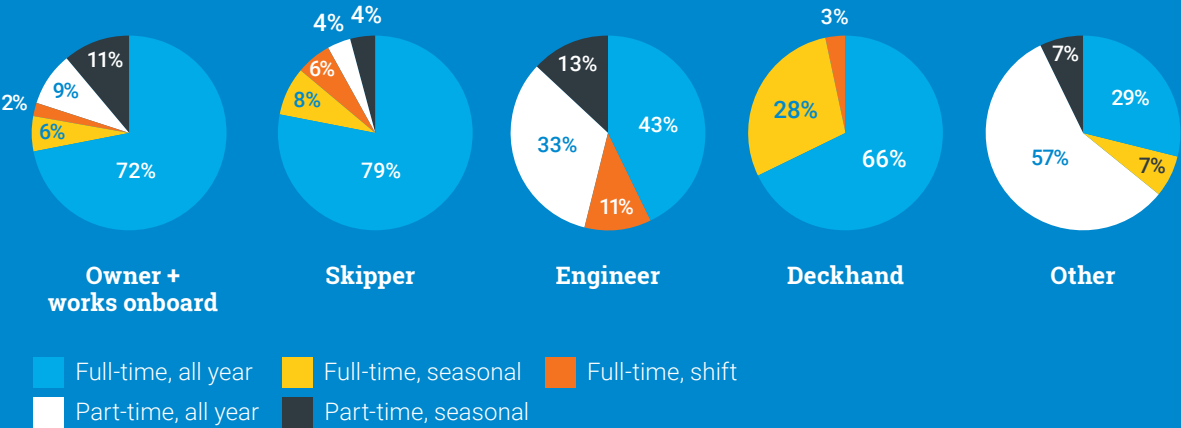


Basic Safety Training Skipper ticket Other

Working patterns

Most onboard workers worked on a full-time basis, while most onshore workers worked part-time. Nearly a third of full-time deckhands were foreign workers on seasonal contracts.

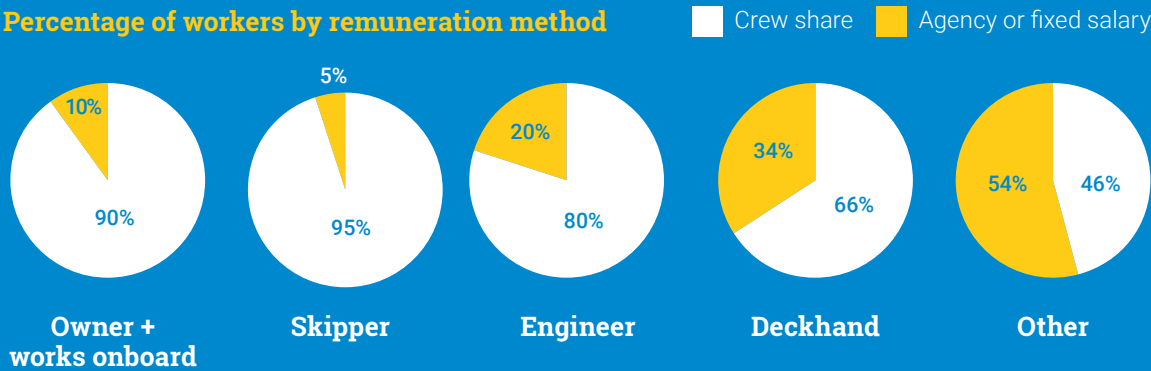
Percentage of workers by working pattern



Remuneration

Crew share was the most common remuneration system overall but most deckhands from outside the UK/EU were on fixed salaries or agency contracts.

Percentage of workers by remuneration method



Visit www.seafish.org/insight-and-research for more data-driven industry insight. **Read the full 2021 Employment in the UK Fishing Fleet report here >**



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**UNSTABLE
VESSELS
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Safety at sea: Reporting incidents, accidents and near misses saves lives

By Oscar Wilkie

Every day, fishers in the UK take risks in order to put the world's best seafood on our plates. The risk of death while fishing is over ten times higher than the next most dangerous industry in the UK.

For a reminder of why it's vitally important to report incidents, accidents and near misses, I spoke to **Sean Friday** from the Marine Accident Investigation Branch (MAIB) and **Adam Parnell** of the Confidential Hazardous Incident Report Programme (CHIRP).



Sean Friday
Inspector of
Marine Accidents

MAIB
MARINE ACCIDENT INVESTIGATION BRANCH



Adam Parnell
Director (Maritime)

CHIRP
Confidential Hazardous Incident Reporting Programme

What is the MAIB?

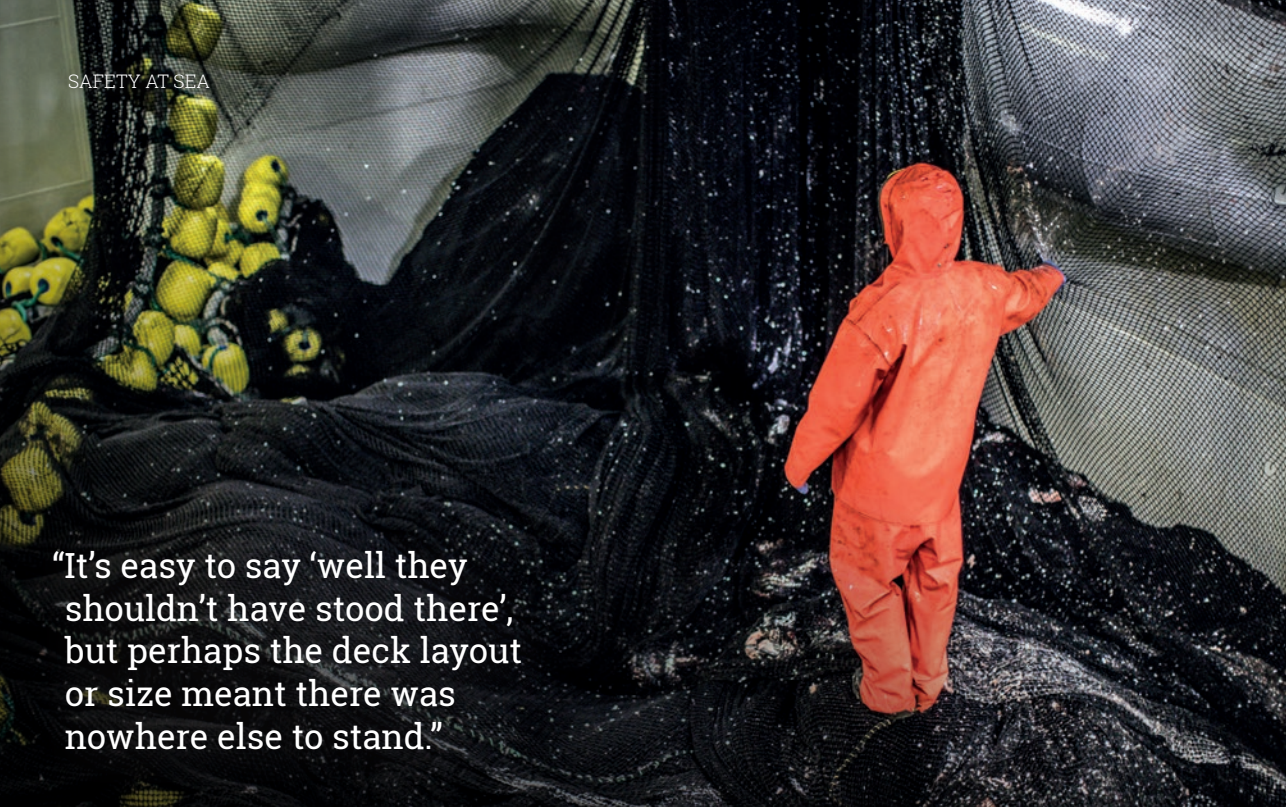
The MAIB is an independent unit within the Department for Transport. It investigates marine accidents involving UK vessels worldwide and all vessels in UK territorial waters, to determine the causes of accidents and make recommendations on improving safety at sea.

The MAIB's job is to help prevent further avoidable accidents from occurring, not to establish blame or liability.

What is CHIRP?

Since 2003 CHIRP has been improving safety at sea through its confidential voluntary incident, accident and near-miss reporting system, open to all mariners.

CHIRP's focus is on the underlying human factors (such as fatigue, crewing levels, training standards, equipment design) that led to an incident occurring rather than on the individuals involved.



"It's easy to say 'well they shouldn't have stood there', but perhaps the deck layout or size meant there was nowhere else to stand."

CHIRP receives over 200 reports a year, and every quarter its newsletter *Maritime FEEDBACK* is published in six languages and distributed world-wide to raise safety awareness. CHIRP's focus is on underlying organisational or systemic errors. Maritime Director (and former Brixham harbour master) Adam Parnell explains:

"Often the person involved in an accident gets the blame, but in reality, the causes of the accident might have been in place for weeks or even years beforehand."

For example, if a fisher shooting nets is pulled into the water "it's easy to say 'well they shouldn't have stood there', but perhaps the deck layout or size meant there was nowhere else to stand. Maybe the control panel was in the wrong place. It might have been a design issue that's been there since build, but unfortunately no-one realised until after the accident."

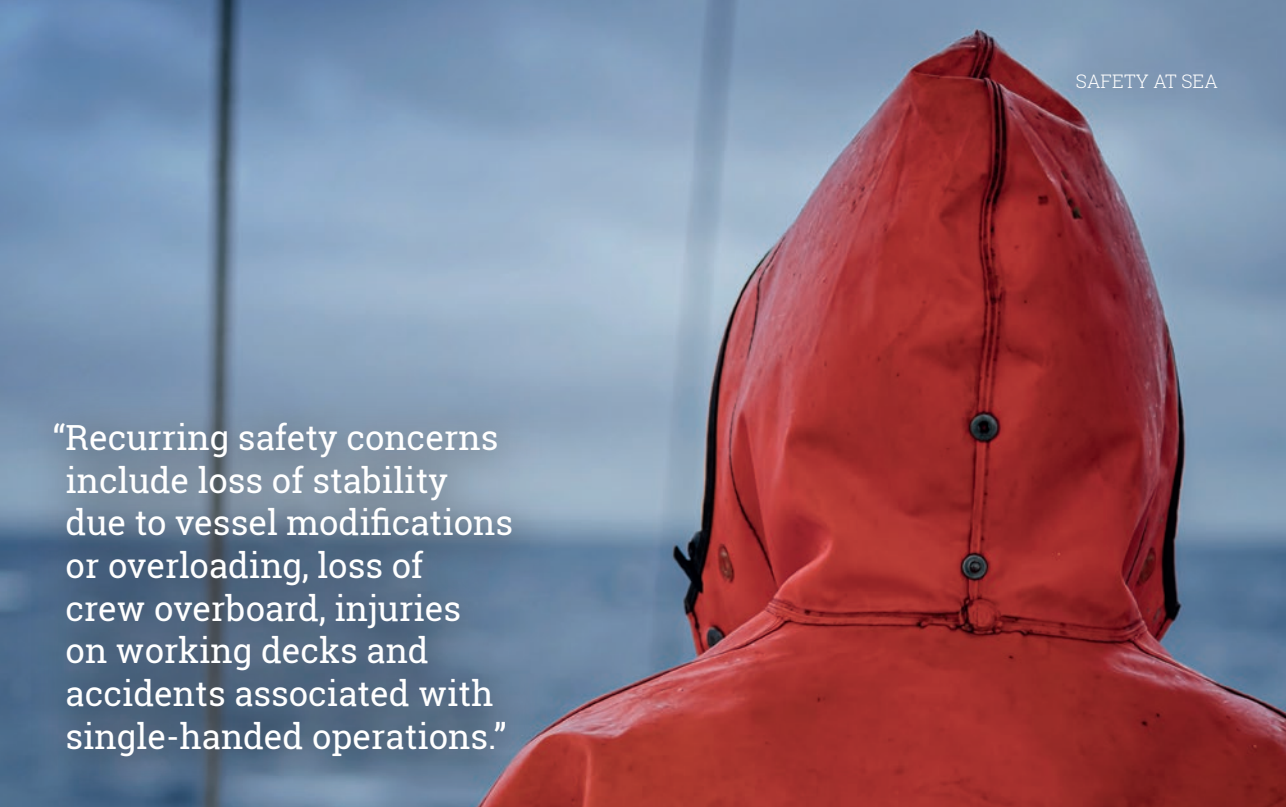
Why is it important to report accidents and near-misses to the MAIB?

Latest data indicates that only 13% of claims made by fishers to insurers are reported to the MAIB, which is a lot of potentially valuable safety learning lost.

It's important to remember that it's a legal requirement to report incidents to the MAIB and reporting is required because:

- It gives the MAIB early notification that an accident has occurred which may need to be investigated.
- It helps populate a national database from which trends can be identified and analysed to ensure the future safety of seafarers. The industry needs to work together to prevent accidents and learn from past events, as this is a critical way to make things safer.

The identity and information – including witness accounts – provided by those reporting accidents are protected and treated confidentially and are not shared with other organisations.



“Recurring safety concerns include loss of stability due to vessel modifications or overloading, loss of crew overboard, injuries on working decks and accidents associated with single-handed operations.”

Why is it important to report accidents and near-misses to CHIRP?


The CHIRP programme is unique amongst reporting systems for four reasons:

- It's confidential and never reveals the identity of the reporter. Once CHIRP has gathered the information needed to undertake an investigation, all details that could identify the reporter are deleted from its database.
- The reporting programme is independent: it's not government-funded and doesn't report to another company or organisation.
- It's impartial and doesn't allocate blame but raises awareness of safety issues so that others can learn from an incident.
- It follows up every report it receives and (with the reporter's consent) will contact the appropriate company or authority to bring to their attention any areas for improvement.

What does the MAIB see as key safety concerns facing the fishing industry?

We are very concerned about under-reporting of accidents and incidents, which doesn't give us a full picture of safety issues. Those that are reported show that recurring safety concerns include loss of stability due to vessel modifications or overloading, loss of crew overboard, injuries on working decks and accidents associated with single-handed operations.

Although investigations are ongoing and reports yet to be published, five of the seven fatal accidents involving fishing vessels in 2021 were most likely stability-related. It is critical that fishing vessels have sufficient stability to meet their operating profile.



“While working on deck, whenever there is a risk of anyone falling or being knocked or dragged overboard, crew should wear personal flotation devices (PFD) and/or a safety harness.”

If a fisher goes overboard, wearing a PFD gives the best chance of surviving the initial shock and keeping afloat until rescue. Carrying a personal locator beacon (PLB) will further improve the chance of survival and is essential for everyone fishing single-handed. It is also vitally important that boats are rigged and crew practised in recovering someone from the water, especially if they are incapacitated or unconscious – in UK waters (that are around 10°C) cold incapacitation can set in within 10 minutes. Plans, procedures and equipment must be regularly tested during drills.

It's not uncommon for crew to suffer injuries from being struck or crushed when working on deck. Fundamentals like ensuring equipment, including lifting gear, winches, wires and ropes are properly maintained can reduce risk significantly. It is also important that all crew understand safe working practices, plans and risk assessments, and follow them.

There is a high incidence of accidents when working alone at sea, particularly fishers working pots being carried overboard when shooting their gear. The importance of installing a physical barrier to separate the crew and pots cannot be emphasised enough. If you work alone and end up in the water, the likelihood of a successful rescue is low without a PFD and PLB.

How do I report to the MAIB?

To report a marine accident (no matter how minor), call the MAIB reporting line (which is monitored 24 hours per day) on +44 (0)23 8023 2527. They will likely ask you to complete an accident report form.

How do I report to CHIRP?

CHIRP wants to help improve safety for fishers, but current reporting levels aren't representative of the unique hazards faced by fishers. Without reports of accidents and near-misses, CHIRP is limited in what it can do to help.

If you would like to make a confidential report, you can submit one online at www.chirpmaritime.org/submit-a-report or by email to mail@chirp.co.uk

A man with dark hair is floating in the water, wearing a bright yellow lifebuoy. He is looking towards the camera with a slight smile. The water is blue and has some ripples. The background is slightly blurred, showing more of the water and some yellow objects.

Man Overboard Awareness Events

The RNLI and Seafish are delivering a series of in-water man overboard awareness events for fishers across the UK.

Funded by Trinity House and the Maritime and Coastguard Agency.

- Experience first-hand how challenging it is to survive falling overboard at sea
- Practise self recovery from the water
- Learn how to prevent it happening on vessels
- Learn how to improve chances of survival
- There is a grant of £200 including expenses

Fishers must have completed mandatory training. Minimum age 16 years.

To book your place or find out more, please contact:
katie.hooper@seafish.co.uk or lee.haigh@seafish.co.uk



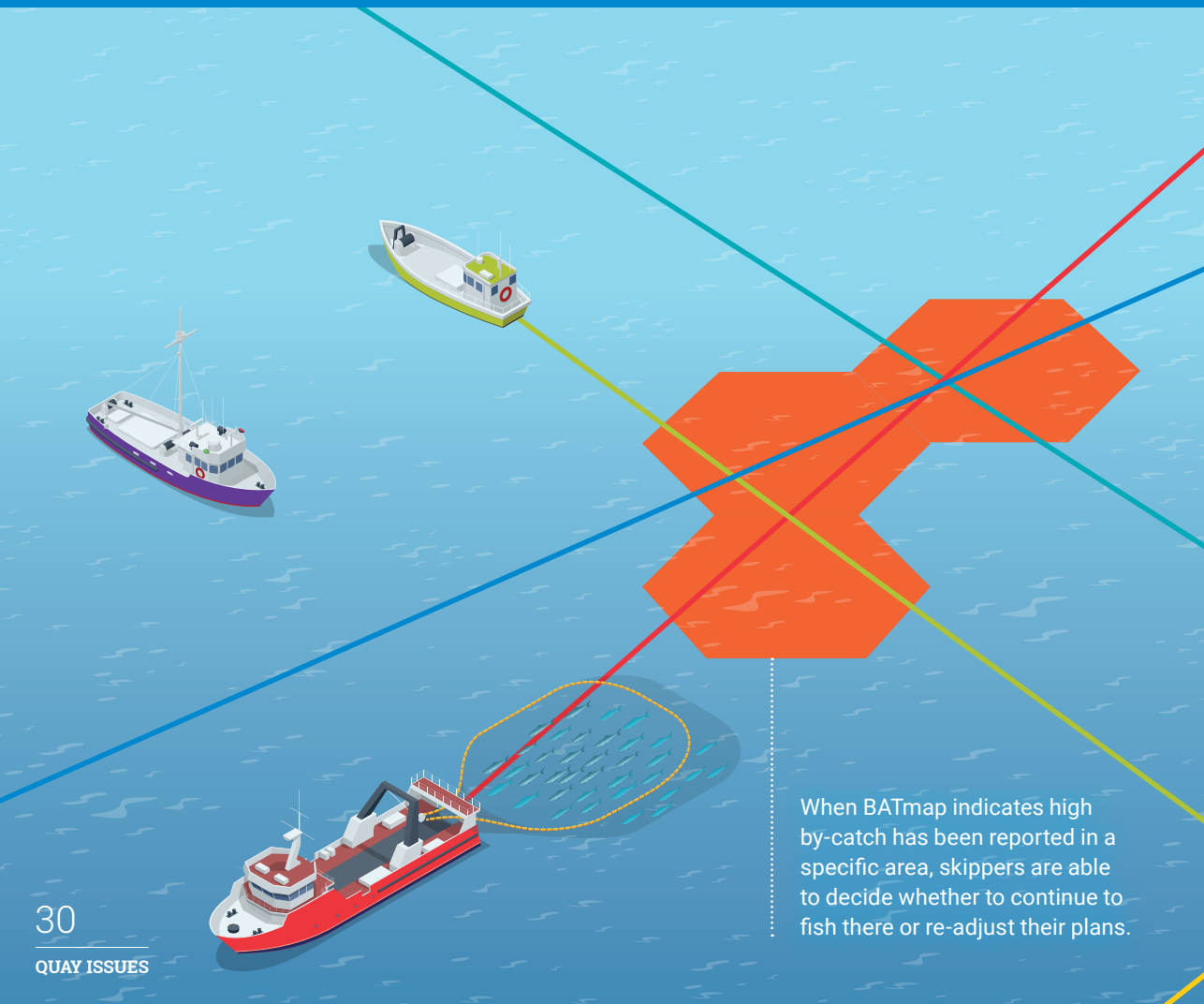
The logo for Seafish. It features the word 'seafish' in a bold, black, sans-serif font. Above the letters 'i' and 's' are three small, stylized fish icons arranged in a row.

BATmap has landed: The latest tool to help reduce by-catch

By Juan Carlos Esclapez Paredes

The By-catch Avoidance Tool with mapping (BATmap) is an app co-designed by skippers, researchers and scientists to reduce by-catch in the West of Scotland. Over the last couple of years, participating skippers have been sharing their catch information with each other via this innovative app building a real-time picture of where non-quota and protected species are abundant.

Current relative vessel location: Vessels belong to different Producer Organisations and can't see



When BATmap indicates high by-catch has been reported in a specific area, skippers are able to decide whether to continue to fish there or re-adjust their plans.

Introduced following the implementation of the Landing Obligation in 2019, BATmap highlights hotspots of protected spurdog and by-catch species cod and whiting. Avoidance of these species improves compliance with landing obligation policy and allows vessels to reduce unwanted bycatch.

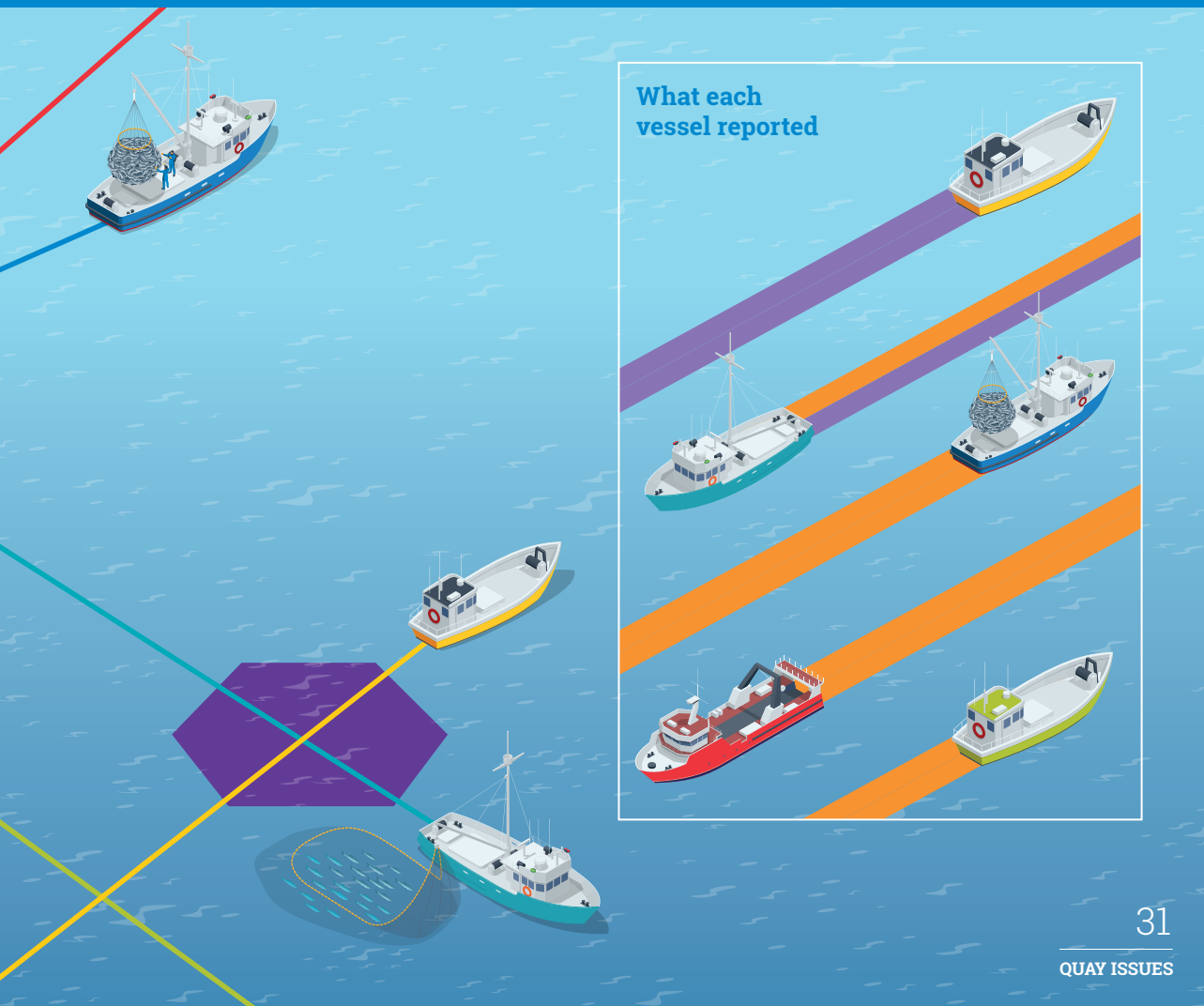
By-catch reports are submitted by skippers in real time on any phone, tablet or laptop and the data is merged with vessel positional data. The app displays catch information in a given location in colour-coded hexagons referred to as 'hexbins' which detail by-catch levels. If vessels encounter a high level of

by-catch, an alert is sent to other app users with details of the hexbins, and skippers in the area are able to re-assess their fishing strategy if necessary.

"Since the introduction of the BATmap in 2019 over 3754 catch reports have been submitted, resulting in 107 alerts for cod and 29 alerts for spurdog being disseminated. A total of 13 vessels from four different Producer Organisations (POs) are currently using the app."

Tara Marshall (University of Aberdeen)

each other's positions



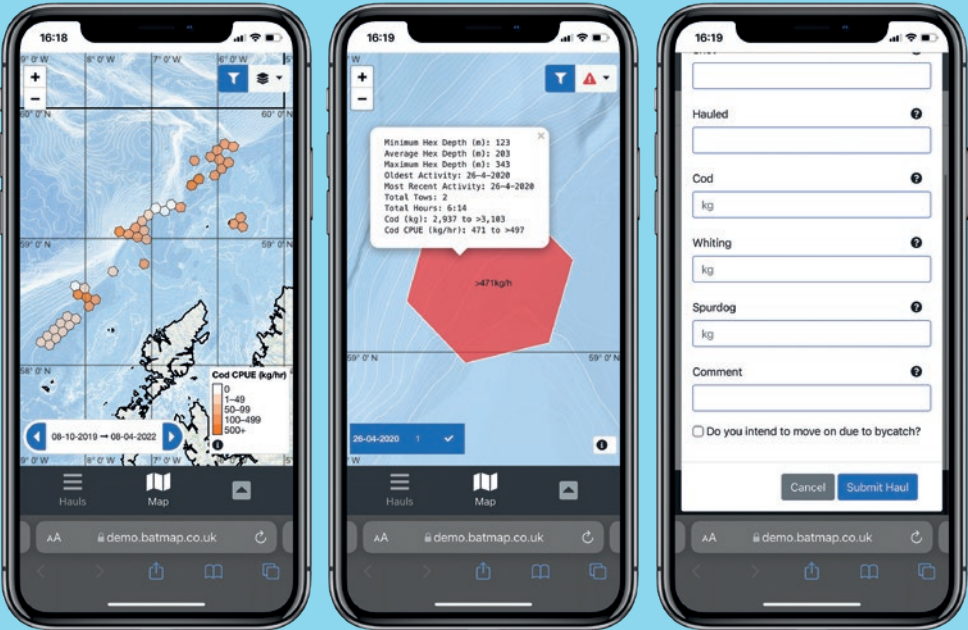
Although similar projects have been used in the United States, the BATmap app is thought to be the first of its kind in Europe and is also the first to be co-designed with skippers. While totally preventing by-catch may never be possible, the more tools a skipper has to try to avoid it, the better! Since the implementation of the landing obligation, under which all catches of quota species must be landed and not discarded at sea, the catching sector has been focussed on developing and improving technologies to help avoid unwanted species.

The app provides complete anonymity for its users, who can safely share data without providing any identifying characteristics such as vessel name, position and catch composition. The only information that is shared is the amount of unwanted by-catch recorded within a certain period (known as a 'hotspot').

Continual feedback from fishers has been essential for the co-development of BATmap. Close collaboration between skippers and the research team meant that changes, such as the addition of extra species and fishing areas, were implemented quickly and fishers could start reporting them almost immediately.

“The essential requirement is buy-in from skippers. If skippers felt it wasn’t useful then participating vessels would be expected to drop off but that hasn’t happened. The fact that the participating vessels are from different POs indicates their willingness to collaborate and share information across them.”

Tara Marshall, University of Aberdeen



Examples of the hot-spot map showing cod by-catch levels in a number of hexbins. BATmap data entry is also straightforward. Screen visuals from BATmap demo site



There is currently no quota for cod in the west of Scotland

Avoiding by-catch can reduce the risk of quotas being completely caught, a scenario which could result in the early closure of the fishery. The active avoidance of by-catch through the BATmap app, together with other innovative solutions, including gear technology, can have a long-term benefit for fishers and fisheries and can help to ensure that there is good compliance with the landing obligation.

"In the west of Scotland only a small percentage of your overall catch can be made up of by-catch species such as cod and whiting. Sharing information about high catches helps boats stay within the limits and avoid unwanted catches. Anecdotally, some skippers have reported the information is useful to help avoid unwanted catches."

Paul Macdonald, Scottish Fishermen's Organisation

Stocks move around and fishing activity follows, however the movements of species are not always predictable. In order to optimise the output that the app can

generate for fishers, there is a need for participation. The more participants, the more informative the app will be.

The project has been funded in different stages by Seafish, the Scottish Fishermen's Organisation, the Scottish Whitefish Producers' Association, Fisheries Innovation Scotland, the Scottish Fishermen's Trust and the University of Aberdeen, while Chordata LLC has undertaken software development. Looking forward, a strategic plan is currently being developed to assist with the long-term development and sustainability of BATmap.

"This industry-led co-operative solution shows the willingness from fishers to become more sustainable. The outcomes from long-term use of the app could be extrapolated someday to other fleet segments or fisheries."

Jess Sparks, Seafish Regional Manager

It could be said that BATmap is a tool designed by skippers and for skippers, but uptake of the app in the west of Scotland can benefit us all. Alerting other vessels to high density areas of unwanted by-catch species is another tool to help keep fish stocks healthy, while ensuring the continued supply of the world's finest seafood to our tables. BATmap has utilised strong collaborative ties between the fishing industry and research bodies such as the University of Aberdeen to try to contribute to a profitable future for the catching sector.

To try a demo of BATmap, please visit info.batmap.co.uk

You can also read a report about the project from Fisheries Innovation Scotland and University of Aberdeen here >



Catalysts revisited: More good news for over 10m fleet!

In a follow-up to his article in the last edition of *Quay Issues*, 'Hydrogen: A catalyst for lower fuel costs', **Juan Carlos Esclapez Paredes** brings news of the progress being made by Ecomotus in the commercialisation of the EcoPro hydrogen catalyst. **Read the first instalment online on Issuu [here](#) >**



Left: An installed EcoPro system Right: Readings can be monitored live through the dashboard system

Ecomotus, a south-west England based catalyst manufacturer, has achieved significant progress in the commercialisation of its fuel saving device, the EcoPro hydrogen catalyst. The catalyst now has Royal Institution for Naval Architects (RINA) certification and MCA approval; in other words, fishers have another option to help reduce fuel costs and expand the lifespan of their engines. Tender loving care for our fishing fleet!

While fishing may not have gone as planned during 2020 and 2021 – not that it's ever very predictable – there was no let-up in the on-going work to tackle fuel emissions.

During 2021 the EcoPro obtained RINA certification which recognises the Greenhouse Gas (GHG) emission reducing capabilities of the device. As a result of better combustion, a 10% saving on fuel is a threshold the machine can easily achieve for vessels over 10m.

A new and improved online system allows the onshore Ecomotus team to optimise different factors in real time to maximise fuel savings. Through a dashboard showing live data, the skipper can monitor torque and aim for the smoothest engine performance whether steaming or fishing.

"I can see the performance of the engine on my phone, which is really helpful. Considering the type of fishing we do the device has proved to be helpful in the emissions tests we carried out. The main aim is to decrease our carbon footprint as much as we can."

Kevin Favis, skipper of *Emma Jane*

Image courtesy of Natasha Milne

"Fishing fuel consumption takes into account many different factors, not just engine size and revs per minute. We know we can always achieve a 10% fuel saving thanks to the electronics and working principle of our device."

Adrian Bartlett, AB Marine Consultancy

Image courtesy of Natasha Milne

The 18m crabber, *Emma Jane*, has used the device for more than a year. *Emma Jane's* owner, Kevin Favis, has been thrilled with the device's performance so far – having offset the lease costs in the first months of use, his vessel is now using at least 10% less fuel: *"I'd recommend the device to other vessel owners; it's really compact and neatly installed with no maintenance needed from us, while helping to cut emissions."*

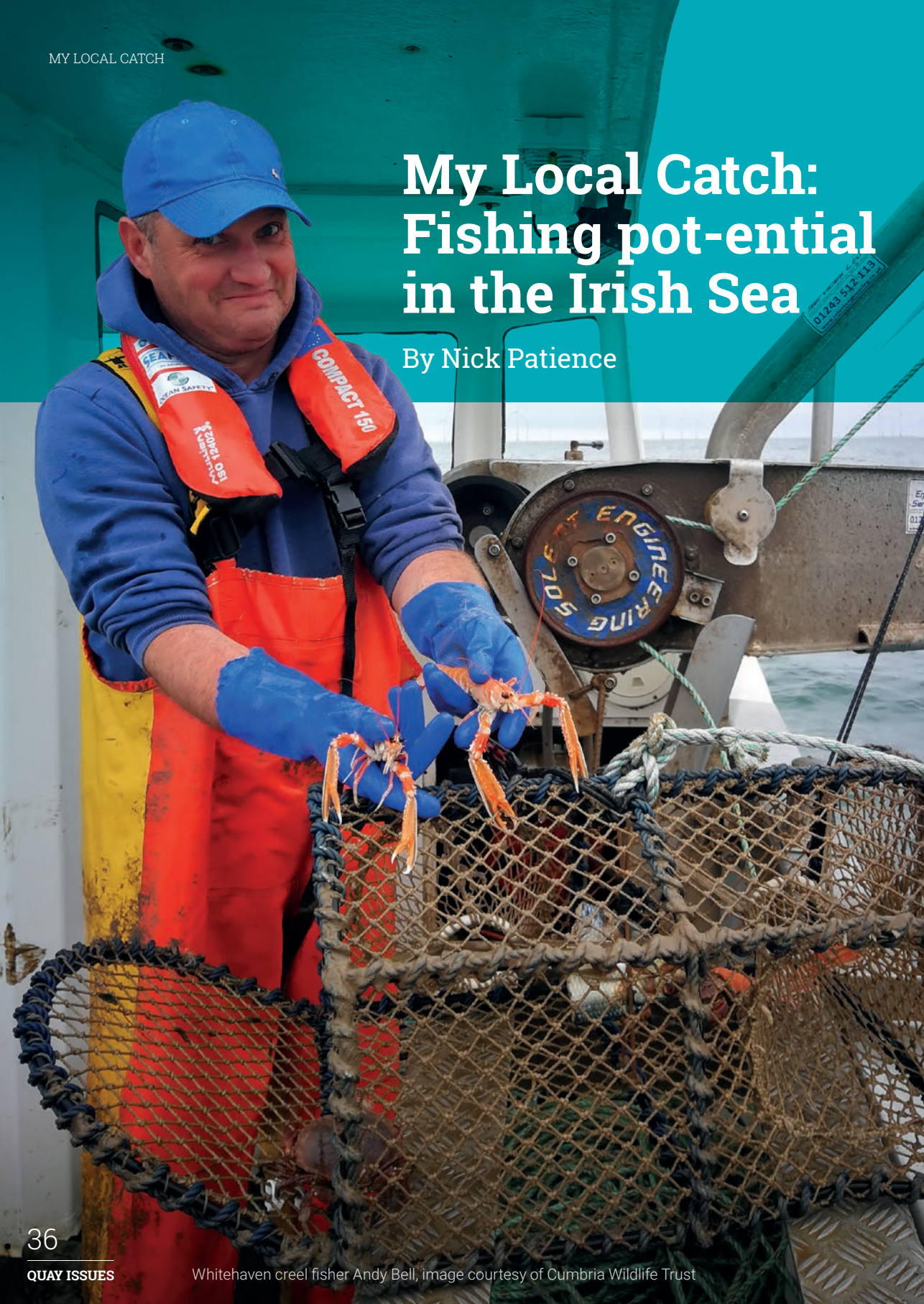
He's also noted that the lubricant oil is getting consistently cleaner when it's changed: another step for the family company towards fishing sustainably.

Whether you're looking to increase your sustainability credentials, get a little more throttle, reduce your operational costs, or all of the above, this is yet another step in the right direction for the fishing fleet. While the device is suitable for all vessels, the more fuel you use, the quicker you'll offset the lease cost and the greater your gross saving will be.

Find out more about the EcoPro system at www.ecomotus.co.uk

My Local Catch: Fishing pot-ential in the Irish Sea

By Nick Patience





Vessels alongside the quay in Maryport, Cumbria

The Irish Sea is many things: a gateway between Britain and Ireland, home to an array of marine wildlife and a source of employment – and of seafood – for many in and around Cumbria. It's also the focus of My Local Catch, a National Lottery Heritage-funded initiative to help local fishing businesses thrive and to inspire communities to learn about the benefits of locally caught seafood.

The project is part of Living Seas North-West, a marine conservation collaboration between the Cumbria, Lancashire, and Cheshire Wildlife Trusts. Established in May 2021, it's focused on promoting sustainable fishing methods and raising awareness about seafood and wildlife within coastal communities. Similar approaches are being adopted across the country, including in Falmouth. Lucy Mather, the Cumbria Wildlife Trust project officer for My Local Catch and a mechanical engineer by education, is passionate about the potential of the scheme.

As a coastal region, Cumbria is often overlooked in terms of its fishing industry and the decline in the number of vessels locally has been a cause for concern. In 2009 Maryport and Whitehaven, the two major ports in the area, were the main landing sites for 52 vessels. In 2020 (admittedly a very difficult year for the industry) only 18 fished primarily out of those ports.

The composition of the fleet has undergone some major changes, too. In 2009, of the boats that saw revenue above £10k, 90% were trawlers (for whitefish, nephrops and scallops). By 2020, there were almost as many vessels fishing with pots as trawling.

Table 1: Maryport and Whitehaven fleet composition using Seafish fleet segments and including only vessels grossing above £10k

Year	Trawl segments				Pots and traps segments		
	UK scallop dredge	Area VIIA trawlers	Under 10m demersal trawl/seine	Trawl total	Pots & traps over 12m	Under 10m pots & traps	Pots & traps total
2009	6	14	6	26	2	1	3
2020	2	3	1	6	4	1	5

The offshore side!

To help ensure that the industry thrives in this area for years to come, My Local Catch is looking at diversifying the fleet. The presence of windfarms and closed areas along the coast give creel fishing an advantage over trawling, however previously few in the area targeted nephrops using this method.

Potting as a method of selective fishing for nephrops can involve lower costs than trawling, while it is also considered more eco-friendly due to the reduced fuel use, low bycatch, and minimal impact on marine ecosystems.

Using pots can involve a reduced fishing effort with a higher quality, lower quantity of catch – compared to trawling – potentially enabling exposure to different markets and thus avoiding conflict with

trawl-caught prawns. Creel-caught nephrops are more often sold whole and live to the high-end food service market, whereas trawl-caught are predominantly for the tails market. As Mike Parkin, one of the fishers involved in the pilot project, says “Creel-caught prawns do attract a higher price than trawled ones... you can be selective on prawn sizes, and creel-caught gives a really good condition of prawns.”

My Local Catch will use video data of the seabed to analyse habitat recovery in West of Walney Marine Conservation Zone (MCZ), which was closed to trawling in 2019. Consistent gathering of seabed data enables the Cumbrian team to assess the impact of potting and can provide reliable measures of habitat recovery over time. Specifically, this includes the presence and state of various indicator species before and after the introduction of static fishing methods.



Another challenge in the West of Walney MCZ are the offshore windfarms. Lucy, who has worked in outdoor education and the renewable energy sector, mentions that research into nature-inclusive windfarm design is on-going. The aim is to establish "how you can make windfarms a diverse and useful habitat for wildlife and fish stocks".

Fishing with pots is a more viable fishing method where spatial restrictions exist, such as the areas within a wind farm. Small-scale selective and static fishing – including potting, hand gathering and pole-and-line fishing – can create more resilient and sustainable businesses, which many seafood consumers now consider essential in purchasing decisions. These methods do not damage seabed habitats, meaning they are better able to support – in Lucy's words – "the whole higher marine ecosystem which affects fish stocks and large wildlife like sharks and dolphins".

340 saleable nephrops were caught in the 2019 National Lottery Heritage funded pilot project. This year will see two fishers start potting for nephrops at a commercial scale. Their catch will be extensively promoted to restaurants and businesses across Whitehaven. Andy Bell, one of the fishers on the project, is optimistic:

"It's been a very interesting project. I believe that this could be a sustainable fishery and hope to pursue it in the future."

Because potted nephrops are generally sold to a different market to those that are trawl-caught, it's hoped that the prawns caught using pots will increase supply into local food-service establishments, without impacting the tails markets where most of the trawls caught nephrops are sold.



Potted Langoustines, image courtesy of Cumbria Wildlife Trust

The onshore side

Part of the challenge in improving local sustainable seafood consumption, Lucy says, involves “getting people to want to eat the seafood in the first place”.

This summer, Lucy will be running a range of events to promote sustainable seafood in Whitehaven. These include a ‘Coastal Cook-Up’ on 18 May which will feature professional chefs preparing fish dishes, and ‘SeaFest’, a festival of the sea on 6 August, where seafood dishes will be promoted alongside a range of family-friendly activities. SeaFest will build on 2021’s success; there, around 200 people sampled sustainable seafood plates, and families renewed connections with the coast through beach art competitions, guided walks, and yoga. This building of demand, interest, and support for consuming sustainable seafood is integral to Lucy’s role.

Also key is connection, which can involve guiding consumers towards direct sales of sustainable seafood and assisting fishers with innovative ways to market catch. It can also be built “through going out, looking

in rockpools and learning about seafood, local ecosystems, and how you can rely on the sea as you might have historically.”

From children to retirees, Lucy attempts to rebuild the relationship between human and ocean to help the industry thrive and restore a local love of seafood. With UK seafood consumption falling, alternative marketing ideas like this are vital. Education is crucial in demand building and will also be crucial for the longevity of the industry. As part of the project, Lucy will help young people explore careers in the fishing industry by bringing fishers into schools to talk about their jobs with 11–18-year-olds, in the hope of attracting local people into the industry.

High-quality, sustainably sourced seafood attracts a premium in restaurants as well as the eye of consumers in fishmongers and supermarkets. Fishing selectively can be both a viable and durable business strategy, particularly as communities become more engaged with the coast and its catch. A more diverse fleet is surely of benefit to everyone!

You can find out more by visiting the My Local Catch website >



We want to hear from you

Quay Issues is a free magazine published by the Economics team at Seafish to promote innovation in the fishing industry. We'd love to hear your thoughts and ideas for other topics to feature in the next edition.

Tell us what you thought of *Quay Issues* for the chance to win a £100 voucher!*

Visit www.surveymonkey.co.uk/r/2KJ99MJ or scan the QR code >

* Prize draw terms and conditions apply and can be viewed alongside the survey.

Entries to the Prize Draw close at 11.59pm on Sunday 6 November 2022.



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**Speak to one of
our Fleet Survey
researchers**



Quay Issues magazine is our way of telling some of the stories our researchers hear every year during our socio-economic survey of the UK Fishing Fleet. The survey is an opportunity for fishers to tell us about their fishing business and ensures that decision makers have the best evidence.

To take part in our survey contact fleet.survey@seafish.co.uk or call 07876 035 759.

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