



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

A Decision-Making Paper for the Byelaw and Permitting Sub-Committee

29th May 2020

Contents

1. Introduction	3
2. Overview	3
3. Officers' Analysis	3
3.1 Precautionary Principle	3
3.2 Non-Compliance	4
3.3 Lack of Data	5
3.4 Returns Mortality and Related Effectiveness of CRS	5
3.5 Reduction in Fishing Effort.....	6
3.6 Spawning/ Closed Season	7
3.7 Voluntary Closed Areas	7
3.8 Falling Populations	8
3.9 Habitat Regulation Assessment (HRA).....	9
4. Officers' Resolutions	10

1. Introduction

This officer paper 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.

The Formal Consultation – Amendments to the Permit Conditions to manage the Live Wrasse Pot Fishery consultation response has been set out in a separate report and provides the backdrop for the resolutions set out in this paper. The task for the B&PSC is to consider both documents prior to voting.

2. Overview

The proposals developed for the formal consultation were relatively simple with the main focus being a proposed change in the Potting Permit Conditions to add rock cook wrasse to an established list of species that (as set out in the Potting Permit Conditions) are prohibited for removal from a fishery within D&S IFCA's District.

The consultation response was low in terms of numbers, but significant regarding the general theme of the response. Although responses contained differing levels of detail and reasoning for the views taken, the general theme was that there is support for the proposals, but not support for the continuation of the Live Wrasse Pot Fishery.

It was clear from the response provided by Devon Wildlife Trust (DWT) that the Three-Year Comprehensive Review of the Live Wrasse in Devon and Severn IFCA's District Report had been studied in depth. The detailed response that was provided to D&S IFCA challenged different aspects of the evidence base used for decision making and the position taken by D&S IFCA to continue with the management of the Live Wrasse Pot Fishery.

3. Officers' Analysis

On receipt on Devon Wildlife Trust (DWT) response to the formal consultation, D&S IFCA officers have considered the points that have been raised 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.

3.1 Precautionary Principle

DWT cites D&S IFCA's statement that it may "be difficult to identify unsustainable fishing practices underlying apparently stable CPUE patterns" due to a phenomena referred to as hyperstability, and DWT letter suggests that this uncertainty is indicative of a need for a moratorium on this fishery, on the basis of the Precautionary Principle. D&S IFCA refers to this hypothetical situation regarding hyperstability occurring in Plymouth Sound in recognition of the fact that there may be underlying processes which are not possible to detect or measure; such processes occur in most fisheries and management scenarios but are not in themselves immediate cause for concern. D&S IFCA's report on the Three Year Comprehensive Review states that hyperstability appears to be unlikely due to relative consistency in the areas fished between years, with the added caveat that it is possible that the 1 km grid square resolution at which fishing effort is quantified may be too coarse to detect fine scale changes that may contribute to hyperstability. The report explains that there are also other drivers which may influence wrasse abundance (and therefore catch and/or landings per unit effort). D&S IFCA recognises that whilst it will never be possible to have perfect knowledge of the dynamics underlying this or any other fishery, D&S IFCA has collaborated with a PhD student at the

University of Exeter who is undertaking fine scale analyses of the wrasse fisheries along the south coast of the UK. This researcher is independently investigating a range of relevant topics, from drivers of catch and landings per unit effort, to the population genetics of wrasse and their relative ecological niches. Findings from these studies may be directly relevant to the management measures used by D&S IFCA, and its permit-based management system remains adaptive and agile enough to respond to new evidence as and when it becomes available.

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. . It is in this context that D&S IFCA has already introduced management measures and is proposing changes in management which are appropriate. 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. In the past, D&S IFCA's adaptive management measures have included changes to the minimum and maximum conservation reference sizes and the closed season.

3.2 Non-Compliance

D&S IFCA is aware of the repeated non-compliance associated particularly with Vessel 3, which DWT highlights as contributing 38% of landings in 2019. Enforcement action against the offending vessel took place in 2019. The vessel owner was prosecuted on three breaches of Live Wrasse permit conditions. These offences, which included not marking his fishing gear correctly and two instances of not having tags on his pots were heard in the Magistrates' court in August and September 2019 and fines of £2,532 were issued.

D&S IFCA Officers held a meeting with fishers and the salmon supply agent in March 2020 to reiterate the importance of submitting landings forms and allowing observers on board, in addition to providing the sales notes. At this meeting, and in a follow-up letter dated 7th April 2020, D&S IFCA advised that if fishers do not provide this documentation they will be in breach of Paragraph 17 of the Potting Permit Byelaw and made all fishers aware of their obligations to provide relevant data as requested and the implications of non-compliance, which would be investigated and could result in prosecution. DWT points out that Vessel 3 did not receive observer surveys due to the small size of the vessel. In 2019 D&S IFCA developed a method of observing this vessel and its catch using our enforcement vessel. This will continue to allow observer surveys to be carried on this vessel in 2020, provided that sea state is reasonable. In addition, fishers have agreed to complete a sub-sample of the first 20 pots hauled on one day per week of fishing in order to complement the observer surveys and fishers' landings forms. These different data collection methods should increase the evidence provision of the IFCA and lead to greater compliance. However, DWT suggests alternative methods of monitoring vessels' activity and compliance, through IVMS or chest cameras. Whilst these are

reasonable suggestions, they will not provide D&S IFCA accurate catch and landings data nor detail of size distributions of the different species.

3.3 Lack of Data

D&S IFCA Officers have managed a considerable monitoring effort for this fishery in the D&S IFCA's District, and have collected data which have, through robust statistical treatment, provided a more thorough understanding of the wrasse fishery in the District.

It remains a concern that Vessel 3 has a history of non-compliance regarding landings forms, and that this vessel has not been adequately monitoring via on-board surveys. It has been outlined above how this is to be addressed for 2020, and that failure to comply with the obligation to provide the requested data would be investigated and could result in prosecution.

DWT describes the discrepancies between the transport data provided to the MMO and the data provided via landings forms to D&S IFCA. D&S IFCA highlights this in the report, and the fact that there are several sources of this variability: 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) the sales information from the MMO only provides data to October 2019, whereas fishers were fishing and providing landings forms until early December, iii) the landings data do not include data from Vessel 3.

The Three-Year Comprehensive Review does not include data from CIFCA's District because (i) D&S IFCA's management can apply only to the D&S IFCA's District and (ii) the data available to D&S IFCA from CIFCA's District are variable between years and may therefore provide spurious inter-annual comparisons. Therefore, whilst D&S IFCA is supportive of an ecosystem-based approach to monitoring and management, it was determined that the Three-Year Review would be of most use to the Authority if it contained the most robust data and comparisons that were available for the D&S IFCA's District.

The coverage of observer surveys reduced in 2019 due to an issue with D&S IFCA's insurance. This meant that no onboard observer surveys could be conducted at the start of the year prior to the closed season. However, surveys commenced after the 15th July 2019 when the fishery re-opened. Two surveys a week are rostered for this specific fishery, but this is subject to officer availability, weather and vessel availability. The D&S IFCA's Environment Team that carry out the on-board observer surveys consists of two full-time and two part-time officers, who also have substantial commitments to additional survey work during the same time of year, including multiple intertidal shellfish surveys, as well as many other workstreams, which are detailed in the D&S IFCA's Annual Plan. Limited resource was recognised by the B&PSC in February 2020 and although continuation of the on-board survey program was recommended, it would be done so having regard to the resources available.

3.4 Returns Mortality and Related Effectiveness of CRS

While D&S IFCA acknowledges that the mortality of fish caught and returned to the sea is unknown, D&S IFCA states in the report that "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 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. Fishers in the District are 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 to avoid this.

DWT suggests that grid cells O15 and O16 should be closed to protect rock cook. However, it is important to note that catch composition per grid square has varied substantially over the last three years, as can be seen in Figures 25, 29 and 30 in the report. This highlights a degree of uncertainty in the relative space use of specific species, which would undermine the specification of closed areas on this basis. In addition, D&S IFCA must seek to be proportionate in the management response, and take into account all environmental, social and economic impacts. These include, for example, the landings and income of vessels 2 and 6, which focus a large proportion of their effort in, and likely achieve a high proportion of their income from, these areas. Under D&S IFCA's proposed change in management to prohibit the removal of rock cook from the fishery this will negate the need to close grid cells to protect rock cook.

Whilst the Three-Year Comprehensive Review report drafted some recommendations for future management, it is not always possible for these to be implemented. For example, it is unlikely to be possible to encourage a short period of retention of non-landable fish on-board the vessel to allow for recovery of swim bladder function in affected fish, prior to returning them to the sea. This activity would be in contravention of the current byelaw conditions which prohibit retention of fish of certain size classes or species. A contradictory code of conduct would make the byelaw conditions impossible to adequately enforce.

The Potting Permit Conditions are structured in such a way to enable effective enforcement action. The provision that requires the immediate return of prohibited species that cannot be removed from a fishery provides the required clarity for both fishers and enforcement officers. Attempts to amend permit wording to allow short term retention on board, rather than immediate return, would be challenging, if not impossible to achieve without introducing significant weaknesses to control measures. Inspections at sea and their effectiveness would be compromised if prohibited species were able to be retained on board for short but non-defined periods before controlled release. A landing prohibition cannot be applied for rock cook wrasse as vessels fish in both D&S IFCA's and Cornwall IFCA's Districts, where control measures are different. Vessels engaged in potting for live wrasse, in both Districts, can and do land their catch in Plymouth.

3.5 Reduction in Fishing Effort

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. This shorter fishing season over the summer may have also contributed to the reduction in LPUE as previous studies (Darwall *et al.* 1992, Gjørøster 2002) have shown catch to be positively correlated to water temperature.

DWT also raises a concern that the number of days fished, and the number of pots hauled do not decrease in the same proportions between years. This is likely to be simply due to changing fishing patterns in terms of the number of pots fished per day between years. DWT also state that a reduction of 54% in potting effort combined with a 62% fall in landings over the same period (2017 – 2019) should be a cause for concern. However, as highlighted above, the change in potting effort refers only to D&S IFCA's District, while the overall landings data from the MMO refers to the landings from both D&S IFCA's District and CIFCA's District. Therefore, the two figures are not suitable for the comparison that are made in DWT's response. In contrast, within the Three-Year Comprehensive Review report, analysis of LPUE and CPUE over this period (2017 – 2019) for D&S IFCA's District concluded no significant change in either LPUE or CPUE over this period for the fishery as a whole. As highlighted by DWT, the figures do not include data for Vessel 3, however this will be rectified for 2020 by the return of landings data and collection of observer data (or by increasing punitive action for this vessel).

3.6 Spawning/ Closed Season

In their response, DWT questions the spawning times of corkwing. Unfortunately, D&S IFCA's Officer had not clarified in the report that the corkwing reported as spawning were showing signs of blue around the anal fin (between July and October), but showed no evidence of milt or eggs. This blue colouration is a somewhat subjective measure of this species being near to spawning season and is unlikely to be entirely reliable on its own. As reported in the Three-Year Comprehensive Review, a small number of corkwing were observed spawning in 2017 – these individuals showed evidence of milt or eggs. In 2017, approximately 80 additional individuals were showing blue colouration around the anal fin. In 2018, D&S IFCA undertook additional fishery-independent surveys during the closed season, which included collection of spawning data. This allowed collection of data during May and June, which is normally not possible. All corkwing that showed evidence of milt or eggs in 2018 did so during May and June, with the only tangential evidence of spawning outside of this time coming from blue colouration. Previous studies have also indicated that the spawning period for Corkwing is from May to mid-June (Halvorsen *et al.*, 2016, Matland 2015, Skiftesvik *et al.*, 2015).

In terms of Ballan wrasse, few have been observed to be spawning during the on-board observer surveys over the last three years. D&S IFCA is aware of some research CEFAS has been involved in looking at the spawning period of ballan wrasse in the Dorset area. Early indications from this research would suggest that ballan spawn as early as April but this is yet to be confirmed. D&S IFCA has requested a report from CEFAS on several occasions but this has not been forthcoming. Should there be evidence to suggest that a substantial proportion of ballan wrasse spawn in April in the D&S IFCA's District then amendments to the closed season will be discussed by D&S IFCA's Byelaw and Permitting Sub-Committee.

3.7 Voluntary Closed Areas

Fishers have complied well with the voluntary closed areas, with the exception in 2019. However, these fishers were informed of their non-compliance and strings were then moved

accordingly. Given the general compliance of 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 (Costanza et al., 1998, Rodwell et al., 2014, Ostrom, 1990), 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).

Following DWT's letter, which pointed out strings in grid cell M12 near to seagrass, D&S IFCA's Officers have plotted these using GIS. The resultant chart can be seen in Figure 1 below, which shows that the strings (red) were not over the known distribution of the seagrass (green), as provided by Natural England:

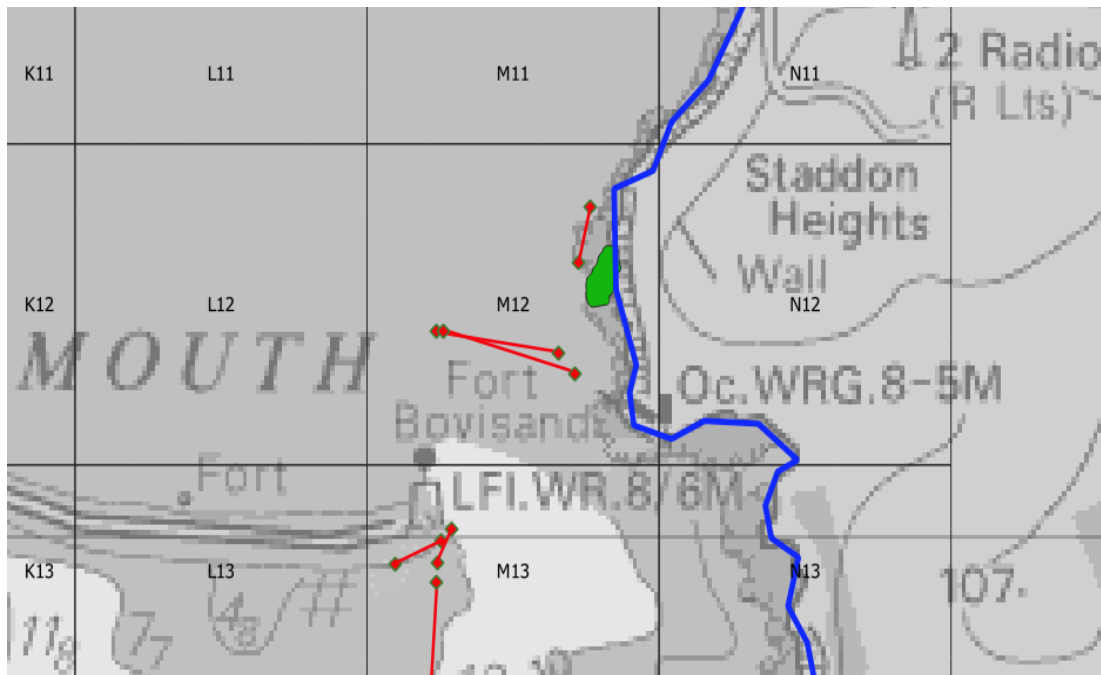


Figure 1 Fishers' stings of pots in relation to seagrass

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". This report is specific to the patrols undertaken and does not include the GIS locations of potting in the wrasse fishery.

3.8 Falling Populations

DWT raises concern regarding population declines. The direct comparisons that DWT quote in this section of its response (e.g. catch of > 800 goldsinny in 2017 vs > 500 in 2019) are not corrected for fishing effort. D&S IFCA acknowledges in the report that overall effort declined substantially over the 2017 – 2019 period. It is therefore inappropriate to draw the interannual comparisons that DWT has made and incorrect to state, as it does, that the "effort should not be relevant". In these analyses, it is always relevant to consider effort: it is not possible to begin to understand trends in catches and landings without acknowledging the effect that

variation in effort has on these figures. The patterns DWT suggests for other species, including the “plateauing” of corkwing and a decline in ballan wrasse (and a later reference e.g. to a 37% decline in goldsinny catch), are similarly skewed by not considering effort. This is why the results that D&S IFCA presents throughout the Three Year Comprehensive Review report are based on fish caught and/ or landed *per unit effort*. Using this unbiased approach D&S IFCA has shown that, over the fishery as a whole, landings per unit effort and catch per unit effort have remained stable over the 2017–2019 period, indicating that the fishery as a whole is not overexploited and that the current management measures are an effective way to manage the fishery. While the same is largely true on a species-by-species basis, these measures have declined for rock cook. It is on this basis that D&S IFCA has suggested the prohibition on the removal of rock cook from the fishery, which DWT has indicated its support for in its response.

3.9 Habitat Regulation Assessment (HRA)

With reference to the points DWT makes regarding the HRA and Natural England’s formal advice as detailed in their letter dated 21st February 2018, Natural England has stated that: ‘It is our understanding that an assumption has been made within the assessment that as long as wrasse stocks are maintained within the SAC, then whatever ecological function they do perform will continue to be carried out. Doing this will ensure important attributes such as species composition of the SAC reef communities (and therefore the Conservation Objectives of the site) will be maintained. The assumption that maintaining wrasse stocks within the SAC is important, despite the current lack of evidence base that wrasse are essential to maintaining a healthy reef ecosystem, appears to be a suitably precautionary approach to take when managing this fishery.’ The results of the survey work and the comprehensive review show that analysis of landings and catch per unit effort (LPUE and CPUE) over this period (2017 – 2019), as a whole for D&S IFCA’s District, concluded no significant change in either LPUE or CPUE.

Where there have been concerns highlighted through the analysis of data, D&S IFCA has implemented changes to the management measures through the Potting Permit conditions, for example, changing the slot size for corkwing and the recommendation for the prohibition of the removal of rock cook from the fishery in 2020. The use of this adaptive management mechanism has been highlighted in Natural England’s advice where they suggest the close monitoring of LPUE and CPUE and size distribution should inform management decisions and would be an essential part of managing the fishery to avoid adverse impact. Natural England also supports the continued annual review of the fishery using all year’s data, which would give confidence that management changes should be introduced should there be any indication in the current level of exploitation not being sustainable.

D&S IFCA agrees with DWT’s point that having a fully monitored fishery is essential in meeting Natural England’s recommendations and D&S IFCA has implemented measures to ensure that continues. Natural England has been involved and supported the changes in management measures introduced to date, which have been highlighted through the data analysis undertaken each year and detailed in the ‘Three Year Comprehensive Review of the Live Wrasse Fishery’ report. DWT suggests that NE reviews the HRA, however the process for reviewing the HRA lies with D&S IFCA. Five HRAs, on the interaction of fish traps on features of the Plymouth Sound and Estuaries SAC, were completed in January 2018 and

sent to NE for their formal advice. As this was over two years ago and a Comprehensive review of the fishery has taken place, with changes in management of the fishery implemented over time, it may now be an appropriate time for D&S IFCA Officers to revisit the HRAs, review them and request revised formal advice from Natural England. If the Authority decide that it is appropriate to revisit the HRAs to determine if they are still valid after the Three-Year Review, then officers can undertake this task and request advice from NE prior to reopening of the fishery.

4. Officers' Resolutions

Based on the consultation response and the officers' analysis of the responses, including the response from Devon Wildlife Trust, the officers' resolutions for voting have been set out below.

HRA Assessments (HRAs)

It is the view of officers that these should be reviewed and sent to Natural England for formal advice. Natural England will have 28 days to respond.

Resolution 1:

That the Habitat Regulation Assessments, relevant to the Live Wrasse Pot Fishery are reviewed by officers and submitted to Natural England for formal advice.

Changes as proposed to the Potting Permit Conditions

Updated advice from Natural England may have a bearing on the future management of the Live Wrasse Pot Fishery. The closed fishing period for live wrasse is from 1st May to 15th July (inclusive). The default position will be that the Potting Permit Conditions are amended before the start of the live wrasse fishing season, to afford additional protection to rock cook wrasse. Based on the findings of the consultation, officers also recommend that the other D&S IFCA proposals that relate to the Potting Permit Conditions are applied.

Resolution 2:

That the proposals for amendments to the Potting Permit Conditions are applied and amended permits circulated before 15th July 2020

Future management of the Live Wrasse Pot Fishery

The advice received from Natural England relating to the HRAs may have a bearing on the longer-term continuation of the Live Wrasse Pot Fishery. If required, the findings will be presented to the B&PSC as soon as possible to enable discussions and potential decision making that may result in changes to management. If future changes to management are required, that involve further amendment to the Potting Permit Conditions, this will involve drafting and at least four weeks of consultation (as part of process). Completion of this process and any subsequent decision making is not achievable for several months.

Resolution 3:

That the formal advice received from Natural England is considered by the B&PSC at the earliest opportunity.

End.