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Consultation on Landing Controls for the Scottish Crab and Lobster Fisheries

Outcome Report

marinescotland

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INTRODUCTION

This report provides an analysis of responses to the *Consultation on Landing Controls for the Scottish Crab and Lobster Fisheries*. Respondents' views on each proposal are examined, with common trends and issues highlighted as appropriate. Marine Scotland's response to these views is also provided with next steps outlined.

Background

Brown crab, velvet crab and lobster are important to Scotland's rural economy. Commercial landings of these species totalled £26.8 million in 2015, helping to sustain hundreds of small fishing businesses around the Scottish coast. However, there are concerns over the health of these fisheries.

Stock assessments carried out by Marine Scotland Science have indicated that these species are being fished at levels close to or above the F_{MSY} proxy (F_{MSY} is the fishing mortality consistent with the largest average yield that can continuously be taken from a stock under existing environmental conditions). Their current management advice is that reducing the level of fishing mortality could result in a higher yield and biomass for these stocks in the long term.

The Outer Hebrides, Orkney and Shetland have all taken steps in recent years to implement tighter landing controls to better manage their respective shellfish stocks. Fishing representatives – via the Inshore Fisheries Management and Conservation (IFMAC) group, Regional Inshore Fisheries Groups (RIFGs), and fishing associations – have called for Marine Scotland to introduce similar measures for the rest of the coast.

Consultation

Marine Scotland issued the *Consultation on Landing Controls for the Scottish Crab and Lobster Fisheries* to seek views on a range of proposals aimed at improving the sustainability and management of Scotland's key shellfish stocks. These proposals were as follows:

- increasing the minimum landing size for brown crab to 150 mm carapace width
- increasing the minimum landing size for velvet crab to 70 mm carapace width
- prohibiting the landing of berried (egg bearing) velvet crab
- increasing the minimum landing size for lobster to 90 mm carapace length
- decreasing the maximum landing size for female lobster to 145 mm carapace length
- introducing a maximum landing size for male lobster of 145 mm carapace length
- prohibiting the landing of 'crippled' lobsters (those missing one or both claws)
- introducing prohibitions on sale and carriage to match any landing prohibitions that are implemented on a uniform basis across the entire Scottish coast

The consultation was launched on 26 February 2016 and ran for a 12-week period, closing to responses on 20 May 2016.

Respondents

There were 119 respondents to the consultation, which consisted of 93 private individuals (78%) and 26 organisations (22%). Respondents break down by type as follows:

Respondent Type	Number	%
Private individual	93	78%
Fishermen's association	12	10%
Inshore management group	6	5%
Catcher / Processor	4	3%
Local authority	2	2%
Animal welfare group	1	1%
Other	1	1%
Total	119	100%

Respondents were primarily those with a direct interest in Scotland's crab and lobster fisheries, with the majority of private individuals and organisations being either fishermen or fishing associations respectively.

A copy of the consultation document, along with published responses, is available at <https://consult.scotland.gov.uk/marine-scotland/crab-lobster-landing-controls>.

Outcome

As a result of the consultation process, new management measures will be introduced into the crab and lobster fisheries as outlined in this document. These new measures have been informed by the responses to this consultation, scientific advice and feedback from the RIFGs.

ANALYSIS OF CONSULTATION RESPONSES

Increasing the MLS of brown crab

Views were sought on increasing the minimum landing size of brown crab (*Cancer pagurus*), also known as edible crab, to 150 mm carapace width. A total of 112 respondents answered the following related questions:

- Q1. Do you support increasing the minimum landing size for brown crab to 150 mm carapace width?
- Q2. Are there any areas of the coast that you think should be excluded from a MLS increase for brown crab, and if so why?

Summary of views received

A majority of respondents (75%) supported the proposal. The potential to improve the health of the stocks, and market prices, were the main reasons given for supporting a MLS increase:

“We believe that leaving animals longer in the sea gives them the opportunity to breed and contribute to recruitment.” [Orkney Fisheries Association]

“We think it would help the price & help the stocks as well.” [North East Creel & Line Association]

“The market price for brown crab is usually very poor, I would hope an increase in size and quality would lead to an increase in price.” [East Coast respondent]

Several respondents also highlighted that 150 mm was already the de facto landing size for brown crab in their area:

“Local buyers ... already consider 150 mm as minimum marketable size and won't take brown crabs at MLS (130 mm).” [Inshore Fishermen's Alliance (South East)]

“Most buyers require this size already.” [West Coast respondent]

“This is already common practice among members of OFA.” [Orkney Fisheries Association]

Those that did not support the proposal (25%) were concerned that a MLS increase could instead have a negative financial impact, with several such comments coming from respondents in Fife and the Solway in particular:

“The increase to 150 mm would have a severe impact on the viability of the smaller vessels working in the South East area. Those vessels working further offshore tend to land the bigger sized crabs.” [10mu Association (Fife)]

*“Some people like to use the current minimum size brown crab as a starter portion for a meal. Raising the size would make this financially unviable.”
[Galloway Static Gear Association]*

While a small number of respondents requested that their area be excluded from a MLS increase, particularly those in the South West, the majority said that they would prefer it to be implemented nationally, regardless of whether or not they supported it:

“Whole of Scotland should be the same under any size increase or not.” [East Coast respondent – against MLS increase]

*“No, there should be a standard minimum landing size in all Scottish waters.”
[West Coast respondent – for MLS increase]*

Marine Scotland response

Increasing the minimum landing size of brown crab had clear support from a majority of both the individual fishermen and fishing organisations around the coast, who agreed that the proposal would be beneficial to the stocks.

The most recent assessments carried out by Marine Scotland Science have shown that brown crab on the east coast, west coast and Orkney is currently fished at levels above the F_{MSY} proxy for males and/or females of the species. Increasing the minimum landing size would allow newly-undersized individuals the opportunity to grow and reproduce before being caught, potentially increasing the yield and biomass of the stocks in the long term.

It is noted that this proposal was supported by respondents in Orkney. While the consultation was primarily focused on landings into the Scottish mainland, implementing a MLS increase for the mainland and Orkney would simplify the management of the stocks around the coast.

However, the Shetland Shellfish Management Organisation (SSMO), who manage Shetland’s inshore shellfisheries through a Regulating Order, has stated that it wishes to retain their current MLS of 140 mm following internal consultation with its members. If opinions change, the SSMO can introduce this measure using its Regulating Order powers.

In light of these considerations, Marine Scotland will increase the minimum landing size of brown crab to 150 mm carapace width (excluding Shetland).

Increasing the MLS of velvet crab

Views were sought on increasing the minimum landing size of velvet crab (*Necora puber*) to 70 mm carapace width. A total of 106 respondents answered the following related questions:

- Q3. Do you support increasing the minimum landing size for velvet crab to 70 mm carapace width?
- Q4. Are there any areas of the coast that you think should be excluded from a MLS increase for velvet crab, and if so why?

Summary of views received

A majority of respondents (84%) supported the proposal. In addition to benefitting the stocks, many respondents supported a MLS increase due to a lack of market demand for velvet crab at the current minimum size:

“Should lead to increase in velvet stocks longer term. Further, as small velvets are generally a lower selling price, the financial impact should be minimal.”
[East Coast respondent]

“Yes, I currently only land velvet crab of 70 mm and above due to poor demand for smaller crabs of 65 mm, price is also very poor.” [East Coast respondent]

Those that did not support the proposal (16%) did not believe a MLS increase was necessary, with some citing healthy stocks in their area:

“I think the current MLS is fine for velvet crabs.” [West Coast respondent]

“I have seen no shortage of velvet crab, in fact it seems there's a surplus of them!” [West Coast respondent]

While there were a few isolated calls for areas to be excluded from a landing size increase, almost all of respondents expressed a preference for it to be applicable throughout Scotland, regardless of whether or not they supported the measure.

Marine Scotland response

Increasing the minimum landing size of velvet crab was supported by a clear majority of respondents from around the coast, including both individual fishermen and fishing organisations, who agreed that the proposal would be beneficial to the stocks.

The most recent assessments carried out by Marine Scotland Science have shown that velvet crab on the east coast, west coast and Orkney is currently fished at levels above the F_{MSY} proxy for males and/or females of the species. Increasing the minimum landing size would allow newly-undersized individuals the opportunity to grow and reproduce before being caught, potentially increasing the yield and biomass of the stocks in the long term.

As a 70 mm minimum landing size is already in effect in Shetland, Orkney and the Outer Hebrides, extending this measure to the rest of the Scottish coast will result in a single standard landing size for velvet crab throughout Scotland, allowing the stocks to be more easily managed.

In light of these considerations, Marine Scotland will increase the minimum landing size of velvet crab to 70 mm carapace width.

Prohibiting the landing of berried velvet crab

Views were sought on prohibiting the landing of berried (egg-bearing) velvet crab. A total of 107 respondents answered the following related questions:

- Q5. Do you support prohibiting the landing of berried velvet crab?
- Q6. Are there any areas of the coast that you think should be excluded from a prohibition on landing berried velvet crabs, and if so why?

Summary of views received

A majority of respondents (92%) supported the proposal. Most of the comments recognised that landing berried velvet crab was detrimental to the stocks, with individual fishermen around the coast stating that they already avoided doing so:

“Anyone landing berried velvets at the moment are being very short sighted, disgusting to take out the future generations of a species which we are relying on for a living” [East Coast respondent]

“We have never landed berried velvets and think this should be same for all.” [West Coast respondent]

A small number of respondents were opposed to the proposal (8%), with one raising a concern that it could lead to an increase in effort to offset its effects:

“Banning the landing of berried velvet crab will be in my opinion detrimental as many boats will increase their creel numbers to cover the loss.” [East Coast respondent]

Again, the majority of respondents believed that the proposal should be introduced nationally and that no area be excluded.

Marine Scotland response

Prohibiting the landing of berried velvet crab had near unanimous support – from all but nine respondents – who agreed that the landing of egg bearing females was not beneficial to the health of the stocks. A prohibition would provide additional protection to these mature individuals, and potentially improve recruitment to the fishery by increasing egg production.

While the consultation was primarily focused on landings into the Scottish mainland, it should be noted that this proposal was also supported by respondents in the Outer Hebrides and Shetland; the prohibition is already in effect in Orkney.

In light of these considerations, Marine Scotland will prohibit the landing of berried velvet crab.

Increasing the MLS of lobster

Views were sought on increasing the minimum landing size of lobster (*Homarus gammarus*) to 90 mm carapace length. A total of 114 respondents answered the following related questions:

- Q7. Do you support increasing the minimum landing size for lobster to 90 mm carapace length?
- Q8. Are there any areas of the coast that you think should be excluded from an increase in MLS for lobster, and if so why?
- Q9. If you support a MLS increase, how would you prefer to see it introduced?
 - a) Immediate increase to 88 mm then to 90 mm one year thereafter
 - b) Other (please specify)

Summary of views received

Just over half of respondents (51%) supported the proposal, with the shared view being that increasing the MLS of lobster would be of long term benefit to stocks:

“Yes, this will increase the lobster stocks long term however may result in lower catches for a year or two. It is for the greater good however if you take a long term view.” [East Coast respondent]

“Allowing the lobsters an extra year or 2 to breed would help the stock.” [East Coast respondent]

“I fish lobsters commercially and I do believe that extra 3 mm will help to maintain a future stock, as 9 times out of 10 the berried hens are usually the biggest lobsters by far.” [West Coast respondent]

“This will ensure that a larger number of lobsters reach maturity before being taken.” [West Coast respondent]

Supporting respondents were split on how a MLS increase should be introduced. While there were those who wanted it to be implemented immediately in order to avoid any delay in improving the stocks, others preferred a gradual approach in order to minimise any financial effects of an increase:

“Straight to 90 mm from day one as this would give the undersized lobsters an extra season to breed before they could be caught, thus increasing the biomass.” [West Coast respondent]

“Should be introduced as 88 mm first year, 89 mm second year, 90 mm third year. This would reduce the financial impact on the smaller boats.” [West Coast respondent]

Strong opposition to the proposal came from those responding from the east coast. This included fishermen's associations, buyers and individual fishermen, whose principal concern was that increasing the MLS would reduce catches and have a subsequent financial impact:

"... this measure will reduce revenues by over 30% and as much as 40% per annum and as much as 60% in July. The collective view was that the small boats would go out of business and the bigger boats would buy even more creels with the net result being no beneficial effect for stock preservation." [Inshore Fishermen's Alliance (South East)]

"The % of lobsters landed between 87 and 90 mm in the South East area is closer to 30% than the 15% indicated in the consultation. As such increasing the size to 90 mm would have a devastating impact on the livelihoods of the fishermen relying on this fishery." [10mu Association (Fife)]

Another concern was the possible market impact, with warnings of a lack of demand for larger-sized lobster from buyers and consumers, and that it could increase competition from smaller, imported lobster:

"Absolutely no need for this, 87 mm (400/450 grams) is what the consumer wants, bigger the size the more expensive the lobster is." [East Coast respondent]

"The increasing the size to 90mm will harm the market as the Scottish lobster is competing with the American/Canada at a min size of 83 mm." [East Coast respondent]

And those in the south east were particularly concerned that it could lead to boats catching undersized lobster in Scottish waters and then landing them into English harbours (where an 87 mm MLS would still apply) in order to evade the prohibition:

"We are fishing on the Scottish/English border and as this rule is not proposed in England boats that fish from England in Scottish waters can take these back to England to land i.e. 87 mm." [East Coast respondent]

On the west coast, opposition came mostly from respondents in the Solway Firth, who shared similar concerns to those on the east coast:

"Our members are unanimous that this would severely impact our fishery and make it unviable. The current size limit allows lobsters to breed at least once and in some cases twice before they can be legally landed. All our members agree that catch levels have been consistent for many years now and all are seeing good levels of junior lobsters on the grounds, these facts lead us to believe that the current size limit is good for fishermen and sustainability of stocks. ... The majority of lobsters from our area are in the 400 - 600 gram category, sometimes as much as 70% of catches, raising the size limit to 90 mm would make the majority of these lobsters undersize and devastate our catches." [Galloway Static Gear Association]

While most respondents expressed a preference that no areas be excluded from a MLS increase regardless of whether they supported the proposal, the Moray Firth, Firth of Forth and Borders on the east coast, and the Solway Firth on the west coast, were all areas suggested for exemption by multiple respondents.

Marine Scotland response

Increasing the MLS of lobster would allow newly undersized animals an additional opportunity to grow and reproduce before being caught, and potentially increase the yield and biomass of the stock in the long term. Analysis carried out by Marine Scotland Science estimates that lobster of less than 90 mm in size constitutes 9% to 15% of catches by weight around the Scottish mainland.

Those opposed to the proposal, which consisted of a majority of those responding from the east coast, and from the Solway Firth on the west coast, were primarily concerned about the impact of a short term reduction in catches. Several respondents in these areas stated that the percentage of their catch that was less than 90 mm in size was closer to 30% or more in their own individual experience.

Those who supported the proposal, in the rest of the west coast and other areas, also recognised there would be a reduction in catches in the short term, but felt this would be acceptable if it allowed lobster stocks to benefit from having more time to breed and grow in the longer term.

Marine Scotland recognises the differing views around the coast and believes a localised approach to implementing a MLS increase would be appropriate on this occasion. The MLS will therefore be increased on the west coast, from Cape Wrath to as far south as latitude 55°N, excluding the Solway Firth.

Such an approach will present enforcement challenges, in particular in regards to the small number of fishermen working close to areas with differing management measures. However, similar situations already exist in other fisheries, e.g. the current brown crab fishery.

Marine Scotland will implement the MLS increase on a staggered basis, as has been done in Orkney and the Outer Hebrides, in order to mitigate any financial effects. This will involve an immediate increase to 88 mm, followed by a further increase to 90 mm one year thereafter.

In light of these considerations, Marine Scotland:

- **will increase the minimum landing size of lobster on the west coast (excluding the Solway Firth)**
- **will not increase the minimum landing size of lobster on the east coast at this time**

Decreasing the MaxLS of female lobster

Views were sought on decreasing the maximum landing size of female lobster to 145 mm carapace length. A total of 112 respondents answered the following related questions:

- Q10. Do you support decreasing the maximum landing size for female lobster to 145 mm carapace length?
- Q11. Are there any areas of the coast that you think should be excluded from a maximum landing size reduction for female lobster, and if so why?

Summary of views received

A majority of respondents (56%) supported the proposal. Those in support felt that decreasing the maximum landing size of female lobster would be of benefit to the stocks and that, due to their being little market demand for larger lobster, it would be a preferable conservation measure to a MLS increase:

“If we are to protect stock we must consider on a precautionary basis that this measure has merit and may mitigate the circumstances of maintaining current MLS.” [Scottish Creel Fishermen’s Federation]

“There is no price for a lobster above 145 mm so to help the stocks it would be a good idea especially as a lobster that size has ten times more berries than a lobster that is 87 mm plus.” [North East Creel & Line Association]

“I feel that this size of lobster is breeding stock so it would be prudent to keep more of these in the water.” [East Coast respondent]

“This would be a better way of sustaining the stocks.” [West Coast respondent]

Respondents that did not support the proposal (44%) felt that it was better to remove the large lobsters from the fishery due to their apparent tendency to attack smaller lobsters when caught together in creels:

“I see a few big lobsters where I work. They do a good job of killing all the smaller lobsters. If the size was decreased there would be a lot more killing and crippling of smaller lobsters.” [East Coast respondent]

Respondents in the South West also felt that the proposal could affect vessels in their area that fished offshore:

“Some of our larger member vessels fish in deeper water offshore grounds and at certain times of year a high proportion of their catches consist of large lobsters. This proposal would severely impact on these vessels.” [Galloway Static Gear Fishermen’s Association]

And a majority of those responding from Orkney and Shetland were opposed to the proposal, indicating a preference for other management measures:

“While decreasing maximum size would undoubtedly increase volume of “broodstock” in our seas, we believe other measures such as increasing minimum size and v-notching berried females would be more effective.”
[Orkney Fishermen’s Society Ltd]

The Solway Firth and Orkney were both areas suggested by a number of respondents for being excluded from a maximum landing size decrease. However, most respondents, regardless of their opinion of the proposal, again preferred that it be introduced across the entire coast.

Marine Scotland response

Decreasing the maximum landing size of female lobster was supported by a majority of those responding from the Scottish mainland, which included individual fishermen, fishermen’s associations and buyers.

Most respondents agreed that increasing the protection of larger female lobsters would be beneficial to the stock. Scientific research indicates that larger shellfish produce better quality eggs, and studies of lobster egg production have shown that females measuring >145 mm produce over three times as many eggs as those measuring 87 mm.¹ Decreasing the maximum landing size should help to improve the reproductive potential of the stock.

One of the main concerns regarding the proposal was that not removing larger lobsters from the fishery could lead to increased predation on smaller individuals, on the seabed as well as in creels. Studies of lobster behaviour indicate that, while fights and stand-offs between larger and smaller individuals occur in the wild over mates and resources etc, these do not appear to result in the smaller lobster being killed (although injuries can occur)².

Another concern was the potential impact that decreasing the maximum landing size could have on catches. Market sampling data collected by Marine Scotland Science between 2011 and 2015 indicates that the percentage of lobster >145 mm in size that is landed from the assessment areas around the Scottish mainland is on average very small, as shown in the table on the following page:

¹ Hepper & Gough, 1978

² O’Neill & Cobb, 1979

Assessment Area	% by number	% by weight
Clyde	<0.1%	<0.01%
East Coast	0.5%	1.9%
Hebrides	0.7%	2.2%
Orkney	0.4%	1.6%
Papa	1.2%	3.2%
Shetland	3.9%	11.2%
South East	0.2%	0.7%
South Minch	0.2%	0.8%

Table 1: Percentage of lobsters landed in Scotland >145 mm carapace length (Percentages averaged from market sampling data collected from 2011-15)

It is noted that those responding from Orkney and Shetland expressed opposition to the proposal. As the consultation's primary focus was on landings into the Scottish mainland, it was not originally envisioned that this proposal would be introduced in those areas.

If opinions change, the SSMO can introduce this measure using its Regulating Order powers, and Orkney can make proposals for its area via the Regional IFG – this measure was introduced in the Outer Hebrides in 2015 due to the work of its IFG.

In light of these considerations, Marine Scotland will decrease the maximum landing size of female lobster to 145 mm carapace length (excluding Orkney and Shetland).

Introducing a MaxLS for male lobster

Views were sought on introducing a maximum landing size for male lobster of 145 mm carapace length. A total of 112 respondents answered the following related questions:

- Q12. Do you support introducing a maximum landing size for male lobster of 145 mm carapace length?
- Q13. Are there any areas of the coast that you think should be excluded from a maximum landing size for male lobster, and if so why?

Summary of views received

A small majority of respondents (51%) did not support the proposal. The views expressed by those opposed were of a similar nature as those made against decreasing the maximum landing size of female lobster, including that it would increase predation on smaller lobster, and would impact the catches of vessels fishing offshore grounds.

However, the main view of those opposed was that they did not believe a maximum landing size would have the same conservation benefits for male lobster as it would for female lobster, and that more evidence was needed:

“One male lobster can breed with many female lobsters so I do not believe there is a need to put the size up.” [East Coast respondent]

“It is extremely rare to find a mature female that is not either carrying eggs or internal roe which suggests that large male lobsters are not required to sustain the population.” [West Coast respondent]

Those who supported the proposal included just over half of those responding from the mainland (53%). They were of the view that a maximum landing size should apply to both male and female lobster for brood stock purposes, and that there would be little financial effect due to lower prices received for large lobster:

“In line with and supportive of the response to Q10 any restriction must address both male and female lobster.” [Scottish Creel Fishermen’s Federation]

“Not a very good price & the big hen will need a partner.” [North East Creel & Line Association]

“The big females as far as I know need the big males for breeding so it makes sense, also as in previous discussion the buyers don’t want huge lobsters.” [West Coast respondent]

As with the proposal to decrease the maximum landing size of female lobster, the Solway Firth and Orkney were areas whose respondents requested to be excluded

from a maximum landing size for male lobster, with a majority of other respondents preferring that the proposal apply across the entire coast if introduced.

Marine Scotland response

Introducing a maximum landing size for male lobster could be beneficial to stocks, with studies of lobster mating behaviour indicating that large female lobster prefer to take large males as their mates.³ Extending the scope of a maximum landing size, so that it applied to both male and female lobster, could potentially promote reproduction in the fishery by protecting its most reproductive and most fertile individuals.

The majority of respondents were opposed to the measure. Many disputed the potential benefits and stated that large male lobsters were of less importance to the fishery than females, based on their individual experience and knowledge, and that more research was required on the matter. Also of particular concern was the potential financial impact of this measure when combined with a decreased maximum landing size for female lobster.

Marine Scotland would wish to review this measure in future, once the impact of the decreased maximum landing size for female lobster is established. It is understood that the SSMO are currently carrying out research to better understand the size composition of lobster catches, based on similar concerns raised locally. The outcome of this work should inform future considerations, and provide a better understanding of whether a maximum landing size is required for male lobster.

In light of these considerations, Marine Scotland will not introduce a maximum landing size for male lobster of 145 mm carapace length at this time.

³ Cowan and Atema, 1990; Atema and Voight, 1995; Gosselin et al., 2003; Leslie et al., 2006

Prohibiting the landing of 'crippled' lobster

Views were sought on prohibiting the landing of 'crippled' lobster (i.e. those that have lost one or both claws). A total of 112 respondents answered the following related questions:

- Q14. Do you support prohibiting the landing of 'crippled' lobsters?
- Q15. Are there any areas of the coast that you think should be excluded from a prohibition on the landing of 'crippled' lobsters, and if so why?

Summary of views received

A majority of respondents (73%) did not support the proposal. The principal concern was how the measure would be managed, with respondents stating that a lobster could easily lose a claw at any point after being caught:

"We do not believe this can be properly policed as lobsters can drop a claw after they have been landed and at any time after that due to stress and it would be difficult then to identify whose was the responsibility. [Orkney Fisheries Association]"

It was also felt by many that cripples were at a higher risk of predation, and so to return them to the sea would do little to improve the long term health of the stocks:

"It would be of very little if any benefit to the lobster stocks too as cripple lobsters are far more vulnerable to predators and rival lobsters and are far less likely to survive and reproduce." [East Coast respondent]"

Others also cautioned that cripples made up a sizeable portion of their catches for which they received good prices, and that to lose this would impact them financially:

"11% of the lobsters I have landed ... during the period January 2015 to end of March 2016 have been crippled lobsters. With the increase in gunwale rollers in the static gear fleet this percentage is likely to increase in future. There is market demand for cripples and our income would be severely impacted if this measure was introduced." [West Coast respondent]"

"There is a market for cripple lobster i.e. one clawed lobster and as such these should be allowed to be landed, currently and for at least the last five years I have not received a reduced price for these lobsters which is at odds with Marine Scotland claims in the consultation document." [East Coast respondent]"

By contrast, those respondents that did support the proposal (27%) stated that they did receive lower prices for cripples and thus had no issue with returning them to the sea:

“We receive a reduced price form the processor for these cripples therefore returning them to the breeding stock should not pose a problem.” [East Coast respondent]

“There are not many markets that are interested in taking crippled lobsters and they are at a reduced price anyway so I would support putting them back.” [West Coast respondent]

Despite a lack of support for the proposal, respondents still preferred that, if it were to be introduced, it should apply nationally with no areas being exempted.

Marine Scotland response

Prohibiting the landing of ‘crippled’ lobster was opposed by a clear majority of respondents from around the coast.

The main concern was around how a prohibition could be enforced, and many respondents highlighted the ease with which a lobster could lose a claw at any stage after being caught or landed. Trying to determine where in the supply chain a lobster had become crippled could present difficulties for enforcing the measure.

While many in support of the proposal commented that they received lower prices for cripples, a clear view from those opposed was that they saw no difference in prices and that, at certain times of the year, cripples made up a large proportion of their catch. They also disagreed that returning crippled lobster to the sea would result in conservation benefits, believing that they would be an easy target for predators and so were better removed from the fishery.

In light of these considerations, Marine Scotland will not introduce a prohibition on the landing of ‘crippled’ lobster at this time.

Introducing sale and carriage prohibitions

Views were sought on whether prohibitions on the sale and carriage of shellfish should be introduced alongside any of the proposed landing prohibitions, in the event that they were to be implemented across the entire Scottish coast. A total of 100 respondents answered the following related question:

- Q16. Do you support the introduction of prohibitions on sale and carriage to match any landing prohibitions that are implemented on a uniform basis across the entire Scottish coast?

Summary of views received

A majority of respondents (75%) supported the proposal. Those that commented from around the coast were in agreement that shellfish prohibitions should extend beyond being landing measures only:

“Clearly it is necessary to carry the initiative all the way to the first point of sale.” [East Coast respondent]

“Any rule prohibiting landing of anything should also prohibit carriage or sale of same.” [West Coast respondent]

“Think sale and carriage is necessary as then buyers and transporters are accountable.” [Orkney respondent]

Marine Scotland response

The majority of respondents supported the proposal that, where a landing prohibition was implemented uniformly across the entire Scottish coast, matching restrictions on sale and carriage should also be introduced.

As a result of this consultation a new uniform minimum landing size will apply for velvet crab (other landing prohibitions will vary around the coast).

In light of these considerations, Marine Scotland will introduce sale and carriage prohibitions alongside the minimum landing size prohibition for velvet crab.

CONCLUSION

Outcome report summary

As a result of the stakeholder views received for the *Consultation on Landing Controls for the Scottish Crab and Lobster Fisheries*, along with the analysis performed in the preparation of that document and this outcome report, Marine Scotland will be introducing the following management measures:

- The minimum landing size of brown crab will be increased to 150 mm carapace width (excluding Shetland)
- The minimum landing size of velvet crab will be increased to 70 mm carapace width
- The landing of berried velvet crab will be prohibited
- The minimum landing size of lobster will be increased to 90 mm carapace length on the west coast (excluding the Solway Firth).
- The maximum landing size of female lobster will be decreased to 145 mm carapace length (excluding Orkney and Shetland)
- Sale and carriage prohibitions will be introduced alongside the minimum landing size prohibition for velvet crab

Marine Scotland will not be introducing the following management measures at this time:

- A minimum landing size for lobster of 90 mm carapace length on the east coast
- A maximum landing size for male lobster of 145 mm carapace length
- A prohibition on the landing of 'crippled' lobster

Marine Scotland will now begin the process of legislating to bring these measures into force in 2017.

Other issues raised by respondents

Respondents also took the opportunity in their responses to raise for consideration additional management measures not proposed in the consultation. Marine Scotland would like to highlight those issues that were shared by respondents around the coast.

Prohibiting the landing of berried lobster

Some suggested that the landing of berried velvet crab, the landing of berried lobster should also be prohibited in order to protect egg-bearing females.

As a result of this consultation process female lobster will be given additional protection by decreasing the maximum landing size to 145 mm carapace length, and this should help to improve the reproductive potential of the stock and result in greater recruitment to the fishery.

Marine Scotland has also promoted the v-notching of berried lobster in order to remove them from the fishery, as it is an offense to land lobsters that either bear a v-notch or have been mutilated in such a way as to obscure a v-notch. Marine Scotland supplied v-notch clippers to fishermen around the coast in 2014.

However, Marine Scotland can see the potential benefits of restricting the landing of berried lobster and would recommend that this measure be explored through the RIFG network.

Creel limits

There were concerns at a perceived increase in the number of creels being deployed around the coast, and the possible effect this could be having on the health of crab and lobster stocks, with some calling for a limit on creel numbers to be introduced.

Marine Scotland consulted on the introduction of creel limits in 2012. However, a majority of respondents at the time did not support such a measure, and highlighted a lack of data to support its introduction.

Marine Scotland recognises that there is a lack of data on the level of effort in the static gear sector, and to rectify this changes have recently been made to the landing declarations that under 10 metre vessels are required to submit.

Marine Scotland has also been conducting surveys of static fishing gear effort in order to better understand the level of fishing activity taking place in Scottish waters. West coast fishermen were surveyed in late 2015, and east coast fishermen were surveyed during 2016. Marine Scotland intends to publish a report on the findings of these surveys in spring 2017.

Unlicensed/hobby fishing activity

The issue of hobby/unlicensed fishing activity was also raised. While this activity is difficult to measure due to its very nature, there is anecdotal evidence to suggest this is a significant issue in particular parts of the Scottish coast, and one which can increase during spring/summer months.

IFMAC established a short-life working group to discuss this issue and report back with possible actions to reduce the incidence of unlicensed commercial fishing. Based on the working group's recommendations, Marine Scotland consulted on proposed measures for hobby/unlicensed fishermen in 2015.

It was clear from responses to the consultation that there was wide support for the principle that fishermen who are not licensed to fish on a commercial basis should have reasonable restrictions in place to limit the number, per species, of certain shellfish that they can take. Following a further seeking of views in summer 2016, Marine Scotland intends to introduce daily catch limits for hobby/unlicensed fishermen in spring 2017.

Further information can be found at www.gov.scot/Topics/marine/Sea-Fisheries/InshoreFisheries/unlicensed.

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ANNEX A: LIST OF CONSULTATION RESPONDENTS

Organisations

- 10mu Association (Fife)
- Anglo Scottish Fishermen's Association
- Argyll and Bute Council
- Comhairle nan Eilean Siar
- Deveron Shellfish
- Dip Fishing Ltd
- Eyemouth Harbour Trust
- Fife Creel Fisherman's Association
- Firth of Forth Lobster Hatchery
- Galloway Static Gear Fishermen's Association
- Inshore Fishermen's Alliance (South East)
- J. Pieroni & Sons Ltd
- Mallaig & North West Fishermen's Association Ltd
- North East Creel & Line Association
- Northumberland Inshore Fisheries and Conservation Authority
- Orkney Creel Fishermen's Organisation
- Orkney Fisheries Association
- Orkney Fishermen's Society Ltd
- Orkney Sustainable Fisheries Ltd
- Outer Hebrides Regional Inshore Fisheries Group
- Scottish Creel Fishermen's Federation
- Scottish Fishermen's Federation
- Scottish Wildlife Trust
- Shetland Shellfish Management Organisation
- West Coast Regional Inshore Fisheries Group
- Western Isles Fishermen's Association

Individuals*

- Alexander Patience
- Alexander Ralston Johnston
- Allan Beckett
- Barry McCrindle
- Brian Sutherland
- Bryan Beckett
- Daniel Smith
- Daniel Urquhart
- Douglas Chirnside
- Eddie McFarlane
- Eddie Sinclair
- Edward Shearer
- Frazer Scott
- I Williamson
- Ian Clark
- Ian McCuaig
- Ian Stevenson
- James Samuel Dakin
- Jay Mackay
- John Affleck
- John Bruce Cargill
- John Chater
- John McGuire
- John Ross
- Kenneth Morton
- M Anderson
- Neil Brunton
- Neil Cameron
- Neil Milton
- Neil Sinclair
- Neil Teviotdale
- Paul Maguire
- R Stewart
- Richard Mennie
- Richard Scott
- Richard Scott
- Robert Harper
- Robert Wells
- Shaun McGuire
- Steven Hood
- Tommy Yule

*Who gave permission for their names to be published

ANNEX B: SUMMARY OF CONSULTATION RESPONSES

Proposal	All respondents	Mainland respondents
Increasing the MLS of brown crab	Yes 84 75% No 28 25% Total 112 100%	Yes 62 72% No 24 28% Total 86 100%
Increasing the MLS of velvet crab	Yes 89 84% No 17 16% Total 106 100%	Yes 68 84% No 13 16% Total 81 100%
Prohibiting the landing of berried velvet crab	Yes 98 92% No 9 8% Total 107 100%	Yes 73 90% No 8 10% Total 81 100%
Increasing the MLS of lobster	Yes 58 51% No 56 49% Total 114 100%	Yes 35 40% No 52 60% Total 87 100%
Decreasing the MaxLS of female lobster	Yes 63 56% No 49 44% Total 112 100%	Yes 52 60% No 35 40% Total 87 100%
Introducing a MaxLS for male lobster	Yes 55 49% No 57 51% Total 112 100%	Yes 46 53% No 41 47% Total 87 100%
Prohibiting the landing of 'crippled' lobster	Yes 30 27% No 82 73% Total 112 100%	Yes 22 26% No 64 74% Total 86 100%
Introducing sale and carriage prohibitions	Yes 75 75% No 25 25% Total 100 100%	Yes 52 68% No 24 32% Total 76 100%



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