

Appendix H: Fisheries Assessment Executive Summary

This Appendix is provided in support to the following report:

Marine Planning Consultants Ltd. (2014). Lyme Bay Fisheries and Conservation Reserve: Integrated Fisheries Management Plan. A report produced for the Lyme Bay Fisheries and Conservation Reserve Working Group, UK.

The report, submitted 18/09/2014, addresses comments made by the wider Lyme Bay Fisheries and Conservation Reserve Working Group at a Workshop 09/09/2014.

Executive Summary

This Appendix forms a component of the Lyme Bay Integrated Fisheries Management Plan that was commissioned by the Lyme Bay Fisheries and Conservation Reserve Working Group. The project ensures that members have an up to date summary of evidence and science to inform the development of fisheries management practices that will improve both the environmental and economic sustainability of the inshore fishing fleet. This component of the work provides a sustainability assessment of five of the key Lyme Bay fisheries based on the MSC Pre-Assessment approach.

Approach

Five key Lyme Bay fisheries were shortlisted based on their contribution to landings, as illustrated by MMO (Marine Management Organisation) data from a sub-section of the Lyme Bay fishing fleet. This shortlist was discussed at a meeting of the Working Group, and the following fisheries were chosen to be taken forward for analysis:

- Crab (Potting)
- Lobster (Potting)
- Whelk (Potting)
- Sole (Netting)
- Bass (Lining)

Together, landings of these species represent over 80% of catches from the Lyme Bay area based on both first sale value and weight. The different fishing methods represent a cross section of those used within the Designated Area (where bottom towed gear is not permitted to be used).

The aim of the assessment process was to flag up which aspects of each fishery are in line with good or sustainable practice, in line with the Lyme Bay Working Group's aims and objectives; and which aspects are likely to require work in order to improve sustainability.

The key aspects of the fishery assessed were:

- **The Stock (Principle 1)** – this looks at the target species, and examines the stock status, and whether it has management measures that are designed to keep it within sustainable limits
- **Environmental effects (Principle 2)** – this examines the effects of the fishery on bycatch species (both retained and discarded); endangered, threatened and protected (ETP) species and habitats; as well as looking at likely overall effects on the ecosystem

- **Management (Principle 3)** – here, the general management “framework” is looked at, in terms of how effective it is in supporting sustainable management of both the stock and environmental fishery effects.

Since Project Inshore¹ has recently assessed inshore fisheries at an IFCA District level, the results of these assessments formed a baseline for the Lyme Bay assessment, looking at results for both the Southern IFCA and Devon & Severn IFCA Districts. As well as bringing these results together, the report put them in a local context, adjusting the scoring where there were differences between management at a Lyme Bay level, for example.

Table H1 shows the results of the assessment. The minimum scores under each category are shown, highlighting the areas of higher risk.

Table H1: A summary of the assessment results

	Stock Status	Stock Management	Retained species	Bycatch species	ETP species	Habitats	Ecosystem	Governance and Policy	Fishery specific management system
Crab	Green	Orange	Orange	Green	Orange	Green	Green	Orange	Orange
Lobster	Red	Orange	Green	Green	Orange	Green	Green	Orange	Orange
Whelk	Red	Green	Orange	Green	Orange	Green	Green	Orange	Red
Sole	Orange	Orange	Orange	Orange	Orange	Green	Green	Green	Green
Bass	Red	Orange	Green	Green	Orange	Green	Green	Orange	Orange

Green = GOOD: all performance indicators within this group scored >80%

Orange = OK: the lowest score achieved by performance indicators within this group was 60-80%

Red = POOR: the lowest score achieved by performance indicators within this group was <60%

Brown crab

Brown crab fared well in the assessment under Principle 1 (Stock), as recent Cefas stock assessments have shown regional southwest stocks to be healthy. However, a weakness was identified in the lack of a direct mechanism to feed stock information into management, so that if stocks were seen to deteriorate there would be a means of responding and stopping this trend. The Project Inshore assessment suggested that there was also a lack of accurate fishery data to support harvest control rules. Effort levels can be

¹ Information about Project Inshore is available on the Seafish website, here: <http://www.seafish.org/industry-support/fishing/project-inshore/about-the-project>

partially monitored through catch returns, but these don't fully account for all fishery removals.

There is also no bycatch strategy, which is flagged in Project Inshore as a potential concern, although most non-target catch (such as undersized crab and lobster, shore crabs etc.) in potting fisheries can be returned to the sea alive and has a high probability of survival. Additionally, escape gaps must be used according to IFCA Byelaws, which limits the number of non-target animals retained in pots.

Another risk identified is that the degree of interaction with endangered, threatened and protected (ETP) species is unknown; there is a low risk of interaction with cetaceans and birds, but the potting fisheries potentially interact with benthic Species and Habitats of Conservation importance.

European Lobster

For European lobster, the assessment identified risks to the stocks. Under the recent Cefas audit they were found to be in unfavourable condition. The stock is likely to be below target levels (equivalent to maximum sustainable yield) in both IFCA Districts, and the South Coast stock (of which the Southern IFCA District is a part) is likely to be below safe biological limits for recruitment, meaning that fishing is not at sustainable levels. Lyme Bay straddles the boundary between the two Districts, and in reality the stocks within the Bay aren't divided in the same way – but currently there isn't clear data that would help determine the status at a more local level.

There is also evidence that current management is not working effectively. The current measures, which consist of a minimum landing size (MLS), and a prohibition on landing egg-bearing lobsters, have not kept stocks at sustainable levels. Locally, the MLS differs between the two IFCAs, meaning that part of the Reserve can be fished at 87mm carapace length (CL), and the other part at 90mm CL.

Other risks for lobster with respect to Principle 2 (Environment) and 3 (Management) were as for brown crab, including the lack of a species-specific management plan.

Whelk

As the whelk stock status is currently unknown, there is a failure to meet MSC standards under the precautionary Risk Based Framework (used when there is a lack of information). Better understanding of the local size at sexual maturity for whelks and the status of the stock, as well as fishery effort data, were all identified as current gaps in information. The effects of the fishery on bycatch species, including spider crab, are also an identified risk.

There is some work currently underway, both by Cefas and locally by Devon & Severn IFCA, which is likely to address much of the shortfall in biological data on whelk stocks. Additionally, the Potting Study and Fully Documented Fisheries projects have the potential to provide necessary information on bycatch, spatial footprint and level of effort.

As for other crustacean shellfisheries, whelk currently lacks a species management plan.

Sole

Sole performed well under the assessment, largely as the stock is above safe reference levels, with stock assessment regularly undertaken by ICES. There are harvest control rules in place, with stock status linked to effort management through quotas. At a local level, the key risk from this fishery (and indeed, netting fisheries in general) is a lack of understanding of ecosystem effects due to no real information on catch composition. In addition, although physical damage to habitats is low risk, uncertainties remain over the nature of interaction between net fisheries and ETP species, and there is no bycatch management or handling protocol to mitigate against any mortality of non-target species.

Bass

As the bass stock status is currently unknown, the fishery failed to meet MSC standards under Principle 1 (Stock). Part of the lack of understanding involves where the natural stock geographical “units” for bass are, and therefore how they should be assessed, and this is something currently being looked at by ICES, who have recently taken on bass management under ICES WGNEW Working Group. However, one aspect of management which can be considered at a local level is the contribution of recreational fisheries to overall fishing effort. There is no monitoring of recreational landings currently, and it is likely that effort is under-recorded.

Line based fishing methods score as low impact in general, although management of ETP species interactions was, once more, flagged up as a potential risk.

Other Fisheries

The findings of the five assessments can also be carried over to the other key fisheries. These 12 species were chosen as they comprise 95% of landings by weight or first sale value from Lyme Bay fishing grounds. The table below matches non-assessed species to the assessment(s) they are most similar to.

Table H2: Other key fisheries

Non assessed target species	Matched fishery and rationale
Brown shrimp (<i>Crangon crangon</i>)	None (i.e. not related to any of assessed fisheries) – however, this is targeted by beam trawl predominantly, so it is only fished outside of the Designated Area and unlikely to coincide with sensitive habitat.
Cod (<i>Gadhus morhua</i>)	Sole - this is an ICES assessed stock with good status. See also bass (for <i>Environment</i> scoring only, wrt line fisheries).
Cuttlefish (<i>Sepia officianalis</i>)	Whelk – there is poor stock data for this fishery, and spider crab are a possible bycatch species.

Non assessed target species	Matched fishery and rationale
Plaice (<i>Pleuronectes platessa</i>)	Sole – this is an ICES assessed stock with good status, targeted by netting.
King scallop (<i>Pecten maximus</i>) (Hand dived)	<i>Stock</i> : Whelk (data poor shellfishery with limited management). <i>Environment</i> : Bass (low impact, high selectivity and low ecosystem risk). <i>Management</i> : crab or lobster (lack of fishery-specific management plan).
Spider crab (<i>Maja squinado</i>)	Whelk – stock status unknown, no management strategy. Spider crab is actually assessed under <i>Environment</i> section of the Whelk assessment, but as a bycatch species only.
Thornback ray (<i>Raja clavata</i>)	For <i>Stock</i> : bass (data poor regarding stock). For <i>Environment</i> : netting (need better bycatch information). For <i>Management</i> : none (fails PI 3.2.2 as the management system has allowed decisions to deviate from scientific advice).

Summary

In summary, the key risks to fisheries sustainability of Lyme Bay are shown in **Table H3**.

Table H3: Summary risks

Stock	Environment	Management
<ul style="list-style-type: none"> • Poor stock status along with a lack of appropriate harvest control (lobster, whelk) • Unknown stock status due to a lack of information (bass, whelk) • Lack of harvest control rules even where stock status is good (crab) 	<ul style="list-style-type: none"> • Uncertainty over bycatch composition and effects on species other than targeted species • Uncertainty over nature and extent of interaction with Habitats and Species of Conservation Importance • Lack of a bycatch management strategy 	<ul style="list-style-type: none"> • Lack of “incentive for sustainable fishing” for non-quota species • No fishery-specific management plan for most fisheries • Not all fishers are subject to the same legislation, nor are all signed up to the Code of Conduct; similarly recreational fisheries are not monitored

However, much of the assessment was positive, partly due to the strong management framework that is in place, as will be discussed in the following Management Analysis section together with the many risk and gaps already being addressed. Many of the risks did not result in a failure to reach the minimum standard, but were simply highlighted as areas which would require improvement by the time the fishery was reviewed.