Potting Permit Byelaw Permit Conditions

Proposals to Amend the Potting Permit Conditions to Manage the Live Wrasse Pot Fishery

The Formal Consultation Report

3rd June 2021

Contents

Version	Date	Author/s	Comments
1.0 (Final)	3rd June 2021	N. Townsend, L Henly, James Stewart	Prepared for the B&PSC Meeting to be held on (revised date) 22nd July 2021.

Part 1

1. Aim of the Report & Content

This report (3rd June 2021) has been prepared for Members of the Devon and Severn Inshore Fisheries and Conservation Authority's (D&S IFCA's) Byelaw and Permitting Sub-Committee (B&PSC) and for all stakeholders to examine via its publication on the D&S IFCA website.

This report documents summarised and anonymised information from The Formal Consultation – Amendments to the Permit Conditions to Manage the Live Wrasse Pot Fishery (2021) that ended on 12th May 2021 and is divided into three sections.

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Part One:

Part One of the report provides background information to explain why the consultation was conducted and how it was conducted.

Part Two:

Part Two of the report documents the responses that were received during the formal consultation.

Part Three:

Part Three of the report is focussed on addressing the more technical points that were raised in some of the responses received, thereby providing an "open" response to stakeholders.

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The report includes embedded information (Hyperlinks) that give readers access to additional information. All additional information embedded in this report is freely accessible within different sections of the D&S IFCA Website Resource Library.

2. Process

As with any potential change to flexible permit conditions, a process must be followed as set out in the respective overarching permit byelaw.

The process includes consultation with permit holders, organisations and persons as appear to the Authority to be representative of the interests likely to be substantially affected by the proposed future management options.

Dependent on the decision making of Members, the Potting Permit Conditions will be amended and circulated free of charge.

3. Background Information & Decision Making

On the 25th of February 2021, as part of the formal review of the Live Wrasse Pot Fishery, D&S IFCA's Byelaw and Permitting Sub-Committee (B&PSC) examined a detailed report, a summary report, and were provided with a PowerPoint presentation by the Officers.

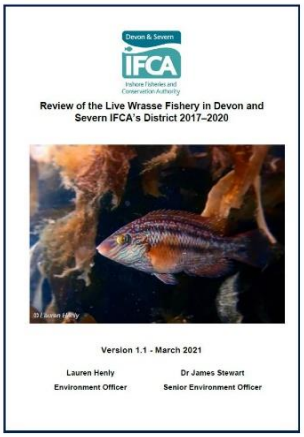
- Review of the Live Wrasse Fishery in Devon and Severn IFCA's District 2017-2020 - February 2021 (V1.0)
- The Live Wrasse Fishery Summary Report for B&PSC 2017-2020 February 2021

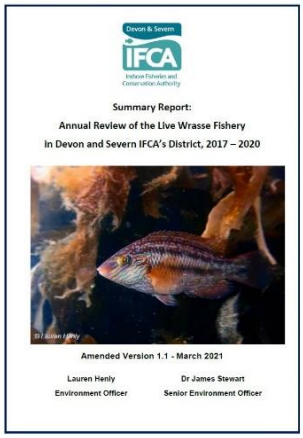
The summary report included four Officers' recommendations for decision making. It was further explained that since the circulation of these reports to members, one of the recommendations relating to a size range for ballan wrasse had been amended in line with information and evidence received by Officers after circulation of the papers. Members were informed why the original recommendation (3) (Conservation Reference Size (CRS) for ballan wrasse) had been amended.

- **The amended recommended for the ballan wrasse CRS range was 18 – 26 cm.**

3.1 Amendments & Best Available Evidence:

Since the B&PSC meeting in February 2021, both reports were amended to reflect the change and now represent D&S IFCA's best available evidence.





Review of the Live Wrasse Fishery in Devon and Severn IFCA's District 2017-2020 – March 2021 (V1.1)

Summary Report – Annual Review of the Live Wrasse Fishery in Devon and Severn IFCA's District, 2017 – 2020 – March 2021 (V1.1).

3.2 B&PSC Decision Making

On the 25th of February 2021, the B&PSC agreed the following:

- ***That D&S IFCA will continue to manage the fishery for 12 months as outlined in the D&S IFCA's Policy Statement and Potting Permit Conditions for the Live Wrasse Fishery (24th June 2020), except in the case of rock cook and ballan wrasse and except with regards to fishers returns forms.***

- ***To change the ballan wrasse CRS range from 15 – 23cm to 18 – 26cm.***

- ***To remove the requirement for wrasse fishers to submit returns forms.***

The B&PSC did not agree with the Officers' recommendation as follows:

- ***To lift the prohibition on removal of rock cook from the fishery and reintroduce previous conservation reference size (CRS) limits of 12-23cm.***

3.3 Preparation for Potential Change to the Potting Permit Conditions

Officers were able to prepare draft Potting Permit Conditions to recognise the expectations of the B&PSC to amend the slot size for ballan wrasse to be 18cm to 26cm, without the need of a full Byelaw Technical Working Group meeting.

It should be noted that paragraph 17 of the Potting Permit Byelaw includes the following provision:

The permit holder shall provide any relevant fisheries information required by the Authority for the discharge of its functions.

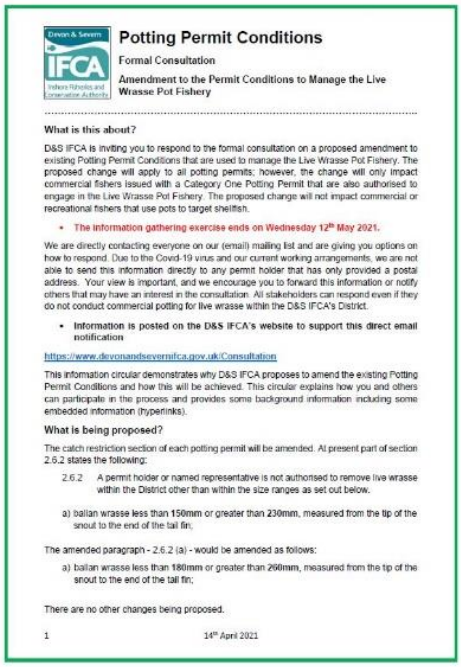
Although this provision remains in place within the overarching Potting Permit Byelaw, this provision has does not represent an obstacle to the decision making to date of the B&PSC. To recognise the decision making of the B&PSC on the 25th of February 2021, Officers will not need to utilise this provision to require fishers to submit landing forms.

Impacts:

Unlike some past changes to the Potting Permit Conditions, the suggested change for the ballan wrasse slot size, does not represent any impact on the majority of fishers that have been issued with potting permits. The potential change would only impact fishers that have both a commercial (Category One) potting permit and additional authorisation to fish for live wrasse. The extent of the potential impact on fishers was highlighted within the formal consultation.

4. How the Consultation was Conducted

The Formal Consultation – Amendments to the Permit Conditions to Manage the Live Wrasse Pot Fishery (April 2021) highlighted background information and demonstrated the proposed wording for amendment within the Potting Permit Conditions. A key aim of the exercise was to provide the opportunity for feedback on the specific proposal that could be summarised and assist with further decision making of the B&PSC. Electronic engagement formed the basis of formal consultation, and a Mail Chimp circular was sent directly to all those on the D&S IFCA consultation mailing list[1].



Potting Permit Conditions

Formal Consultation

Amendment to the Permit Conditions to Manage the Live Wrasse Pot Fishery

What is this about?

D&S IFCA is inviting you to respond to the formal consultation on a proposed amendment to existing Potting Permit Conditions that are used to manage the Live Wrasse Pot Fishery. The proposed change will apply to all potting permits; however, the change will only impact commercial fishers issued with a Category One Potting Permit that are also authorised to engage in the Live Wrasse Pot Fishery. The proposed change will not impact commercial or recreational fishers that use pots to target shellfish.

- The information gathering exercise ends on Wednesday 12th May 2021.

We are directly contacting everyone on our (email) mailing list and are giving you options on how to respond. Due to the Covid-19 virus and our current working arrangements, we are not able to send this information directly to any permit holder that has only provided a postal address. Your view is important, and we encourage you to forward this information or notify others that may have an interest in the consultation. All stakeholders can respond even if they do not conduct commercial potting for live wrasse within the D&S IFCA's District.

- Information is posted on the D&S IFCA's website to support this direct email notification

https://www.devonandsevernifca.gov.uk/Consultation

This information circular demonstrates why D&S IFCA proposes to amend the existing Potting Permit Conditions and how this will be achieved. This circular explains how you and others can participate in the process and provides some background information including some embedded information (hyperlinks).

What is being proposed?

The catch restriction section of each potting permit will be amended. At present part of section 2.6.2 states the following:

2.6.2 A permit holder or named representative is not authorised to remove live wrasse within the District other than within the size ranges as set out below.

a) ballan wrasse less than 150mm or greater than 230mm, measured from the tip of the snout to the end of the tail fin;

The amended paragraph - 2.6.2 (a) - would be amended as follows:

a) ballan wrasse less than 180mm or greater than 260mm, measured from the tip of the snout to the end of the tail fin;

There are no other changes being proposed.

1 14th April 2021

Due to the Covid-19 virus and the restricted working arrangements at the time for D&S IFCA Officers, information was not sent in hard copy format to any permit holder that had only provided a postal address.

Unlike some past consultation work, the opportunity for stakeholders to visit the office and engage in one-to-one discussion with Officers was also not an option that was deemed appropriate or possible due to Covid-19.

Recipients of the direct notification (via email) were encouraged to forward the information or notify others that may have an interest about the consultation.

[1] 1396 contacts received the mail chimp formal consultation circular.

Other Communication

D&S IFCA's website was used to support the formal consultation with information posted on the Consultation display page. News/Information items were also prepared and posted on the website and D&S IFCA's Facebook page. Options were provided to submit a response including a dedicated email address: Consultation@devonandsevernifca.gov.uk

Links to Consultation Information:

Devon and Severn IFCA News

Formal Consultation – Potting Permit Conditions

Pdf version of formal consultation Mail Chimp Circular

Pdf version of D&S IFCA's supporting Website & Facebook News Item

D&S IFCA's Consultation Website page

Part 2: The Submitted Consultation Response

5. Summary

The response to the formal consultation was small. The mail Chimp email circular reached 1396 contacts and 812 of these recipients opened the email. In total, nine responses to the formal consultation were received by Wednesday 12th May 2021. Auto reply email responses have been excluded. The responses included those submitted by organisations and individuals; however, none of the individuals were Potting Permit holders that conduct fishing for live wrasse.

Category	Number of Responses
Recreational Anglers	3
Conservation Organisations	2
Other Organisations	2
Individual Stakeholders (recreational diver/ observer and unknown background)	2
Total	**9**

The majority of responses indicated that they are supportive of restrictions for the Live Wrasse Pot Fishery, but not necessarily supportive of the continuation of the Live Wrasse Pot Fishery. Devon Wildlife Trust, the Wembury Advisory Group and Aquascot Ltd (salmon farm) provided the most detail in their respective responses. One individual stakeholder listed ten bullet points including a couple of technical questions. The content of responses often went beyond the specific proposal as set out in the consultation and raised wider issues or were focussed on elements of the background evidence base.

Technical Responses

Part 3 of this report focuses on addressing the key points or technical elements of the more detailed responses, thereby providing an "open" response to stakeholders.

Shorter Responses

Another stakeholder (background unknown) whist suggesting that the potential management change was reasonable, also inquired about survival rates. Two stakeholders that conduct recreational angling raised similar concerns. Both suggested that in their experience the catch rates had fallen over the last few years and requested that wrasse be left alone to be caught for sport (catch & release). The CEO of NWIFCA responded but had no comments to make of behalf of that organisation.

Selected Quotations from the Shorter Responses

"I am an angler. I only practice catch and release fishing. 95% of my angling is for Ballan Wrasse. Since wrasse (Ballan) have been allowed to be commercially fished for, the numbers of wrasse in our seas have been DECIMATED. The fishery and therefore numbers available to catch has dwindled to catching 1 or 2 fish in 2 or 3 sessions from catching 5-15 in EACH session. I like to think I'm pretty good at catching them. THE FISH ARE SIMPLY GONE. The increase in sizes of fish that can be taken will CERTAINLY worsen the situation. Wrasse were pretty much the last fish with no commercial value. Our seas are being emptied. If fish were any other sort of wildlife, they would be properly protected. The seas and the fish/animals/plants that live in it are the life blood of our planet. ACTION MUST BE TAKEN - PLEASE!!"

"I understand that you are merely here to control and study the fishery to make it sustainable, but I find the whole idea behind removing one fish from its native area to transport it to another area of the country for nothing other than commercial gain abhorrent. It is an immoral practice that should be stopped. As for slots all that will eventually happen is there will be no fish bigger than 160cm due to the fact that fish bigger than the slot will die off and everything within the slot will be caught. Guess potters will then be allowed to rape new areas? What about crab potters who take any size Wrasse for crab bait? Are they to be regulated also? How are you going to monitor a wider fishery which is obviously the commercial sector's ultimate goal? I am a very keen Wrasse angler with a growing influence on social media and I shall be campaigning to get this stopped."

"Not happy at all about this, I'm a pleasure angler and the catch rate has gone right down over the past few years, please leave us some wrasse to catch for sport, the way it's heading we'll all struggle to catch anything at all very soon."

6.1 The Submitted Detailed Responses (Transcript).

Detailed responses were submitted by Devon Wildlife Trust, Wembury Advisory Group and Aquascot (salmon farm). These responses, and one received from an individual stakeholder, have been transcribed below:

Devon Wildlife Trust (DWT).

Potting Permit Byelaw – Live Wrasse Pot Fishery Consultation 2021 – Devon Wildlife Trust comments

Devon Wildlife Trust welcomes the opportunity to comment on the amendments to the Potting Permit Conditions associated with the live wrasse fishery. We also comment on the Review of the Live Wrasse Fishery in Devon and Severn IFCA's District 2017–2020, which has informed the amendments. We first answer the direct questions and then raise our further concerns.

Question 1: What interest do you have in the Live Wrasse Pot Fishery?

Devon Wildlife Trust is Devon's leading wildlife and environmental charity, striving to ensure wildlife can thrive both on land and at sea. DWT (along with the wider Wildlife Trust

movement) has played a key role in the development of the national network of Marine Protected Areas. Flourishing Seas is a theme of DWT's 25-year plan with goals around securing a robust MPA network, sustainable fishing and protection of species. The second goal of our 10-year strategy is that 'Marine wildlife is in recovery in at least a third of Devon's seas'.

Questions 2 and 3: Do you have any comments on the proposed change to the Potting Permit Conditions? If you do not support the proposed changes, please set out your reasons?

While we welcome the increased minimum slot size for Ballan Wrasse from 15 to 18cm and resultant increase in population of smaller individuals, we do not support the increased larger slot size. As Ballan Wrasse are sequential hermaphrodites, with females transitioning to males as they become larger or when there are lower numbers of large males present, it is unclear what impact the removal of larger Ballan Wrasse will have on either male or female populations. There is potential for transition from female to male at smaller size to make up for removed males, with resultant overall reduction in female population.

The decreased CPUE and LPUE of Ballan Wrasse to the landward side of the breakwater, where fishing pressure is highest, suggest that further controls are required here to prevent further reduction of the Ballan Wrasse populations in this area.

As stated in previous years, we also have concerns over the method of reducing catch, in this case for smaller slot sizes. There is little understanding on the mortality rates for returned fish, which means that simply returning unwanted catch may only have limited impact on this species as the process may affect mortality or reproductive potential. Last year's 3-year review suggested a Code of Conduct (CoC) around method of return – we note no mention of this in the latest report but would be keen to see such a CoC brought in as mandatory.

Further comments on the fishery and the Review of the Live Wrasse Fishery in Devon and Severn IFCA's District 2017–2020

We welcome the continued effort that Devon and Severn IFCA has expended on monitoring this fishery over the last four years.

Investigating environmental factors in CPUE/LPUE

We welcome the updated approach to calculating CPUE and LPUE to account for environmental factors. We would ask, however, that all figures for total CPUE and LPUE are reported and consistently across species to enable effective scrutiny.

Ecological impacts

DWT has consistently asked for wider ecological monitoring to understand the ecological impacts of large-scale wrasse removal from the SAC. DWT welcomes the PhD study that is investigating some wider effects of this fishery (e.g., sea temperature, and catch data), but it is critical that impacts of this fishery on the wider ecology are studied. Anecdotal diver reports continue to suggest a reduction in sightings of wrasse in fished areas, together with an increase in fish lice infestations seen on wrasse and other fish species. With Plymouth Sound designated as a SAC, the potential of large-scale alteration of ecosystems must be assessed. We would like to see preliminary results of the PhD study published in regular (at least annual) updates so understanding can be gained early.

HRA, monitoring and non-compliance

It is frustrating that issues of non-compliance are still occurring without any penalty.

Clearly one vessel has consistently failed to both supply 'reliable' returns or assist D&S IFCA officers through enabling observations. Another vessel has not been observed throughout the season even though it was the most active within the D&S IFCA district. Of the seven observations made, all but one were made of a single vessel. While we recognise the efforts made by D&S IFCA officers in monitoring this fishery, it is doubtful as to how representative this is of the fishery and clearly this does not represent a fully monitored fishery.

The discrepancies between returns forms and MMO sales notes make for disheartening reading with only half the landings being reported in returns forms over the last two years and only one third reported in 2018. In addition, those returns forms that were received had poor accuracy and under-recorded in several categories. The Review of the Live Wrasse Fishery in Devon and Severn IFCA's District 2017–2020 suggests the solution is to abandon this monitoring. Were this to be done, the message sent to fishers about their responsibilities for reporting and monitoring fisheries would be disastrous – with implications for other fisheries.

The seven observations also flag up that once again there are incursions into voluntary closed areas, and these are suspected of being repeated after the observed day. Closed areas around seagrass beds are particularly vulnerable to damage – which makes such incursions very concerning, and potentially in breach of Habitats Regulations. Unfortunately, there is only limited information included in the report about this, but it appears likely that the voluntary closed areas continue to be disregarded.

It is essential that byelaws are rigorously enforced by the D&S IFCA to avoid the risks of undermining the purpose and success of this byelaw, and further non-compliance by other fishers. It is essential that a clear message is sent out by the D&S IFCA, and we would strongly recommend that, where there is consistent and ongoing non-compliance, revoking potting permits for this fishery should be the penalty.

We reiterate the points made last year regarding the HRA.

Many of the comments in this letter (once again) echo those in Natural England's letter to the D&S IFCA (dated 21 February 2018 sent in response to the HRA submissions by D&S IFCA) and therefore raise concerns as to whether this fishery is breaching Habitats Regulations. The points above around a fully monitored fishery are key to the HRA, as they are how NE is satisfied that the fishery is taking the precautionary principle. Dealing effectively with non-compliance is also clearly highlighted as is the effectiveness of the voluntary closed areas.

We would ask that Natural England review this report against their previous letter and review their position.

Fishery planning process

The report mentions the timings of the fishery development – with the fishery starting in 2015, the IFCA becoming aware in 2016 and byelaws and monitoring in place in 2017. Live wrasse fisheries in other studies had been fished out in the two-year period it took to instigate the measures for this fishery. A fishery planning process is clearly needed to ensure fisheries cannot start (or continue) without detailed evidence around sustainability of fishery and ecosystems.

Reduction in fishing effort

Once again, there is no explanation for the two thirds decrease in effort and landings over the four years (with the largest reduction from 2018 to 2019). It would be helpful to understand if this reduction was driven by demand or supply.

Poor practice
In addition to the repeated poor practice around reporting, we are aware that pots have been lost without apparent attempt to recover this gear, which now continues to ghost-fish and litter. It should be incumbent upon fishers to retrieve lost gear as soon as possible.

While we recognise the considerable effort of the D&S IFCA in putting in place the potting permit byelaw conditions for this fishery, and the significant resource and expenditure in monitoring the fishery and reviewing the byelaw based on the evidence gained, we continue to have grave concerns around the sustainability of the live wrasse fishery in Plymouth Sound.

Wembury Marine Conservation Area Advisory Group (WAG)
The following was submitted by the Chair of WAG:

We have a particular interest in the live wrasse fishery because:

1. A significant proportion of the fishery occurs within the Wembury Marine Conservation Area and all of it is very close.
2. We are concerned that the removal of large numbers of fish that are territorial and of great ecological importance will damage the Marine Conservation Area.

Our current response is based only on the issue on which you are consulting i.e. the change in size range for ballan wrasse. We note there are other recommendations in the 2021 report on rescinding the prohibition on rock cooks and removing the requirement for fisher returns. Any such changes would cause us considerable concern and we would also want to respond on them. Could you please advise how those recommendations are being regarded?

On the consulted issue alone, we wish to make the following points:

1. We acknowledge IFCA's collection and application of monitoring data to review and amend permit conditions, thus trying to make the fishery more sustainable.

2. While welcoming the proposed return of the slightly smaller ballan wrasse, noting that this is to decrease take of mature reproductive females, we are concerned that the process of capture, retention in the pots and return will affect their reproductive potential.

3. We are also concerned about the impact of removing the slightly larger ballan wrasse as now proposed. In any case, removing more males from the population could presumably induce or accelerate females changing sex to male and still reduce the number of reproductive females. There may also be other unexpected impacts.

4. We also continue to have serious concerns about the overall wrasse fishery because:

- Much of it occurs within the Wembury Conservation Area and is incompatible with the aims of the Area, thus undermining the conservation approach that should be encouraged within the Area.
- It targets territorial fish and can therefore strip them from particular locations.
- Wrasse are of great ecological importance, in food webs and as predators on grazing invertebrates. Their removal can thus affect habitats, such as the kelp forests that are a feature of the rocky reef components of the Plymouth Sound and Estuaries Special Area of Conservation. These habitats are important for a wide variety of species and

there is a large body of evidence, worldwide, that shows how such habitats can be badly affected by removing key predators of invertebrates.
- Wrasse are also important in removing parasites from other fish, which is of course why they are being targeted.
- Wrasse are long-lived fish and any impacts from their removal could be difficult to detect and reverse with adaptive measures. A precautionary approach is therefore essential.
- There are serious animal welfare issues associated with capture and long-distance transport of live, sentient vertebrates.
- Several local divers have reported seeing fewer wrasse than they have been accustomed to in fished areas over recent years.
- Several local divers and snorkelers (including myself) have noted an increase in fish lice infestation on wrasse and other fish such as pollack in the relevant areas over recent years.
- Of its impact on non-target species combined with the lack of data on bycatch. Pots seen underwater have contained significant numbers of territorial fish such as blennies and sea scorpions. Even if these are returned, they may, by then, have lost territories, nests, eggs etc.
- The continued poor return of data from some fishers in breach of their potting permits. We cannot understand why this does not result in revocation of the relevant permits.
- Losses of gear add to marine litter and, even more importantly, continue to 'ghost fish'. There should be an obligation on fishers to recover lost gear wherever possible, in addition to submitting a proper standard of data.

Aquascot Ltd (salmon farm)

The lead of aquaculture innovation sent the following response:

1. What interest do you have in the Live Wrasse Pot Fishery?

Aquascot Ltd is an employee-owned business situated in the Highlands of Scotland and, as a dedicated partner to Waitrose since 2003, we specialise in producing a range of salmon and sea-grown trout products and in engaging with our farming partners to ensure a fully responsible supply. In accordance with the Waitrose Agricultural Plan our intent is to 'ensure everything we source from the sea is responsibly fished or farmed'. As such, our "Aquaculture Protocol" outlines expectations of our suppliers in a selection of key practices which includes sea lice management, inclusive of cleaner fish use. Where farming partners are using wild-caught cleaner fish, as opposed to farmed cleaner fish, it is our expectation that they must be sourced from sustainably managed fisheries. As such we have a vested interest in the D&S IFCA wrasse fishery, but more broadly the national live wrasse fisheries sector.

2. Do you have any comments on the proposed change to the Potting Permit Conditions?

Responsible and sustainable management of wild wrasse stocks is essential as long as captive production cannot meet the demand of the salmon farming sector. To this end, explicit and robust fishery management guidance is to be encouraged. However, it is of note that as commercial fishing for these species is in its infancy, the available empirical data for these species in question is lacking. In terms of fishery management guidance, there is a lack of information with respect to variance across the natural range in key physiological parameters like growth rate, size/age at maturation etc. These parameters, when combined with CPUE and similar exploitation data, are key in informing management practices going forward. We would therefore highlight the need for further research to define key relevant reproductive physiology parameters for Ballan wrasse (and all other target species) in all commercial

fisheries as a matter of some urgency. The recently advertised PhD "Developing management guidance for supporting a sustainable wrasse fishery in Scotland" hosted by Aberdeen University and Marine Scotland Science is the form of initiative that should be encouraged to provide these vital base lines. We would therefore urge the D&S IFCA to engage with similar processes to ensure there is both a local, as well as nationally, relevant understanding of wild wrasse stocks.

Specifically with respect to the adjustment in catch size limits, there should be awareness around divergent fishery guidance as this risks bringing confusion in supply chains, as well as regulatory monitoring, but equally could inadvertently shift commercial pressure to certain fisheries if regulations were considered to be commercially favourable (e.g. availability of larger animals). To this end, both **recommendation 2 and 3** for the D&S IFCA wrasse fishery are divergent from the Marine Scotland mandatory wrasse size limits:

Species	**D&S IFCA**	**MS Mandatory size limits**
Rock Cook (*Recommendation 2*)	12 – 23 cm TL	12 – 17 cm TL
Ballan Wrasse (*Recommendation 3*)	18 – 26 cm TL	12 – 24 cm TL

The permission to retain larger animals could have significant influence on stock recruitment thus we would argue that more research is required to assure that these size limits are appropriate to the sustainable management of the fishery.

Furthermore, it must be recognised that within the size range set for the five species, there is some ambiguity in external phenotype and therefore a question could be raised as to the accuracy of species capture records. SOPs for species identification along with independent qualification and thus validation of exploitation estimates for each species should be established to assure informed and sustainable management going forward.

More specifically with respect to **recommendation 3**, while the explanation for the elevation of CRS limits has been provided, "i.e. lower future retention rates", there is no recognition that this adjusted CRS scenario will result in a 75% reduction in returns of fish above the set catch limit. These larger and thus older individuals (5 year vs 2-3 year; Leclercq et al 2014) which would now be included within allowable catch, will arguably have a greater contribution to stock recruitment through their increased absolute fecundity. Expanding the upper limit of the CRS from 23-26cm TL translates to the permitted removal of fish of the size range of 180-260 g (Leclercq et al 2014), which if sexually mature could individually produce approximately 27,00-39,000 eggs each year (Based on a fecundity estimate of 150,000 eggs per Kg body weight (Davies 2016)). We would argue that there is not enough available data on the fishery and the species to truly balance if a "lower total future retention rate" is the most beneficial approach for the local stocks, over protection of larger mature females which will directly contribute to stock recruitment. Therefore, we would suggest further research should be encouraged to provide the scientific basis to ensure sustainable exploitation of the stocks and to justify regional differences should they continue to exist.

Finally with regards to **recommendation 4**, we would like to see assurances that observer-based surveying will be supported to the required level to maintain the necessary data collection for the fishery.

Ultimately, we consider it should be the aspiration of all stakeholders that wrasse pot fisheries are brought under the umbrella of a sustainable management initiative like a Fishery Improvement Project to ensure the long term sustainable management of the stocks nationally.

3. If you do not support the proposed changes, please set out your reasons?

The lack of required scientific data on the species and the fishery makes it difficult to advocate either for or against, thus our concerns are raised in the comments above.

Individual Stakeholder

From the responses received from individual stakeholders, the following was the most detailed:

1. My interest in the South Devon live wrasse fishery is as an amateur observer of undersea natural history. My background is as a BSAC Advanced diver who has dived the Wembury Voluntary Marine Reserve for 25 years. My particular interest is in Heybrook Bay which provides a microcosm of the Reserves environment.
2. I have previously provided my observations to IFCA on the local wrasse population and have responded to previous consultations.
3. I support the proposed change to the Permit Conditions in the hope that it may help towards the sustainability of the local ballan wrasse population. But the local wrasse population are facing an uncertain future.
4. I have dived Heybrook Bay four times this year, three in April, once in May 2021. Water temperatures between 8 deg. C and 10 deg. C. This amounts to about four hours of observation from the shore down to about 10 metres. My impression is that the numbers of corkwings and ballan wrasse are down, rock cooks and goldsinny completely absent.
5. Whilst the Conditions call for fish outside the size limits to be returned, I would like to see a sample of returnable fish be examined to ascertain their viability to survive. I have noticed over the last several years an increasing number of isopod infestations on wrasse in the Bay. Is there a connection?
6. I would like to see unannounced inspection and verification of the records of wrasse catches.
7. The area has already been potted heavily this year. I cannot verify that the wrasse pots are in use. The strings of pots appear to be unnumbered although I cannot verify this conclusively.
8. The area of the Voluntary Marine Reserve represents an eco-system that is the result of balanced evolution. The wrasse population has, in my view, already suffered an intrusion, for instance the complete absence of rock cook in Heybrook Bay.
9. The consequences of the fishery are unknown, but it is inappropriate to continue taking wrasse from the local population. The fish are as important a heritage to the future as terrestrial flora and fauna.
10. I have previously provided my observations on 2020 to IFCA and I would like to have these added to this response.

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Part 3:

Addressing the Technical Points Raised in the Consultation Responses

7.1 Overview of the Detailed Responses

The largest responses were received from Devon Wildlife Trust (DWT), Wembury Marine Conservation Area Advisory Group (WAG) and Aquascot Ltd. (a Scottish salmon producer). Although responses contained differing levels of detail and reasoning for the views taken, the general theme was support for the increase in the minimum CRS, but a concern about the increased maximum CRS. Other concerns were raised about the fishery in general and some responses also voiced concern over the other recommendations outlined in the recent 'Review of the Live Wrasse Fishery in Devon and Severn IFCA's District 2017–2020' report. Although there was only a single item proposed within the Formal Consultation, D&S IFCA's Officers have attempted to address all of the concerns highlighted within the responses received.

7.2 Officers' Analysis

D&S IFCA Officers have considered the points that have been raised in responses to the Formal Consultation, particularly from DWT, WAG and Aquascot and have set out information in this report to provide clarification on the specific points. In doing so, the officers' analysis also recognises the underlying concerns highlighted in other responses submitted during the formal consultation.

7.2.1 Conservation Reference Size (CRS) Limits

Many respondents, including DWT and WAG, welcomed the proposed increase in the minimum CRS for ballan wrasse from 15 cm to 18 cm and recognise the resulting benefit of protecting some of the smaller ballan wrasse and decreasing the removal of a proportion of mature reproductive females. However, there was some concern over the proposed increase in the maximum CRS from 23 cm to 26 cm, particularly due to the potential for female wrasse to transition to male at a smaller size to compensate for the greater removal of males. In the February 2021 report to the B&PSC, D&S IFCA acknowledged the potential for plasticity of the size at sexual maturity and size at sexual inversion for ballan wrasse at a local scale, as a result of social cues such as the absence of functional males in a population. In that report, D&S IFCA also highlighted that "In any fishery it is necessary to protect a proportion of mature individuals of both sexes in order to ensure enough breeding individuals survive to breed and support the population." Further addressing these comments requires an exploration of the relevant research as it relates to ballan wrasse maturity and sexual inversion, as outlined below.

There are a number of estimates in the literature of the length at sexual inversion and length at sexual maturity, for populations of ballan wrasse spanning the natural species distribution (e.g. from Norwegian to Spanish populations, Figure 1). It is likely that the lengths at maturity and sexual inversion for ballan wrasse in Plymouth Sound lie within the wide-ranging estimates presented in Figure 1. D&S IFCA therefore believes that the proposed CRS range for ballan wrasse (18–26 cm) will afford protection to a large enough proportion of both females and males in the population, including large, fecund individuals of both sexes, to sufficiently minimise the risk of a shift in the length at sexual inversion (see Figure 1 for full explanation).

Aquascot highlighted that the change in CRS range will result in a 75% reduction in returns of ballan wrasse above the current maximum CRS limit and raised concerns about what impact

this reduction would have on the stock recruitment. D&S IFCA recognises that larger and older ballan wrasse are likely to have a greater contribution to stock recruitment through their increased absolute fecundity. However, as Figure 1 suggests, the proposed change in the ballan wrasse CRS range will not only shift some of the fishing effort away from the smaller, recently mature females, giving this size class a chance to contribute to overall stock recruitment, but will also continue to protect many of the larger, more fecund mature females (>26 cm).

Furthermore, as D&S IFCA highlights in the report to the B&PSC, these larger wrasse are less likely to be caught in the wrasse traps (manufactured by Carapax) used in the district as the pots are "designed to exclude bigger fish". The largest wrasse caught during the observer surveys across the 2017–2020 period was 30 cm, but the frequency of capturing wrasse this large was low which is likely a result of the design of the pots. Research from the PhD student at the University of Exeter (Henly et al., unpubl. data) has recorded higher frequencies of large ballan wrasse on diving surveys in areas of the district that are frequently targeted by the commercial fishers. Ballan wrasse 30–45 cm (occasionally up to 50 cm) are also frequently caught by recreational anglers in the district (Henly, in prep); recreational anglers, pers. Comm.). These much larger fish are more likely to be male, and it is important to note that sexual inversion can be cued by the *absence of functional males*; therefore, the retention of the large males in the population in addition to the non-fished smaller males may be sufficient to prevent large-scale inversion of large females to male.

Aquascot highlights that "the need for further research to define key relevant reproductive physiology parameters [including growth rate, size/age at maturation] for Ballan wrasse (and all other target species) in all commercial fisheries [is] a matter of some urgency". Whilst a local assessment of the relevant reproductive physiology parameters for each species of wrasse would be the ideal for management decisions, these localised data are not available for most fisheries, and limitations in time and resources prevent D&S IFCA from undertaking such research independently. D&S IFCA relies on evidence-based decision making for marine management, which is underpinned by sound evidence, monitoring and evaluation. In pursuing this approach, D&S IFCA must seek to ensure that our decisions can be justified objectively and take account of all relevant environmental, social and economic matters. In reaching decisions based on the best available evidence, D&S IFCA must take a risk-based approach that allows for uncertainty and that is in line with sustainable development policy, including consistent application of the Precautionary Principle while seeking to balance its statutory duties as set out within the Marine and Coastal Access Act 2009. A thorough literature review was undertaken, and the initial management measures introduced in 2017 were based on best evidence and practice from the literature. Some of these initial measures have now been amended through D&S IFCA's permit-based approach to the fishery, which allows for rapid changes to management in response to analysis of all data collected. With every annual report on the Live Wrasse Fishery, D&S IFCA endeavours to account for the best available evidence, including recent surveys and the most up-to-date published scientific literature. D&S IFCA has also collaborated with a PhD student at the University of Exeter studying "The Live Wrasse Fishery - Ecological and Fishery Considerations for our Inshore Reef Ecosystems" to ensure the most recent evidence regarding the state of the fishery on the south coast of the UK is taken into consideration before management recommendations are made and will welcome further collaboration with the new PhD student hosted by Aberdeen University and Marine Scotland Science.

Aquascot further highlighted the divergent fishery guidance across the main fishery locations in the UK (particularly between D&S IFCA CRS ranges and the Marine Scotland mandatory wrasse size limits). D&S IFCA's management measures (including the species-specific CRS

ranges) were introduced based on best available evidence and practice following a thorough literature review in 2017. Marine Scotland's mandatory wrasse size limits were introduced in 2020 following a formal consultation, for which D&S IFCA submitted a detailed response outlining the evidence base for the management measures in the D&S IFCA's District at the time and recommendations for monitoring and review of the Scottish minimum and maximum landing sizes. In the response to the formal consultation, D&S IFCA highlighted that the landing size range for ballan wrasse in Scotland is "considerably wider than that implemented by D&S IFCA and explained the importance of having a narrower slot size that protects a subset mature individuals of both sexes.

D&S IFCA's permit-based approach to the fishery allows for rapid changes to management in response to analysis of all data collected. The analysis presented in the "Review of the Live Wrasse Fishery in Devon and Severn IFCA's District 2017–2020" highlighted that the relatively high retention rate combined with the life history characteristics of ballan wrasse likely caused the decline seen in CPUE and LPUE of the species between 2017 and 2018. Based on the estimates of length at maturity and sexual inversion in the literature D&S IFCA has recommended an adjustment to the management measures that address these likely causes of stock decline. D&S IFCA encourages a more joined-up approach to management across the UK (including with other IFCA Districts on the south coast of England, and in the Scottish fisheries) and internationally (e.g. Norway and Sweden), where beneficial and where the processes for such alignment are within the resource capabilities of the relevant organisations. The proposed CRS range for ballan wrasse in the D&S IFCA's District (18 – 26 cm) is more in line with the measures adopted by Southern IFCA, whose recent report found no decline in ballan wrasse LPUE across a three year period (Smith and Henly, 2021), and with recommendations recently made for the Norwegian fishery (Halvorsen *et al.*, in prep).

Finally, Aquascot also highlighted their perception that changes to the CRS limits in D&S IFCA's District may risk an "inadvertent shift of commercial pressure to certain fisheries if regulations were considered to be commercially favourable". However, it is important to note that D&S IFCA's Potting Permit Byelaw Permit Conditions have a 120-pot limitation for each permit holder and D&S IFCA has outlined that any increase in the number of vessels entering the Live Wrasse Pot Fishery (above 4 vessels) will trigger a review of the Permit Conditions for the Live Wrasse Pot Fishery and may lead to further changes to the Potting Permit Conditions, which may include a reduction in the number of pots per vessel. Based on these conditions, if there is a shift of commercial pressure to the D&S IFCA Live Wrasse Fishery following any changes to CRS ranges for ballan wrasse, D&S IFCA would be able to review the pot limitation Permit Conditions if necessary, to ensure the continued sustainability of the fishery.

Some respondents expressed concern about the potential for removal of rock cook from the fishery to be allowed again, and the inclusion of the previous CRS limits for rock cook (12–23 cm) in the Potting Permit Conditions. These actions were recommended in the most recent report on the Live Wrasse Fishery and were considered at the February 2021 meeting of D&S IFCA's Byelaw and Permitting Sub-Committee. However, the Sub-Committee determined that these changes would not be appropriate at this stage, so were not included in the consultation process. Any rock cook wrasse caught by fishers are not to be landed or retained on board.

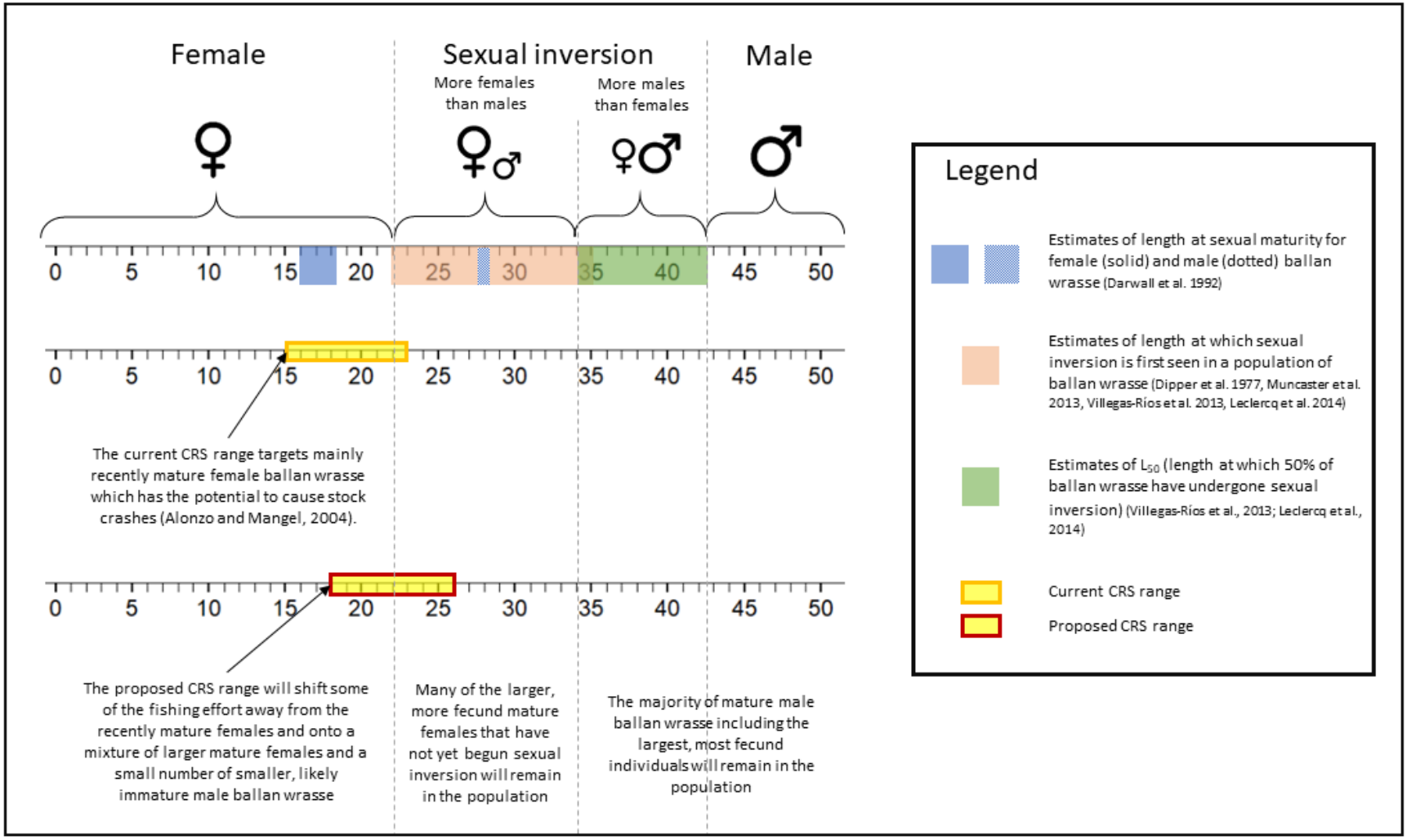

Figure 1: Adapted from Henly (in prep). Length of ballan wrasse (cm) on scales from 0–50 cm. The *top* scale shows the evidence from the literature for length at sexual maturity for female (solid blue) and male (dotted blue), the length at which sexual inversion is first seen in a population (red) and estimates of the L_{50} (length at which 50% of the population have undergone sexual inversion). The *middle* scale shows the current conservation reference size (CRS) range for ballan wrasse in the D&S IFCA District, and the *bottom* scale shows the proposed CRS range following analysis of the 2017–2019 data. Vertical dotted lines represent the estimates of significant changes in sex ratios of wrasse.

7.2.2 Ballan Wrasse Decrease in LPUE Landward of Plymouth Breakwater

DWT suggested that the decline in LPUE (and CPUE) on the landward side of Plymouth breakwater indicates that further controls are required in this location to prevent further reductions in ballan wrasse populations. Firstly, D&S IFCA would like to clarify that the decline in CPUE observed for ballan wrasse was not location-specific, and a significant decline was only observed between 2017 (the year with the highest fishing pressure) to 2018. CPUE of ballan wrasse in 2019 and 2020 were statistically similar to the levels observed in 2017. This could therefore be considered as evidence of recovery in ballan wrasse populations in Plymouth Sound as a whole following a year of more intense fishing pressure (2017). The decline in LPUE across this period was only evident on the landward side of the breakwater, again with the largest decline seen between 2017 and 2018, which suggests that the decline in CPUE from 2017 to 2018 was mainly driven by 'in-size' fish on the landward side of the breakwater.

There is some evidence that could suggest these declines are a response to fishing pressure over the study period, however it is not possible to rule out possible confounding effects such as poor recruitment, increased natural mortality or declines in prey species across the study period, which D&S IFCA was unable to study here. Assuming the declines were a result of fishing pressure and looking more closely at the results of the ballan wrasse size GLMs in the report to the B&PSC (Figures 4 and 5 in the report), D&S IFCA show that ballan wrasse on the landward side of the breakwater are significantly smaller in size than those on the seaward side. This combined with the resulting increase in returns of recently matured females and other benefits of the upward shift in the CRS range from 15–23 cm to 18–26 cm (outlined in Figure 1) suggests that the change to ballan CRS limits will have a disproportionately positive affect on ballan wrasse populations on the landward side of the breakwater. D&S IFCA therefore believes that the change in CRS limits alone will be sufficient to protect the populations in this area.

WAG highlighted that wrasse are territorial fish, which D&S IFCA acknowledges leaves them vulnerable to local stock depletions if fishing pressure is too high. However, the updated approach to the statistical analysis, including monitoring finer-scale geographical variation in CPUE and LPUE, would be more likely to detect any local stock depletions. No significant interaction effects between year and broad fishing areas were found for any species, which suggests that none of the geographical locations tested have experienced stock depletion. D&S IFCA is happy to further investigate particular locations of interest following concerns of local stock depletion of species that are raised (see response in section 7.2.6. regarding concerns around the Heybrook Bay area).

7.2.3 Species Identification

Aquascot suggested there is likely to be some ambiguity in external phenotype of the different wrasse species across the size ranges that can be removed from the fishery and questioned the accuracy of the species capture records. D&S IFCA has developed detailed Standard Operating Procedures (SOPs) for species identification and survey methodology, to which all survey officers are trained prior to undertaking any observer surveys. There are clear distinguishing features between all five wrasse species, which all survey officers review before and during each survey. Therefore D&S IFCA is confident of the accuracy of the species records obtained during observer surveys.

7.2.4 Method of Reducing Catch

DWT, WAG and other respondents raised concerns over the method of reducing catch (i.e. increasing returns) and the poor understanding of the mortality rates and other impacts of returned fish that have been caught in fish traps. DWT correctly highlighted that the Three-Year Review of the Live Wrasse Fishery included a recommendation from D&S IFCA's Officers to consider a code of conduct regarding method of return. This recommendation was considered thoroughly but was not taken forward because a code of conduct that recommends the onboard retention of live wrasse that are outside the CRS range would be in direct conflict with the Permit Conditions of the Potting Permit Byelaw, which prohibits the onboard retention of these wrasse (and of rock cook wrasse altogether). This would jeopardise successful enforcement of the Potting Permit Byelaw and Permit Conditions. However, it is D&S IFCA's understanding that the fishers are aware of the benefits of returning wrasse to the sea alive and that, where possible, fishers take steps to avoid mortality due to gull predation. Fishers in the District are also aware of the potential for the process of fishing to induce barotrauma if fish are brought up from depth too quickly and undertake their pot hauling in such a way as to avoid this.

One consultation response suggested that research should be undertaken to examine the survivability of fish that are returned to the sea. While D&S IFCA acknowledges that the mortality of fish caught and returned to the sea is unknown, it appears unlikely that simple catch and release would be associated with high mortality. This inference is based on the best available evidence – the transport documents for wrasse from Plymouth Sound to Scotland indicate that, of the 18,120 wrasse supplied in 2019, 108 were dead on arrival. This indicates a survival rate of 99.4% between holding pens and their final destination in Scotland after a long road journey and is based on a sample size larger than any study of catch and release mortality of which D&S IFCA is aware. In addition, anecdotal reports suggest low mortality of fish retained in holding pens between capture and transport.

Whist D&SIFCA are not aware of any empirical evidence of an impact on wrasse reproductive potential as a result of retention in pots, the lack of a decline in CPUE and LPUE across years for all species apart from in ballan wrasse (where a decline was only seen between 2017 and 2018, linked to higher fishing pressure) suggests reproductive potential of the population as a whole is at least preserved enough to sustain the population at the current levels.

7.2.5 Investigating Environmental Factors in CPUE/LPUE

DWT welcomed the updated approach to calculating CPUE and LPUE but asked for figures of total CPUE and LPUE to be recorded and consistently across species to enable effective scrutiny. D&S IFCA would like to highlight Table 2 in the report to the B&PSC, which records the total number of wrasse landed (from fishers returns forms and sales notes) as well as total LPUE. Total CPUE from observer surveys was not calculated as the evidence in Henly et al. (2021) and the report to the B&PSC show that it is important to consider the species separately for management as the main drivers of variation in CPUE and LPUE vary between species. Combining all species to report total CPUE would risk erroneous conclusions regarding the sustainability of the fishery.

With regard to the second request from DWT to record CPUE and LPUE consistently across species, D&SIFCA have specifically chosen a modelling approach that allows the models that best fit the data to be identified through a process of model selection. By forcing the models to contain all of the same predictors we would risk masking important effects. A key example to illustrate the necessity of the approach taken is that of rock cook CPUE. Rock cook catches

vary significantly between geographic areas, and the fishing effort varies spatially between years. Forcing year to be included as a variable here would prevent selection of the most appropriate model (that containing broad fishing area) using our published model selection and validation processes, effectively masking the effect of broad fishing area and make it seem as though CPUE has declined between years, whereas it is simply different between areas. D&S IFCA highlights this in the discussion and the Appendices where the model selection process is explained in detail, demonstrating the importance of avoiding detection of a false year effect compared to previous analyses that did not account for variation in fishing effort between locations and years.

7.2.6 Ecological Impacts

With reference to the point DWT makes regarding the need for studies on the ecological impacts of wrasse removal from the SAC and the ongoing PhD research from the University of Exeter, D&S IFCA would like to highlight the recent publication from the PhD student Henly et al. (2021). Unfortunately, sensitivities around publication do not allow publication of preliminary results, however, the PhD student is committed to disseminating research findings prior to publication when possible. The COVID-19 pandemic has caused several delays to the lab work required for the studies of the ecological impact of wrasse removal. But the work will soon be restarted, and findings will be reported in due course.

D&SIFCA are familiar with the body of literature that shows how kelp forests can be affected by the unsustainable removal of predators of invertebrates. Other than the decline in ballan wrasse CPUE and LPUE between 2017–2018, no other species of wrasse showed a significant decline in CPUE or LPUE across years. As an addition to this year's report to the B&PSC, D&S IFCA was able to statistically test for differences in catch composition (i.e. wrasse assemblage composition) between years. As highlighted in the report the differences in catch composition between years can be "explained by differences in spatial patterns of fishing effort between years and seasonal variation in wrasse catches within years". The assemblage composition of wrasse does not appear to have been significantly altered across the 2017–2020 period, so D&S IFCA has no reason to suspect indirect ecological changes are occurring as a result of altered species abundance. The PhD student at the University of Exeter will be investigating the relative ecological niches of the different species of wrasse and the D&S IFCA permit-based management system remains adaptive and agile enough to respond to this new evidence as and when it becomes available.

WAG highlight that wrasse are long-lived fish and any impacts from their removal could be difficult to detect and reverse with adaptive measures. They suggested that a precautionary approach is therefore essential. Effects of wrasse removal on the rock features with which they are associated is unclear as their ecological importance has not been quantified. D&S IFCA is liaising with a PhD student at the University of Exeter whose research seeks to fill some key knowledge gaps. Given these knowledge gaps, D&S IFCA is taking a precautionary approach to managing the wrasse fishery, by acknowledging that maintaining wrasse stocks within the SAC could be important to the ecological function of the rocky reef ecosystem.

WAG highlight that the fishery is active in Wembury Marine Conservation Area (WMCA) and suggest that the activity undermines the conservation approach that should be encouraged in the area. D&S IFCA acknowledges and understand the ecological importance of the Wembury Marine Conservation Area and the surrounding Plymouth Sound and Estuaries SAC. D&S IFCA must seek to be proportionate in the management response, and take into account all environmental, social and economic impacts of fisheries and their management. An assessment of the potential impacts of potting has been undertaken for Plymouth Sound SAC

(which includes WMCA) and Natural England recognise that D&S IFCA has given consideration to wrasse as part of the faunal component for reef communities, and suitably assessed both direct pressures (abrasion) and indirect pressures (target/non-target species). Assumptions have been made that as long as wrasse stocks are maintained within the SAC, then whatever ecological function wrasse species perform will continue to be carried out. Doing this ensures important attributes such as species composition of SAC reef communities (and therefore Conservation Objectives of the designated site) will be maintained. The assumption that maintaining wrasse stocks within MPAs is important remains a suitably precautionary approach regarding management of this fishery. This principle remains valid given the lack of a full understanding of the role of both the wrasse assemblage and individual wrasse populations on the ecology of designated reef habitat. This principle is consistent with Natural England's advice to other IFCAs on management of the live wrasse fishery within MPAs.

Additionally, it is important to highlight the significant reduction in effort of the wrasse fishery over the 2017–2020 period. Figure 1 in the report to the B&PSC shows how the spatial distribution of effort has changed over the four-year period and D&S IFCA emphasises that the effort has declined in WMCA over this time.

A response to the formal consultation and observations of wrasse abundance in Heybrook Bay from a local diver in the District were received. This diver highlighted concerns that the numbers of corkwing and ballan wrasse had declined since previous years and believes that rock cook and goldsinny wrasse are now completely absent from the site. DWT and WAG echoed these concerns. Since receiving these observations D&S IFCA has looked in depth at the observer data, and although very few strings were surveyed directly in Heybrook Bay, Officers have calculated the proportions of species caught each year in grid cell N14 (containing Heybrook bay and the surrounding area). The total number (not corrected for fishing effort) and proportions of each species caught during each year of observer surveys in grid cell N14 are presented in Table 1. Individuals of each species of wrasse were present in grid cell N14 in each year, therefore D&S IFCA does not have any reason to believe that goldsinny and rock cook are completely absent from the area.

Whilst the proportions of the different wrasse species caught in grid cell N14 show high variability across years (e.g. between 10% and 66% of the catch for rock cook; Table 1), an unpublished research project from the PhD student at the University of Exeter assessing wrasse numbers using visual surveys on underwater line transects in Heybrook Bay and other locations in Plymouth Sound between July and October 2019. These surveys showed that there was high variation in wrasse counts between transects, even at the same site on the same day (Henly, in prep.). Due to this high variation, the student carried out a 'power analysis', which allows an assessment of how much data would be required in order to confidently and robustly identify differences in wrasse numbers between sites. The power analysis based on the survey data suggests that to confidently identify differences in wrasse numbers between sites, at least 44 line transects at each site would need to be surveyed, in approximately the same locations at each time point. This means that in order to detect differences between time points (e.g. at the start vs the end of the fishing season) at the same site, we would likely need to undertake similarly large numbers of transects at the start and end of a monitoring period (e.g. 40+ transects at the start of the season and 40+ transects at the end of the season).

The observations from the diver in Heybrook Bay were based on a total of four dives in April and May 2021 (up to the time of the consultation response) and a total of eleven dives in 2020 May and October 2020. Although such observations are useful to guide specific investigations into changes in local wrasse abundance, the highly variable nature of wrasse numbers within a specific location makes it difficult to know whether the observations reflect actual changes in wrasse abundance.

Table 1 Total numbers (not corrected for fishing effort) and proportions of each wrasse species caught during observer surveys in each year in grid cell N14 (Heybrook Bay and the surrounding area).

	2017	2018	2019	2020
Ballan	6.4%	1.7%	3.0%	8.0%
Corkwing	6.4%	1.7%	64.2%	30.1%
Goldsinny	46.2%	46.6%	22.4%	32.5%
Rock cook	41.0%	66.0%	10.4%	29.4%
Total	**78**	**116**	**67**	**83**

The diver, DWT and WAG also raised concerns over increased observations of isopod infestations on wrasse in Heybrook Bay over the last several years. Whist D&S IFCA Officers to not routinely record the incidences of parasitism on the wrasse caught during observer surveys (some notes are made when it is possible), it is highly likely that similar numbers of diving transects (i.e. 40+ at each time point) would be required to robustly assess changes in isopod abundance. D&SIFCA will update the wrasse survey Standard Operating Procedure (SOP) to include a requirement for officers to note when isopod parasites are present on wrasse. This way the proportion of wrasse carrying parasites can be monitored and assessed against past fishing effort.

7.2.7 Assessments, Monitoring and Non-Compliance

Habitat Regulation Assessments

DWT reiterated points made in a previous consultation about Habitats Regulations Assessments (HRAs) and questioned whether the fishery is breaching Habitats Regulations. DWT's previous points about HRAs were made regarding HRAs for fish traps that were completed by D&S IFCA in 2018. As outlined previously, D&S IFCA subsequently resolved to review the HRAs. This process was completed in 2020, and Natural England provided their advice on the revised HRAs.

As outlined in Natural England's formal advice (available here), Natural England have considered the Habitat Regulations Assessments (HRA) prepared by D&S IFCA for the purposes of making an assessment consistent with the provisions of Article 6(3). Assessments have been made of the effects of the following fisheries activities within Plymouth Sound and Estuaries SAC and Tamar Estuaries Complex SPA: Fish Traps vs. Rock; Fish Traps vs. Subtidal Sediments; Fish Traps vs. Intertidal Sediments; Fish Traps vs. Seagrass; Fish Traps vs. Shad. Natural England are content that the best available evidence has been used by D&S IFCA to carry out these assessments to determine whether management is required to ensure the protection of site features from direct and indirect impacts of collection of marine fisheries resources. It is Natural England's view that IFCA officers have appropriately identified: (1) activities likely to have a significant effect on site conservation objectives; and (2) any

management measures required in order to ensure there will be no adverse effect on the integrity of the European Marine Site(s).

Natural England believes that any foreseeable risk or harm to designated sites has been appropriately assessed. Natural England further believe that D&S IFCA's ongoing commitment to monitoring this fishery, together with the application of the current thinking on adaptive risk management, provides an appropriate mechanism for re-assessing this risk. This view is based on Natural England's current knowledge of the impact of relevant fishing activities on designated site features.

As in their 2020 response, DWT have suggested that Natural England review D&S IFCA's wrasse fishery report against Natural England's previous HRA advice and review their position. As highlighted previously by D&S IFCA, the process for reviewing the HRA lies with D&S IFCA rather than with Natural England. Natural England's advice on the HRAs completed in 2020 included a recommendation to review the HRAs after a period of one year (by August 2021). D&S IFCA has committed to this review and has moved the review process forward so that it is complete before the start of the fishing season in July 2021. The HRA review will build on the HRAs completed last year and account for the best available and most up-to-date evidence. These HRAs will then be submitted to Natural England for their formal advice.

Monitoring

Aquascot requested assurances that observer-based surveying will be supported to the required level to maintain the necessary data collection for the fishery. Observer surveys have been strongly supported by both the Byelaw and Permitting Sub-Committee and the full Authority, and the requirement for continued observer surveys is outlined in D&S IFCA's Annual Plan for 2021–2022. D&S IFCA's Officers will continue to strive to achieve even spatial-temporal coverage of the wrasse fishery through these surveys, in addition to achieving representative survey coverage across the vessels participating in the fishery. These efforts should be understood in the context of the nature of inshore fishing (which is subject to interruption and delay due to weather, mechanical faults and fisher availability) and the limited resources available to D&S IFCA, which has a small team to cover the largest District of the mainland IFCAs.

Respondents to the consultation noted the discrepancies between returns forms and MMO sales notes. As previously highlighted by D&S IFCA, there are several sources of these discrepancies, which rarely relate to poor reporting by fishers: i) the transport data provided to the MMO include those wrasse caught and landed from the Cornwall IFCA side of Plymouth Sound (these data are not included in landings forms provided to D&S IFCA), ii) at the time of reporting, the time periods covered by the landings forms in each year were different to those covered by sales information from the MMO, iii) the landings data do not include data from Vessel 3 (which will not be active in the fishery for 2021–2022) DWT suggested that removing the requirement for fishers to submit returns forms would be disastrous in terms of the message sent to fishers and the implications for other fisheries. D&S IFCA maintains that this is not the case. D&S IFCA's Officers are resource-limited and must focus their monitoring, assessment and reporting on those aspects which provide reliable, robust information about the state of the fishery. Analysis of the data to date has shown that this will be best achieved for the wrasse fishery by focusing on the data gained via observer surveys. Removing the administrative burden of landings forms allows more time to be spent on survey work with fishers, productive monitoring, and analytical assessment methods. The removal of the requirement for fishers to submit landings data was also approved by the senior Natural

England Advisor who sits on D&S IFCA's Byelaw and Permitting Sub-Committee, following the review of the available evidence and future evidence requirements.

Voluntary Closed Areas

Compliance with the voluntary closed areas and the need to protect vulnerable seagrass habitats has been highlighted as a concern. D&S IFCA holds a meeting with wrasse fishers before the start of the fishing season each year, at which the closed areas will again be highlighted, and methods will be discussed to improve compliance with this voluntary measure. D&S IFCA is also working with relevant organisations and individuals to highlight seagrass restoration areas and to encourage fishers to avoid these areas. Given the general compliance with the voluntary closed areas it would undermine the fishers to make the closed areas mandatory. Having voluntary closed areas allows D&S IFCA to involve the stakeholders resulting in a valued co-management approach that is thought to improve compliance over entirely top-down imposition of management measures. Several studies (e.g. Costanza *et al.*, 1998), suggest that this type of management of inshore fisheries management leads to a sustainable fishery and helps promote a shift in the incentive structure from defensive to proactive (Arlinghaus *et al.*, 2019). In addition, as part of monitoring recommended by Natural England in its formal advice relating to the HRA carried out by D&S IFCA on the possible interaction of potting on seagrass, D&S IFCA has been conducting patrols to monitor this potential gear: feature interaction, and our report is available online at https://www.devonandsevernifca.gov.uk/Resource-library/H-Environment-and-Research under the section "European Marine Sites > Plymouth Sound and Estuaries EMS > Monitoring of Potting on Seagrass" or the 2021 report can be read here.

Non-Compliance & Challenges for D&S IFCA

DWT highlighted frustrations surrounding issues of non-compliance. D&S IFCA is not able to share details of ongoing investigations, penalties, and prosecutions. However, it should be noted that the vessel previously referred to in D&S IFCA's reports as not complying with certain Permit Conditions, was prosecuted in 2019 and received a fine of £2,532. This vessel is no longer involved in the Live Wrasse Fishery.

Both DWT and WAG raised issues associated with D&S IFCA's ability to monitor the fishery and to effectively conduct enforcement work to ensure compliance.

"It is essential that byelaws are rigorously enforced by the D&S IFCA to avoid the risks of undermining the purpose and success of this byelaw, and further non-compliance by other fishers. It is essential that a clear message is sent out by the D&S IFCA, and we would strongly recommend that, where there is consistent and ongoing non-compliance, revoking potting permits for this fishery should be the penalty".

DWT highlighted that potential incursions into voluntary closed areas is very concerning and potentially in breach of Habitats Regulations. Both DWT and WAG suggested that non-compliance should result in revocation of relevant permits

Challenges

D&S IFCA is committed to ensure a fully monitored fishery. Undertaking on-board surveys and analysing data associated with managing the Live Wrasse Fisher is highlighted as key tasks within D&S IFCA's Annual Plan for 2021-22. D&S IFCA directs considerable resources into managing and monitoring the Live Wrasse Fishery relative to that directed towards many other fisheries.

D&S IFCA operates a risk based and intelligence led Enforcement & Compliance Strategy which is in line with the National Intelligence Model followed by other enforcement agencies. Intelligence and information are shared between IFCAs, MMO, EA and other Government Agencies. To support the reporting of suspicious or suspected illegal activity the Authority has an out of hours contact number – **07740 175479**.

D&S IFCA has very limited resources which hampers its ability to function and to meet its Statutory Functions. Compared to a similar sized IFCA, D&S IFCA receives far less funding as set out in the table below. D&S IFCA's operational budget has been reduced from £150,913 in FY 2011/12 to £39,100 in FY 2020/2021. These budget constraints cause limitations in what is achievable for D&S IFCA and is reflected in its Annual Plans and Annual Reports, which are published each year.

IFCA District	2017/2018 Budget £	Marine Area km^2	Cost per km^2	Cost per 100km^2	coastline km	Cost per km
NIFCA	£868,000	1300	£667.69	£66,769.23	110	£7,890.91
SusIFCA	£1,066,665	1728	£617.28	£61,728.30	140	£7,619.04
NWIFCA	£1,338,459	3353	£399.18	£39,918.25	1280	£1,045.67
NEIFCA	£1,092,450	2884	£378.80	£37,879.68	479	£2,280.69
EIFCA	£1,346,688	3765	£357.69	£35,768.61	1683	£800.31
SIFCA	£905,686	2884	£314.04	£31,403.81	479	£1,890.78
IOSIFCA	£123,185	406	£303.41	£30,341.13	226	£545.07
CIFCA	£1,108,623	4077	£271.92	£27,192.13	1100	£1,007.84
K&EIFCA	£889,600	3412	£260.73	£26,072.68	800	£1,112.00
D&S IFCA	£716,900	4522	£158.54	£15,853.60	1314	£545.59
Mean costs	*£945,626*		*£372.93*	*£37,292.74*		*£2,473.79*

The on-going lack of funding is despite documented recognition that D&S IFCA has some of the highest comparable metrics of other IFCAs. For example:

- D&S IFCA has the largest District with 4,522 km^2 of sea area.
- D&S IFCA has the smallest number of staff members.
- D&S IFCA has 22 Marine Protected Areas (MPAs) designations (European Marine Sites and Marine Conservation Zones) within its District, covering over 42% (1914.35 km^2) of its sea area.
- 1100 km^2 of the designated MPA area (1914.35km^2) is currently closed to demersal fishing gear to protect the sensitive features, which equates 57.37%. 1302.26 km^2 (68%) of the designated MPA area are subject to MPA management measures for the protection of sensitive habitats and species e.g., spiny lobster.
- D&S IFCA has introduced 58 management measures[2] to protect these MPAs and these require high levels of monitoring and enforcement, mainly due to the presence of the 140 trawlers and scallop dredgers operating in the District.

[2] Defra Report on IFCAs' Conduct and Operation 2014-2018 – December 2018

- D&S IFCA has undertaken 39 investigations into bottom towed gear vessel incursions into MPA since 2014 resulting in 13 Prosecutions, one Simple Caution, seven Financial Administrative Penalties, four on-going and 14 No Further Action.

Actions for Non-Compliance

Where compliance (regarding legislation, rather than voluntary measures) is not achieved, the Authority has a range of enforcement actions available to it as set out in the Enforcement & Compliance Strategy. These include:

- Verbal Warning
- Advisory Letter
- Official Written Warning
- Simple Cautions
- Financial Administrative Penalties (FAP) (4 levels ranging from £500 to £4000)

The FAP levels take into account historical analysis of court penalties while offering an incentive for the accused to choose against referral for prosecution. Further information on FAPs is available in the Authority's FAP guidance that is either posted on its website or available on request.

Prosecutions

In order to prosecute, the Authority has to be satisfied both that there is sufficient evidence of the alleged offending and that there is a clear public interest in taking criminal proceedings. The Authority will only commence a prosecution if it is satisfied that there is a realistic prospect of conviction against each suspect on each charge on the available evidence. If a case does not pass this test, it will not go ahead regardless of how important or serious it may be.

If a case passes the sufficiency of evidence test, the Authority will consider whether it is appropriate to prosecute, or whether it is appropriate to exercise one of the enforcement options available to it as set out above. In determining the correct response in any individual case, the Authority will always take into account the public interest in prosecuting.

Revocation of Permits

Although this was suggested by DWT and WAG as a potential course of action, D&S IFCA does not have the power to revoke a permit that has been issued. This is only a possible course of action for a court following a conviction and is set out within Section 164 of the Marine and Coastal Access Act

164: Powers of court following conviction

(5) In the case where the offence involved the breach of a condition of an IFC authority permit, the court may –
  (a) suspend the permit, or
  (b) disqualify the person from holding or obtaining any IFC authority permit relating to any activity to which that permit related, for such period as the court thinks fit.

(6) In subsection (5) "IFC authority permit" means a permit granted by an IFC authority.

The Issuing of Permits

The Potting Permit Byelaw states that the Authority "may" issue a permit, rather than it "will" issue a permit. If insufficient information is provided during the application process, a permit will not be issued. The Authority is considering establishing new policy regarding outstanding fines (and failures to upkeep a payment schedule established by a court) that are payable to the Authority. If payments have not been received there is the potential that permits will not be issued in the future.

7.2.8 Fishery Planning Process

DWT suggest that there are studies that show that wrasse have been "fished out" of an area across a two-year period, which is a similar time scale to the time it took to implement the permit conditions for the live wrasse fishery in D&S IFCA's District following the start of the fishery in 2015. D&S IFCA completed a detailed literature review of the potential impacts of the live wrasse fishery in 2016, which included evidence of impacts from other live wrasse fishery locations. This literature review has been kept up-to-date, and further evidence has been included in the annual reports on the live wrasse fishery. D&S IFCA is therefore aware of evidence from Norwegian, Scottish and Irish fisheries that highlight the impacts of unsustainable removal of wrasse on population demography of wrasse but are unaware of any studies that show that wrasse have been "fished out" of an area across a two-year period. If DWT feel as though D&S IFCA has missed critical evidence in the literature review or in the most recent report to the B&PSC then D&S IFCA would welcome any further evidence from peer-reviewed literature that DWT can provide.

It is important to note that the studies from Norway and Scotland that highlight impacts of live wrasse fisheries were conducted a number of years after the initiation of live wrasse fisheries in those locations. The fishing pressure in Norway and Scotland is far greater and has been sustained over several more years than has been experienced in the Plymouth Sound live wrasse fishery. For context, several million wrasse are used in Norwegian aquaculture alone each year, whereas landings from Plymouth Sound in 2020 totalled ~16,776.

It is also important to highlight the comparatively short time-scale in which D&S IFCA was able to introduce management measures for the live wrasse fishery in their District. Live wrasse fisheries began in Scotland and Norway in the late 1980's, but management measures for Scotland were only introduced in May 2021 and comparatively fewer conservative restrictions were introduced in 2011 in Norway, only having been adapted to be more restrictive in the last few years. In comparison to these locations, the introduction of management measures and response to the fishery in D&S IFCA's District was much faster and more precautionary, which greatly reduced the chance of overexploitation of wrasse in the District.

DWT suggest that a fishery planning process is clearly needed to ensure fisheries cannot start (or continue) without detailed evidence around sustainability of fishery and ecosystems. As highlighted in the recent publication by Henly *et al.* (2021), management of small-scale inshore fisheries "is made difficult by this sector's ability to diversify more quickly than management can adapt, exploiting multiple species through changing technology, new market niches and flexibility in time spent fishing (Symes and Phillipson, 2001)". As shown in the development of the Live Wrasse Fishery in the District, D&S IFCA's permit-based management system is adaptive and agile and allows rapid responses to evidence of new fisheries as and when it becomes available. Over the coming year, D&S IFCA will be hosting commercial fishing sectoral virtual meetings and will undertake a roadshow of virtual stakeholder meetings at fishing ports to engage with commercial fishers. It is hoped that these meetings will provide greater opportunities for collaborative engagement and promote open channels of

communication, which will help to highlight the need for future management of any developing fisheries.

7.2.9 Reduction in Fishing Effort

DWT was concerned about the large reduction in fishing effort, especially between the 2017–2019 period. An explanation was provided for this following the previous formal consultation in 2020.

> "The large reduction on overall fishing effort from 2017 to 2019 in the D&S IFCA's District has been caused by a combination of mechanical issues with vessels, individual's circumstances (fishers not fishing as much for personal reasons), fishers targeting CIFCA's waters within Plymouth Sound during the D&S IFCA's closed season and remaining there once D&S IFCA's waters reopened. Fishing effort is also affected by the weather conditions within Plymouth Sound. During 2019 a prolonged period of high winds resulted in damaged pots and fishers not fishing within Plymouth Sound. These poor weather conditions also reduced the number of observer surveys that could be conducted during this time.
>
> In addition, the closed season to protect spawning individuals was amended after the second year of the fishery. In 2017 the closed season was from 1st April to 30th June. In 2019 this was amended to 1st May to 15th July, resulting in a shorter season over the summer months, during which weather conditions tend to be more conducive to fishing."

D&S IFCA has also been informed that the use of farmed wrasse in Scottish salmonid aquaculture is increasing and production of cultured wrasse is also continuing to increase. It is expected that in 2022, the production of farmed wrasse will overtake the need for wild-caught wrasse and the demand for wild caught wrasse will therefore continue to decline.

7.2.10 Lost Gear and Bycatch

DWT and WAG raised concerns about bycatch of non-target species and also the impact that lost pots have on non-target species and the marine environment. Any species that is caught as bycatch in wrasse pots during routine fishing is returned to the sea immediately. Natural England recognise that D&S IFCA has given consideration to wrasse as part of the faunal component for reef communities, and suitably assessed both direct pressures (abrasion) and indirect pressures (target/non-target species).

D&S IFCA is aware of reports of lost gear in the District and the risks this poses in terms of marine litter and ghost fishing. As wrasse pots are expensive to replace and loosing pots will limit fishing ability due to the pot limitation in the Potting Permit Conditions, wrasse fishers have an incentive to retrieve gear when its location is known. When lost gear (marked with tags as required under the Potting Permit Conditions) is reported to D&S IFCA, the relevant fisher is notified and encouraged to find and remove the gear. It should be noted that under the Voluntary guidance there is a small area east of Stoke Point allocated as a zone where fishers can place wrasse pots from protection of potential gear damage during south westerly storms. Fishers are required to notify D&S IFCA when they store pots in this area and when the pots are removed. In situations where gear is known to have been abandoned, D&S IFCA can work with relevant organisations to enable removal, but accurate information on the location of the gear is required for this to happen.

7.2.11 Animal Welfare of Capture and Long Distant Transport

WAG highlighted concern for the welfare of wrasse associated with their capture and long-distance transport. All wrasse fishers are subject to CEFAS inspections, as each fisher is a

registered aquaculture business. As such, all fishers are subject to the usual biosecurity and animal welfare checks, including but not limited to the handling and storage of live fish. In addition, all fishermen are contractually obligated to comply with the RSPCA welfare standards for farmed Atlantic salmon, within which is a dedicated cleanerfish section.

References

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Costanza, R., Andrade, F., Antunes, P., Belt, M., Boersma, P., Boesch, D., Catarino, F., *et al.* 1998. Principles for Sustainable Governance of the Oceans. Science (New York, N.Y.), 281: 198–9.

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Smith, C., and Henly, L. 2021. Southern IFCA Live Wrasse Fishery Report 2020. Southern Inshore Fisheries and Conservation Authority, Poole, Dorset, UK.

Symes, D., and Phillipson, J. (Eds). 2001. Inshore Fisheries Management. Reviews: Methods and Technologies in Fish Biology and Fisheries. Springer Netherlands. https://www.springer.com/gp/book/9781402001284 (Accessed 1 June 2021).

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8. Further Information & Hyperlinks Used in this Report

Officers' Reports Submitted to the B&PSC in February 2021

Review of the Live Wrasse Fishery in Devon and Severn IFCA's District 2017-2020 - February 2021 (V1.0)

The Live Wrasse Fishery Summary Report for B&PSC 2017-2020 February 2021

Best Available Evidence (Including Amended Reports)

Review of the Live Wrasse Fishery in Devon and Severn IFCA's District 2017-2020 – March 2021 (V1.1)

Summary Report – Annual Review of the Live Wrasse Fishery in Devon and Severn IFCA's District, 2017 – 2020 – March 2021 (V1.1).

Plymouth Sound and Estuaries Potting on Seagrass Monitoring Report 2021 V1.0

Natural England Advice to D&S IFCA Ref Fish Traps 320633

D&S IFCA's Website Resource Library

Consultation Information

Pdf Version of Formal Consultation Mail Chimp Circular

Pdf Version of D&S IFCA's Supporting Website & Facebook News Item

D&S IFCA's Consultation Website Page

Current Potting Permit Conditions

Current Permit Byelaws & Permit Conditions Website Page

Background Information – The Authority & The B&PSC

Who We Are & Our Core Work Website Page

Guide to the Work of the B&PSC (September 2019)

D&S IFCA's Enforcement & Compliance Strategy

D&S IFCA's Annual Plan (2021-22) Website Page

End of Report.