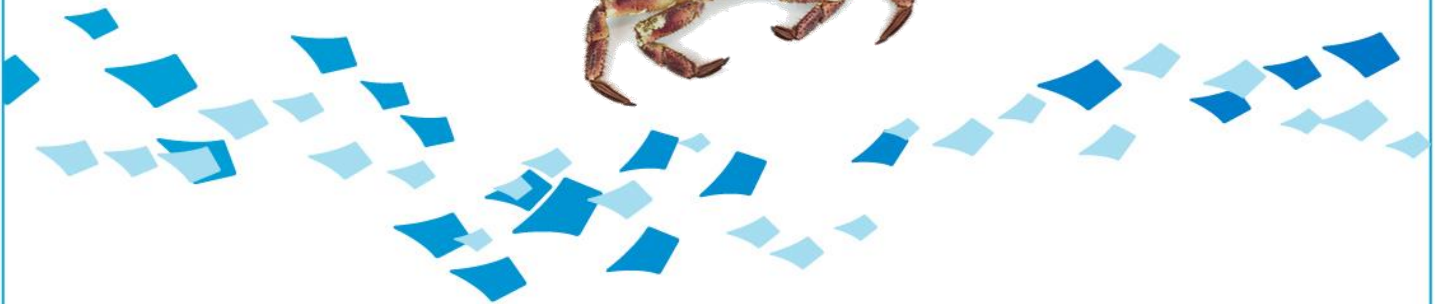


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Pre-consultation project on the Welsh crab & lobster FMP

Prepared for Welsh Government by Seafish



May 2024

Executive summary

The purpose of this report is to present Welsh Government with information and recommendations to support the next stages of development of the crab and lobster fisheries management plan (FMP) for Wales.

In April 2024 Seafish carried out a series of stakeholder engagement events to gather information on current and future shellfish management in the Welsh zone. In-person meetings were held in Milford Haven, New Quay, and Bangor, and an online meeting was held using Teams for stakeholders who were not able to attend a meeting in person. In total, 57 people attended the stakeholder meetings, of which 35 were representatives of the commercial seafood industry (including catching sector, processing sector, wholesalers and exporters). Detail on stakeholder engagement methods employed is included in **Section 2** of the report.

The events served four key purposes, these were:

- Raising awareness about the upcoming development of an FMP for crab and lobster in Wales;
- Gathering feedback from stakeholders on a) current management approaches, and b) potential future management approaches, for shellfish fisheries in Wales, and;
- Understanding stakeholder expectations and ambition for how they want to be engaged in FMP development and co-management in the future.

General feedback from events is summarised in **Section 3** of the report; the most prevalent topics raised at events included:

- Concerns about the lack of effective enforcement of existing regulations, increasing the risk of non-compliance;
- Exploring options for protecting the inshore fleet in Wales given the social, economic, and cultural importance of this part of the fleet to Welsh coastal communities, and
- Desire to have an FMP which is accessible to ensure that no stakeholders are excluded from the development and implementation of the plan, and;
- Emphasis on the need to phase management changes when possible to allow for the commercial fishing fleet to adapt to changes and prevent immediate economic shocks to businesses.

Stakeholders were asked to consider future management of crab and lobster fisheries, and to identify management tools that they considered appropriate in the context of Welsh fisheries, and that they felt were likely to deliver stock benefits. **Section 4** of the report summarises feedback on seven possible future management options including banning the landing of berried lobsters, prohibiting the use of brown crab as bait in whelk fisheries, improving management of recreational shellfish fisheries, and introducing a Maximum Landing Size (MaxLS) for lobster.

There was clear consensus in all meetings that stakeholders want to be actively involved in development of the FMP, and to promote a more collaborative management approach to shellfish fisheries in Wales. Expressions of interest were gathered from stakeholders who wanted to join Welsh Government's Crustacea Advisory Group. Stakeholders' views on representation and future engagement are summarised in **Section 5** of the report.

Using this information, Seafish prepared a series of recommendations for Welsh Government, as detailed in **Section 6**, on specific management tools that could be explored

as part of the FMP development to help deliver sustainable crab and lobster fisheries in the Welsh zone, and contribute to meeting the objectives of the Fisheries Act 2020.

Recommendations include:

- Considering restrictions on the landing of berried lobsters and / or reintroducing an incentivised V-notching scheme for berried hens;
- Exploring Maximum Landing Size for lobsters;
- Considering prohibiting the use of brown crab as bait in whelk fisheries;
- Considering pot limitation as a possible longer-term management measure;
- Reviewing the appropriateness of current spider crab management measures;
- Reviewing and updating recreational shellfish fishery management measures and developing a communications strategy to raise awareness about recreational fishing rules, and;
- Considering mandating the use of biodegradable components in pots to minimise the risk of ghost fishing, if the pots were to be lost.

The crab and lobster FMP presents a valuable opportunity to change the way in which these fisheries are managed in Wales. Implementing fit-for-purpose management measures, which are co-developed with stakeholders, will help deliver sustainable shellfish fisheries for future generations in Wales, and will help meet the objectives and commitments laid out in the Fisheries Act 2020 and Joint Fisheries Statement.

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1. Introduction

Purpose & scope

This report presents a summary of the ‘pre-consultation’ project carried out by Seafish for Welsh Government, to engage seafood industry stakeholders in the early phases of development of the Welsh crab and lobster fisheries management plan (FMP). The report is intended to inform the next stage of FMP development and presents:

- A summary of stakeholder engagement activities carried out by Seafish to gather information;
- An overview of information and insights gathered from Welsh stakeholders on the current state of fisheries management in Wales, aspirations for future management, and wider considerations for crustacean fisheries management in Welsh waters;
- A summary of current evidence on Welsh crab and lobster fisheries, including available biological, social, and economic data, based on a desk-based review and bespoke economic analysis by Seafish (Annex 1).

The focus of the project was on gathering information relating to brown crab (*Cancer pagurus*) and European lobster (*Homarus gammarus*) fisheries. However, scope of the FMP is expected to include crawfish (*Palinurus elephas*), velvet crab (*Necora puber*), spider crab (*Maja* spp.) and common prawn (*Palaemon serratus*), and as such these species were also covered in stakeholder engagement activities and the associated evidence statement.

The project aimed to cover all removals from the stocks, however focused on pot and trap fisheries which accounted for 99.5% of landings of brown crab and lobster from Welsh waters in 2022. In both brown crab and lobster fisheries there is a small (<0.5% of total landings) bycatch by mobile gears and static gillnets.

The project also revealed catches of brown crab and lobster by recreational pot fishermen, divers, and individuals gleaning on intertidal areas; this was reported to be significant by stakeholders involved in meetings. However, there are no data available to quantify or estimate the likely level of impact on stocks or contribution of recreational catches to total landings / removals.

Background

The Welsh crab and lobster FMP is due to be developed and published before the end of 2026.¹ Crab and lobster are amongst the most valuable fisheries in Wales by value; in 2022 the total value of brown crab and lobster fisheries in Welsh waters were £0.91 million (340.7 tonnes landed) and £2.58 million (159.1 tonnes) respectively,² these figures include catches from the Welsh zone that were landed outside of Wales.

Despite their economic importance, these are non-quota, data-deficient stocks which are managed by a series of technical measures and minimum landing sizes (MLS) only.

The high economic value of crab and lobster fisheries to fishermen and dependent coastal communities in Wales, and the perceived need for better management, means these species are a priority for FMP development.

¹ [Joint Fisheries Statement](#), 2022

² MMO Sea Fisheries Statistics, 2022

In delivering the pre-consultation project, Seafish aimed to explore four key questions with stakeholders:

1. What are the strengths and weaknesses of current crab and lobster management approaches in Welsh waters?
2. How do stakeholders think Welsh crab and lobster fisheries could be managed in the future, via an FMP?
3. How can the Ministerial Advisory Group for Welsh Fisheries (MAGWF) crustacean group contribute to drafting the FMP, and how could stakeholders become more involved in this process in order to co-design the plan?
4. What other considerations, not mentioned above, should Welsh Government take into account in developing the FMP?

2. Methods

Stakeholder engagement event format and promotion

Seafish delivered a mix of in-person and online stakeholder engagement events in April 2024 to ensure as many stakeholders as possible had the opportunity to discuss the management of Welsh crab and lobster fisheries.

Locations of in-person events were determined based on a) MMO landings figures for crab and lobster in Welsh ports as an initial indication of commercial fleet activity and likely local importance to coastal communities, and b) industry insight from the Welsh Fishermen's Association (WFA) Board. Suitable venues were selected based on their accessibility to stakeholders and proximity to key seafood industry hubs. In-person meetings were held in Milford Haven, New Quay, and Bangor.

Supplementary online events were held using Microsoft Teams to broaden the reach of engagement activities to include stakeholders outside of Wales or who had been unable to attend in-person events. Online events were open to all stakeholders with an interest in the FMP and were publicised through a variety of social media, trade media, through Welsh Government and WFA mailing lists, and via Seafish's industry-led shellfish management groups.

Printable flyers were created for each event (in-person and online) and electronic copies were circulated to stakeholders to encourage peer-to-peer awareness raising. These were accompanied by a one-page project summary outlining why the project was being carried out, who Seafish was trying to engage with, and what the anticipated benefits of early engagement in the FMP development process would be. All project resources were supplied in both English and Welsh.

Seafish held one-to-one phone calls with a number of stakeholders who were either unable to attend in-person meetings, or who did not have facilities to attend online meetings.

An end of project wrap-up session was held by Seafish at the end of May 2024; this online meeting was to give stakeholders an opportunity to review key themes in findings, sense check outputs of the project, and for Seafish to gather any final points of feedback from stakeholders before the report was submitted to Welsh Government.

All events were open to any stakeholder with an interest in Welsh crab and lobster fisheries.

Summary of workshops, online events and representation

Table 1 shows a breakdown of attendance of stakeholder engagement events by sector. The highest level of engagement was with commercial seafood industry stakeholders; this is to be expected given the focus of discussions. The events highlighted the need for better engagement with recreational potters and divers in particular.

The category 'commercial seafood industry' covers stakeholders from across the seafood supply chain, including catching sector (both individual fishermen and fishermen's associations), processors, wholesalers, and exporters.

The category 'other' includes fisheries consultants and a non-environmental NGO supporting fisheries-related research projects.

Table 1: Location, format, and attendance figures for stakeholder engagement events carried out as part of the Welsh crab and lobster FMP pre-consultation project.

Event location and date	Format	Commercial seafood industry	Recreational fishing	Government / public body / research	eNGO	Other*	Total
Milford Haven (23 rd April)	In-person	7		1	1	2	13
New Quay (24 th April)	In-person	14		1		1	18
Bangor (25 th April)	In-person	10		1			13
Online (30 th April)	Online	3	2	3	2	1	12
One-to-one calls with Seafish	Phone	1					1
	Total	35	2	6	3	4	57

Events were two hours long and delivered as semi-structured discussion sessions focused on the following topics:

- Overview of FMPs, their purpose, and how the crab and lobster plan is being developed (Seafish)
- Review of current management measures for Welsh fisheries, what do stakeholders feel is working and what is not (all attendees)
- Identifying key challenges, issues, and opportunities facing Welsh crab and lobster fisheries (all attendees)
- Insights from stakeholders on their aspirations for future management, and how this could be delivered through an FMP (all attendees)
- Understanding stakeholder expectations for future involvement in the FMP development process, including gathering of expressions of interest to join Welsh Government's Crustacea Advisory Group (all attendees)
- Overview of next steps of the pre-consultation project and, ultimately, FMP development (Seafish).

The slide pack created by Seafish for these events is included in Annex 2.

3. Feedback and key themes

This section summarises key themes emerging from the stakeholder engagement events on three topics: a) general FMP development processes, b) current management approaches, and c) non-FMP considerations.

Summary of event feedback: FMP overview

- The **Welsh crab and lobster FMP should be accessible for all stakeholders**. Attendees in south Wales commented that it is important to know that the detail and evidence underpins a plan, and is available, but the plan itself should be accessible and useful summaries should be provided.
- The FMP should **provide a baseline of where Welsh fisheries are now**, as well as setting out a direction of travel for how management can be improved.
- The **primary concern of the FMP should be stock sustainability**. Attendees in south Wales felt that stock health is the foundation on which all social, economic, or cultural considerations are predicated. As such the FMP should focus on effective management to delivery healthy stocks.
- There should be a **phased approach to any management changes** via the FMP. Attendees felt that phasing changes to management would allow the commercial sector to adapt more gradually and would prevent any immediate economic shocks to seafood businesses.
- The FMP should **consider options to preserve inshore fisheries for local, Welsh vessels**. Some attendees felt that smaller local vessels which work close to shore should be afforded greater support and protection through the FMP as they are less able to relocate or diversify into other fisheries if crab or lobster fisheries were to be depleted. It was noted in the meeting that the Equal Access objective of the Fisheries Act 2020 states that *'access of UK fishing boats to any area within British fishery limits is not affected by (a) the location of the fishing boat's home port, or (b) any other connection of the fishing boat, or any of its owners, to any place in the United Kingdom.'*

Summary of event feedback: Current management

Attendees were presented with an overview of the current management measures in place for Welsh crustacean fisheries. They were asked to provide specific feedback on the perceived effectiveness and appropriateness of the following measures:

- Minimum landings sizes for species in scope of the FMP
- Vessel monitoring devices
- Prohibition on fishing, landing, sale and carriage of specified crustaceans. This included the protection of V-notched lobsters.

Feedback is summarised below.

Enforcement of management measures

It was noted in all meetings that the lack of enforcement (both onshore and offshore) of any management tool is a concern for Welsh fisheries. There was a concern that non-compliance with existing regulations, by both commercial and recreational fishermen, undermined all efforts to manage fisheries sustainably and put stocks at greater risk.

“We could create the best management plan ever for crab and lobster, but if the enforcement isn’t there then it’s pointless.”

- Brown crab and lobster fisherman in New Quay

Attendees largely felt that known instances of non-compliance, and the lack of visible enforcement ‘on the ground’ by Welsh Government tempered any ambitions for the FMP.

Non-compliance by recreational fishermen in particular was noted in west and north Wales, with some attendees feeling that there was a lack of communication with the (albeit disparate) recreational sector meaning that non-compliance with measures like MLS may be out of a lack of awareness of rules. However, it was also noted by some attendees that the lack of visible enforcement could encourage bad behaviour such as recreational fishers lifting commercial pots.

Concerns were also raised about possible non-compliance by commercial vessels fishing for both crab and whelks, potentially using undersize crabs as bait in whelk pots. Attendees felt that the use of soft brown crab, which is not fit for human consumption, as bait in whelk fisheries was an additional pressure on stocks though accepted that this practice was not breaking any rules.

Several attendees stated that their ambition for the future was to have a fishery with more rigorous enforcement of existing regulations, rather any new regulations.

Minimum Landing Sizes (MLS) for crab and lobster

Non-compliance with MLS as a result of low levels of enforcement was flagged as a significant concern by all attendees for both commercial and recreational fisheries. It was widely agreed that non-compliance with MLS has negative impacts on spawning stocks and recruitment; science and data gathering based on length frequency distribution; the reputation of fishing industries; and on relations between fishers.

In south Wales, attendees largely felt that current MLS for both brown crab and lobster were appropriate at 140mm and 90mm respectively.

There was discussion on maximum landing sizes (MaxLS) as a means of protecting the largest, most fecund ‘super-spawners’ for lobster as fishermen felt these contributed most to spawning stock. However, others noted that some fisheries, particularly those further offshore, were more heavily dependent on large lobsters, in the 2-4kg range, than others operating inshore. Attendees felt that MaxLS could disproportionately impact some parts of the fleet and cited a lack of scientific evidence to support a MaxLS as a means of improving reproductive efficiency.

“We have to follow the science on MLS; minimum sizes should be set based on the science on when crabs or lobsters mature and reproduce. We should also be looking at maximum landing sizes if the science can support it.”

- Lobster fisherman in Milford Haven

In west Wales, some attendees felt that the current MLS for brown crab was too high and that the previous (130mm) MLS had been more appropriate. Fishermen working in Cardigan Bay in particular thought that the MLS increase to 140mm had shown no stock benefits, as they felt crab stocks have continued to decline, and that they had to handle and return more undersize crab. Some fishermen believed that the depth and tidal currents of Cardigan Bay

mean that crabs in this area were naturally smaller, so they had been more impacted by the increase to 140mm than fishermen in the south of Wales.

Views on lobster MLS in west Wales were more mixed. Some attendees felt it was too large and the previous 87mm MLS had been more appropriate; others felt that the increase to 90mm had been positive and had helped sustain lobster stocks and fisheries, whereas crab landings have decreased significantly over time.

In north Wales, attendees had mixed views on brown crab MLS for both biological and market reasons. Some attendees felt that the recent decline in crab stocks (and landings) meant that an increased MLS is appropriate to protect stocks in the absence of other measures; others believed that regional differences in habitat and hydrology had a greater impact on crab growth meaning some fisheries had been rendered unviable by the increase to 140mm. Attendees noted that 130mm was considered by processors as a good sized 'dressing crab' and the increased MLS to 140mm had eliminated this part of many businesses in Wales.

Attendees in north Wales largely felt that the 90mm lobster MLS was appropriate.

Vessel Monitoring Systems (VMS)

Views on VMS as a management tool were largely negative in all areas. All fishermen in attendance were static gear fishers and felt that there was little information to be gathered from VMS as they consistently steam to, and fish, the same areas repeatedly. This means no useable information on catches or fishing effort is gathered. Some attendees felt that VMS requirements for small vessels in the inshore fleet were heavy-handed and yielded little benefit.

Many fishermen noted the cost burden of VMS, both in terms of initial set up and ongoing maintenance and subscription costs.

Some fishermen had experienced issues with their VMS system and noted instances where they had been unable to go to sea whilst waiting for the system to be repaired. They felt that a greater degree of flexibility for fishermen in having VMS active would allow for such cases and allow them to continue working whilst awaiting repair.

Some attendees felt there was a lack of trust and transparency in how VMS data were being used by Welsh Government; there was a sentiment that VMS had initially been presented as a tool to help support the commercial industry (e.g. in matters regarding spatial squeeze and offshore development) but instead VMS data were being used against the industry to bring about spatial closures or other restrictions.

Prohibition on fishing, landing, sale, and carriage of V-notched lobsters

Many attendees felt the previous, Welsh Government supported, V-notching scheme for lobster had been successful. This was largely attributed to incentives and compensation schemes to encourage fishermen to V-notch egg-bearing hens. Whilst there were differing views of perceived effectiveness of this measure in the past, attendees largely agreed that some form of V-notching scheme was likely to benefit stocks by protecting spawners. It was noted that some fishermen still V-notch at least a proportion of their catch on a voluntary basis to protect spawning stocks.

Some attendees expressed a concern that recreational fishermen are more likely to ignore the V-notched lobster prohibition, as they were less likely to be caught if catching lobster for personal consumption. Better enforcement and more awareness raising about the regulation, and about *why* the regulation is in place, could help increase compliance.

Discussions on V-notching dovetailed with discussions on berried hen bans for lobsters. Some attendees felt that a ban on landing berried hens was preferable as egg-bearing lobsters would be returned to the sea and would only be 'out of the fishery' for several months until they cast their eggs whilst a V-notched lobster would be out of the fishery for several years until the notch has been fully moulted out. Conversely, some attendees felt that this longevity was a reason to prefer V-notching over a berried hen ban.

V-notching was largely seen as an easily enforced measure as catches can be inspected either at sea or onshore.

Summary of event feedback: Non-FMP considerations

In addition to information gathered relating to FMP development, a number of topics were discussed in stakeholder engagement events that do not directly align with the objectives of the Fisheries Act 2020, and as such may not be eligible for inclusion in the Welsh crab and lobster FMP. However, these considerations are presented here as supporting and contextual information:

- There was a perception amongst some attendees that **English fisheries receive more support in terms of funding, grants, research, and fisher training**. Some Welsh fishermen stated that training and funding opportunities for English, or English flagged vessels operating in the Welsh zone, had disadvantaged Welsh fishermen. One example given was funding which was made available to English fishermen to replace pots with newer, more efficient ones.
- Some attendees believed that **once legislation is in place it is very difficult to amend or repeal it**, and this inflexibility had led to inappropriate policies being introduced and then maintained (e.g. MLS changes for whelks in the south of Wales where some fisheries had been rendered economically unviable due to local stock size distribution). There was a desire for more reactive, agile management that can be changed as the evidence base changes. Attendees also felt that this made it even more crucial that the right policies are developed and introduced in the first place, and that meaningful stakeholder involvement was key to this.
- **Recruitment and aging demographics of the catching sector** was flagged as a significant concern for the future. Attendees felt that fewer young people were entering the sector and that this would have implications for the continuation of the commercial industry and on food security in the future.
- The **increasing cost of fishing** was cited as a barrier to entry; attendees mentioned the mounting costs of permits, VMS, mooring costs, bait, fuel, and fishing gear. Increasing costs, combined with the erosion of fishing opportunities for finfish in particular, means that 'fishermen are being squeezed from all sides'.

Challenges facing Welsh shellfish fisheries

Stakeholders were asked to provide comments on other challenges they are experiencing or have experienced in crab and lobster fisheries. The feedback is summarised below under the following themes:

- Lack of trust in governance
- Funding and grant support
- Increased static gear fishing effort
- Interactions between fisheries: brown crab as bait

- Expanding recreational shellfish sector

Lack of trust in governance

Attendees at all events commented on the need to rebuild and sustain trust between the commercial fishing industry and Welsh Government. Some felt that trust between regulators and fishermen had been undermined in recent years for a variety of reasons, including introduced legislation (e.g. MLS changes) and a perceived lack of industry engagement in policy development. It was noted that some attendees also mentioned external factors, outside of regulators' control, as contributing to the lack of trust in governance including MCA medical certification guidance issues and issues with VMS suppliers.

“All the moving parts have to align for our fisheries to thrive. Right now, that means we need sustainably managed stocks, funding to support development of the industry, and more support for new entrants.”

- Crab and lobster fisherman in Bangor

Lack of trust was seen to pose a risk to future co-management approaches as some stakeholders felt that their input would not be used to help develop policies. Attendees cited a lack of two-way communication between fishermen and Welsh Government leading to perceptions of fishermen being ignored, there being a lack of meaningful engagement, and a lack of flexibility for measures to be adapted or improved if they were found to be ineffective.

In north Wales, an attendee commented that regulators are '*overseeing the decline of inshore commercial fisheries in Wales through a lack of pro-active management*', specifically through a lack of investment in enforcement and science.

Some attendees felt there was a lack of a longer-term strategy for Welsh inshore fisheries in particular, and there was optimism that the upcoming FMP would fill this gap.

Funding and grant support

Attendees in south Wales and west Wales highlighted the disparity in grants available to fishers in England compared to those available in Wales. They felt this had resulted in inequitable access to fishing opportunities. There were particular concerns about instances where grant funding received by fishermen in England could directly impact on Welsh fisheries, for example increased numbers of pots being fished in the Welsh zone.

Access to training opportunities, and grant support to help young people pay for qualifications and training courses, was highlighted as a way of encouraging new entrants into the commercial fishery. Some attendees discussed the high cost of entry to commercial fishing, particularly when new entrants might not enjoy the work or be well-suited to the role, meaning they leave shortly after starting.

Increased static gear fishing effort

Attendees in south Wales commented on the decline in crab and lobster stocks in recent years. This has led to an increase in the number of pots on the ground to sustain the same amount of catch, i.e. catch per unit effort (CPUE) is decreasing.

It was noted in south Wales and north Wales that some fishers keep their pots on the ground for long periods of time to avoid losing the ground to other fishers. Others mentioned fishermen leaving pots on the ground and only hauling a quarter of those each day as the capacity of their vessel / crew meant they were fishing more pots than they were capable of

hauling regularly. Longer soak times for static gears was also seen as increasing the risk of gear losses and, ultimately, ghost fishing.

Most concerns about increasing fishing effort were focused on larger ‘*super crabbers*’ capable of fishing many thousands of pots and going to sea in all weathers. Attendees working smaller, inshore vessels felt that the expansion of effort by larger vessels had been more pronounced than by smaller vessels, and that the ability of some larger vessels to fish all year round meant that grounds were not being ‘rested’.

Attendees at three events stated that their aspiration was to have stocks managed in a way that allowed for effort to be decreased, meaning fishermen could fish fewer pots but sustain the same catch, i.e. increasing CPUE.

The success of the Welsh whelk fishery was identified as a potential cross-fishery issue in that a) the whelk fishery adds to the amount of static gear in the Welsh zone, exacerbating spatial squeeze, and b) the use of soft / damaged / undersized brown crab as bait in the whelk fishery is an additional pressure on already depleted brown crab stocks.

Attendees’ views on pot limits as a management tool are presented in section 3.

Interactions between fisheries: brown crab as bait for whelks

The use of brown crab as bait in whelk fisheries was considered by attendees to be an additional pressure on already declining crab stocks in Welsh waters. The growth of whelk fisheries, and in particular increased numbers of vessels fishing for both crabs and whelks, was seen as an added risk to crab fisheries as these vessels could easily use soft / damaged / undersized brown crabs from their own pots as bait in their whelk pots without having to land and record the brown crabs. Attendees were less concerned by what they saw as more ‘legitimate’ sources of brown crab as bait, such as processing waste, crab that had died in transit, or crabs with black spot.

Many attendees were in favour of an outright ban on the use of brown crab as bait in the whelk fishery, stating that spider crabs could be used instead as spider crabs are much more common. Others felt that improving recording of all catches (not just landings) could help ensure that all brown crab removals were recorded regardless of whether used as bait or for human consumption, and this would give regulators more evidence on which to make management decisions.

Expanding recreational shellfish sector

Attendees at all events expressed concern about increasing recreational shellfish fishing effort in the Welsh zone. Commercial industry stakeholders felt that existing management of recreational fisheries were insufficient (pot limits are too high for personal consumption), not effectively enforced which leads to higher rates of non-compliance, and often poorly understood by recreational fisheries (particularly by those visiting the area rather than resident). There were concerns that the lack of reporting requirements, combined with high catch limits for recreational fishers, could lead to illegal selling of shellfish catches.

Commercial and recreational stakeholders agreed that relationships between the sectors are generally poor, that there is a lack of trust between the sectors, and both raised concerns about potential non-compliance with regulations such as MLS.

Increasingly popularity of diving / snorkelling and intertidal gleaning for crab and lobster was seen by some stakeholders as an unquantified source of fishing mortality, and that data gathering mechanisms were not able to account for these removals. It was suggested that

stricter limits on what divers can take per person per day, particularly for crawfish, would help control removals and support stock resilience or recovery.

As discussed in section 2, there was widespread concern that there is insufficient enforcement of regulations in recreational shellfish fisheries. It was proposed that introducing a charge for each recreational pot fished could help limit the number of pots being fished, and that making escape hatches mandatory in recreational pots could help minimise catches of undersize crab and lobster.

4. Future management of the fishery

Aspirations for the future

Attendees at all events stated that their aspirations for the future is to have sustainable crab and lobster fisheries that helps retain the culture and heritage of the industry. There was consensus that they would like to see fisheries with appropriate management measures that were effectively enforced.

Ambitions were tempered by the view that the commercial industry is already depleted and is decreasing in size further, particularly the inshore fleet of smaller fishing vessels. Reasons for the decline included economics, cost of entry, training and certification requirements, over-regulation, and a lack of certainty for the future. Some commercial fishermen felt that the lack of ability to diversify into different fisheries was off-putting to many new entrants and makes it harder to develop a resilient business as they are often dependant on a single fishery.

There was a shared aspiration amongst many attendees to have crab and lobster stocks managed in such a way that, in time, they could fish with fewer pots for the same catch.

Potential future management options

Attendees were asked how they would like to see Welsh crab and lobster fisheries managed in the future, and what specific management measures they believed would work for Welsh fisheries. Feedback is summarised below on the most discussed measures:

- Ban on landing berried lobsters
- Banning the use of brown crab as whelk bait
- Limits on recreational sector
- Maximum landing size for lobster
- Fitting mandatory escape gaps to pots
- Pot limitation
- Seasonal closures

Ban on landing berried lobsters

Attendees were broadly supportive of a ban on landing berried lobsters in principle, however flagged potential difficulties with implementation, enforcement, and disproportionate impact on certain parts of the fleet.

Those in support of a berried lobster ban believed that the measure is simple and would deliver stock benefits. Enforcement ashore, particularly at the point of sale through

merchants refusing to buy berried lobster, was suggested as one way of simplifying enforcement.

Those not in support of a berried lobster ban pointed to specific, often offshore, fisheries in the Welsh zone that are more likely to catch high numbers of berried hens at certain times of year. They felt that a berried lobster ban would render some fisheries unviable for large parts of the year as the proportion of berried hens in catches is very high. Some attendees stated that regional variations to allow for these fisheries to continue to operate could alleviate the pressure on fishermen affected, however noted that this could complicate enforcement.

Lack of enforcement was noted as the key concern for an effective berried lobster ban; attendees said that without effective enforcement there was a risk of 'scrubbing'.

Banning the use of brown crab as whelk bait

Attendees at all events commented that the increase in whelk fisheries in Wales, driven by export markets and high whelk prices, had driven more whelk fishermen to also use crab pots in order to use their catches of soft / damaged / undersized / unmarketable brown crab as bait in their whelk pots. There were concerns that the success of the whelk fishery has contributed to the decline of brown crab fisheries in Welsh waters.

Attendees accepted that the scale of the issue is not clear. There are no good data available on how much brown crab is used as bait in whelk fisheries each year which makes assessing the issue difficult.

Some believed that the issue was largely a result of vessels being able to fish both whelk and crab gear simultaneously as there was no need to land or record crab catches. Attendees in west Wales suggested that restricting whelk fishers to only targeting whelks would ensure they are separated from the crab fishery. However, it was also noted that flexibility for some vessels to target both species was needed.

It was suggested that spider crabs could be a replacement bait if brown crab was to be banned, as many fishermen felt that spiders crabs were invasive, too numerous, and a nuisance.

Limits on recreational sector

Lack of effective enforcement of regulations in the recreational potting sector was cited as a concern by the majority of attendees. There was a sentiment amongst commercial fishermen in particular, that recreational fishers can more easily avoid regulations such as minimum landing sizes.

Concerns were raised about increasing recreational fishing effort, and ineffective or overly generous pot limits for recreational fishing for personal consumption. Attendees suggested a) stricter permitting of recreational shellfish fishing (possibly with a nominal charge for permits) to restrict access to shellfish fisheries, and b) reducing pot limits to one per person. Some attendees felt that a one pot limit would be suitable for personal consumption and would reduce the likelihood of recreational fishers trying to sell catches illegally.

Attendees in south Wales suggested limiting divers to one crawfish per individual to help prevent the over exploitation of the crawfish fishery. The crawfish fishery was seen to be re-emerging in Wales, and attendees were keen to see appropriate management measures put in place as the fishery expands to prevent overexploitation. It was noted that management changes (MLS increase and seasonal closure) have been quickly introduced in English waters to protect the growing crawfish fishery.

Finally, attendees felt that posters should be made and put up in key harbour areas, particularly where tourists to Wales were likely to be visiting and fishing, to spread awareness of shellfish MLS and other relevant rules for recreational fishers. There was a perception that visiting fishers were less likely to know about local rules and so better communication was required.

Maximum landing size for lobster

Attendees at all events suggested introducing a maximum landing size for female lobsters, although it was noted that fishermen working offshore in deeper waters would see a reduction in their catch as they primarily caught lobsters in the 2-4kg size range. The Scottish MaxLS for lobster, which is set at 145mm carapace length for females only, was given as an example of where this measure has been introduced.

MaxLS was seen as a good way of protecting the most valuable breeding stock, given the higher fecundity and reproductive success of large lobsters, however it was also noted that this measure could put more pressure on the stock of smaller lobsters.

Follow up discussions between Seafish and Bangor University revealed that there is ongoing research at the University to measure likely changes in reproductive capacity in female lobsters as they grow. Although larger lobsters produce more eggs than smaller lobsters, they reproduce less frequently. The research at Bangor University aims to assess whether large lobsters (reproducing less often) or smaller lobsters (reproducing more often) produce more offspring over a given period of time. The outputs of this research are likely to be very relevant to discussions about MaxLS in lobster fisheries.

Fitting mandatory escape gaps to pots

Attendees in south Wales suggested introducing mandatory escape gaps to pots to reduce the likelihood of ghost fishing by lost gear. This suggestion was supported in other areas, and further suggestions were made that fitting biodegradable components (such as biodegradable panels or lacing in netting, or steel rings on escape gaps) in both commercial and recreational pots, which would degrade after a certain time, would further reduce the risk of ghost fishing.

As a technical measure to reduce catches of undersize shellfish (by linking escape gap size to MLS), escape gaps were generally seen as inappropriate as fishermen would lose velvet swimmer crabs from their catches. For many fishermen, velvet swimmer crabs are an important part of their catches and help build business resilience.

Related to catch sorting, attendees in north Wales proposed mandatory riddling of common prawn catches using riddles with 10mm bar spacing as a management measure.

Pot limitation

Attendees in south Wales suggested a pot limitation scheme that considered the viability of businesses by improving understanding of likely break-even points for different sized vessels to ensure economic viability. It was noted that introducing a pot limit per crew member could alleviate this problem. Attendees suggested the FMP could look at and learn from examples in the USA or New Zealand pot limits have been introduced for similar species with positive effects.

Practicalities of a pot limit were discussed with many attendees feeling that any scheme to reduce the number of pots would have to be supported by a cost recovery scheme to ensure fishermen were compensated for 'surplus pots', as they have invested in gear as a legitimate business expense.

Enforcement was mentioned as a likely issue, unless proper gear marking and checking of gear was carried out. Attendees said that some vessels will work several thousand pots at a time but may only haul several hundred per day; long soak times and confusion about who owns strings of pots would make enforcement difficult. Pot tagging was proposed as one method of simplifying enforcement.

Some attendees in west Wales were concerned that pot limits would remove control from fishermen; as business owners there is a need to be able to respond to changes by changing patterns of fishing, and it was felt that having a limited number of pots could constrain a fisherman's ability to change fishing practices and remain economically viable.

Attendees online felt that a pot limit could work if it was set at the maximum that the inshore fleet could operate (though this would need to be determined). This would allow inshore fishermen to maintain viable businesses and could reduce the threat of significant increases of effort in the future from larger vessels.

Seasonal closures

Attendees in north and south Wales suggested that a closed season could be considered for some species if the business viability of the fleet was accounted for. It was noted that closed seasons would likely not be suitable for all fishermen as they may not have opportunities to diversify their fisheries. Some suggested that this would require flexibility to allow fishers to target other species, such as common prawns. It was agreed that there is an inherent displacement risk as a result of seasonal closures, and any closure strategy would have to consider where effort would be displaced to, as this could put unsustainable pressure on other areas or fisheries.

Attendees in north Wales were supportive of a closed season in summer (coinciding with the spawning season) for common prawns as they felt prawns were best targeted in winter.

5. Engaging with FMP development going forward

Representation and future engagement

Attendees were asked:

- a. If they felt well represented in matters regarding fisheries management and policy development,
- b. If / how they would like to remain engaged in the Welsh crab and lobster FMP development process, and
- c. Would they be interested in participating in Welsh Government's Crustacea Advisory Group.

Feedback is summarised below.

Representation

In general, commercial fishermen in attendance at all events felt that they were well represented by the Welsh Fishermen's Association (WFA) and its associated bodies. It was noted that the WFA are involved in many groups with the Welsh Government and others, and that they communicate information to their members effectively.

Despite this, it was acknowledged that there are still pockets of the fishing industry around Wales which are not involved and are not represented by the WFA, and that it can be difficult

to engage with those stakeholders. Finding a mechanism to ensure as many people as possible can engage in representative bodies would be a step towards a more cohesive and effective co-management approach to fisheries in Wales.

Some attendees felt that in England there is better representation of fishermen and more help and support for the industry with regards to training, well-being, medical checks, and access to funding.

There were too few recreational stakeholders involved in this project to determine conclusively how they felt about representation. It was acknowledged that the recreational sector is much more disparate and isolated than the commercial fishing sector, and that recreational fishers are much less likely to be part of an association or group.

Future engagement

In general, attendees at all events were eager to stay involved in the FMP development process following the pre-consultation and felt that it was important for Welsh Government to listen to and address stakeholders' feedback on the FMP's development.

Attendees felt that the Wales Crustacea Advisory Group should have open and flexible membership that would allow several individual fishers to join but only require one to attend at a time. They said this would help ease the burden on fishers whilst keeping everyone involved.

Eagerness to be involved in the next stages of FMP development was driven by the desire to see a 'fit for purpose' plan that delivers *for* stakeholders; attendees were keen that management changes were not introduced 'out of the blue', but instead that they were sighted and involved in policy development.

Attendees in south Wales suggested learning from examples of fisheries elsewhere that have overcome similar challenges, specifically mentioning Maine lobster fisheries and New Zealand rock lobster fisheries which are managed using FMPs. It was proposed that case studies from these fisheries would highlight the benefit of implementing management measures to help the stocks and the fishery as a whole, and that real world examples of good shellfish fishery management would make the potential benefits more tangible to fishermen.

It was noted that when management measures are introduced in a fishery there is often an initial impact on fishermen, however showing evidence of effective management in practice would help Welsh Government communicate the longer-term benefits that all stakeholders want to see. This could be used as a way of engaging more stakeholders in the FMP.

Attendees requested that any information circulated on the FMP development should be accessible and tailored to fishermen in particular. The option to produce short text or bullet points to summarise lengthy documents is encouraged as a way to ensure all stakeholders could engage properly and individuals aren't excluded.

In north Wales, it was suggested that in-person workshops could be held at key stages of FMP development so that no one is left behind in the development process. These would have to be at times and locations that allow fishers the best chance to attend, for example, at relevant ports and scheduled in the evenings to account for fishermen working during the day.

6. Recommendations

The following recommendations have been prepared for Welsh Government by Seafish based on stakeholder engagement findings to support the next stages of development of the Welsh crab and lobster FMP.

FMP development:

- Use fishing associations, working groups, and stakeholder workshops to **establish, build, and maintain two-way dialogue** with stakeholders throughout the FMP development process.
- Draft **accessible, easy to read documents** and project resources to ensure maximum engagement with stakeholders.
- Consider the **representativeness of the Crustacea Advisory Group** to ensure a variety of stakeholders (including under-represented groups) are able to participate, this could include allowing for multiple commercial fishermen to join the group to account for the fact that not every fisherman will be able to join every meeting.
- Carry out more targeted **engagement with recreational fishers**, including potters, divers, and intertidal gleaners. This is important given the likely interest of these stakeholders in the FMP, and the challenges in effectively engaging with such a disparate group, which means they were likely underrepresented in the pre-consultation project.
- Consider how the **FMP may be able to help support small scale, inshore, artisanal commercial fishermen** in Wales, to ensure they are not overlooked or disadvantaged by management in the future.
- Consider how any **future funding schemes to support fisheries initiatives can be improved** to maximise benefits.
- Consider how the FMP can **support data gathering initiatives** to build the evidence base around Welsh shellfish fisheries to ensure management decisions are made on the best available data, as per the 'scientific evidence objective of the Fisheries Act 2020, particularly around crab and lobster stock assessment.

Fisheries management measures:

- **Improve enforcement of existing management measures** (and any new management measures) in the Welsh zone, to ensure management delivers stock benefits and reduce non-compliance.
- Consider **phasing of any management changes** introduced via the FMP, this allows fishermen more time to adapt and prepare for changes, and improves compliance.

- Consider **restrictions on the landing of berried lobsters** and / or **re-introduction of incentivised V-notching schemes** to protect mature hens. Development of such a measure would require more engagement with stakeholders.
- Explore **MaxLS for lobster** if there is a) sufficient supporting evidence regarding what a suitable MaxLS could be set at in Welsh waters to confer the greatest protection to the most important breeding stock, and b) an assessment of likely economic impact on offshore lobster fisheries in particular, based on size distribution of catches.
- Consider **prohibiting the use of brown crab as bait in whelk fisheries** to reduce pressure on crab stocks.
- Consider **pot limits as a possible longer-term management strategy**, acknowledging that more work would be required to build the evidence base to support this intervention.
- Review **appropriateness of management measures for spider crabs** to maximise the fishery. The expansion of spider crabs in the Welsh zone could mean that fisheries are underexploited given changes in population dynamics and distribution. Reviewing management, in the context of a growing fishery, would allow for fit-for-purpose management to be introduced.
- Review and **update management measures applied to recreational shellfish fisheries**, this could include exploration of permitting schemes, stricter pot limits, or catch limits per person per day.
- Consider developing a **communications strategy for recreational shellfish fishers** to ensure they are aware of the rules they must abide by when fishing for crabs, lobsters, or crawfish in Welsh waters.
- Consider **the use of biodegradable components** in pots, for both commercial and recreational fisheries, to minimise the risk of ghost fishing in the event of gear losses.