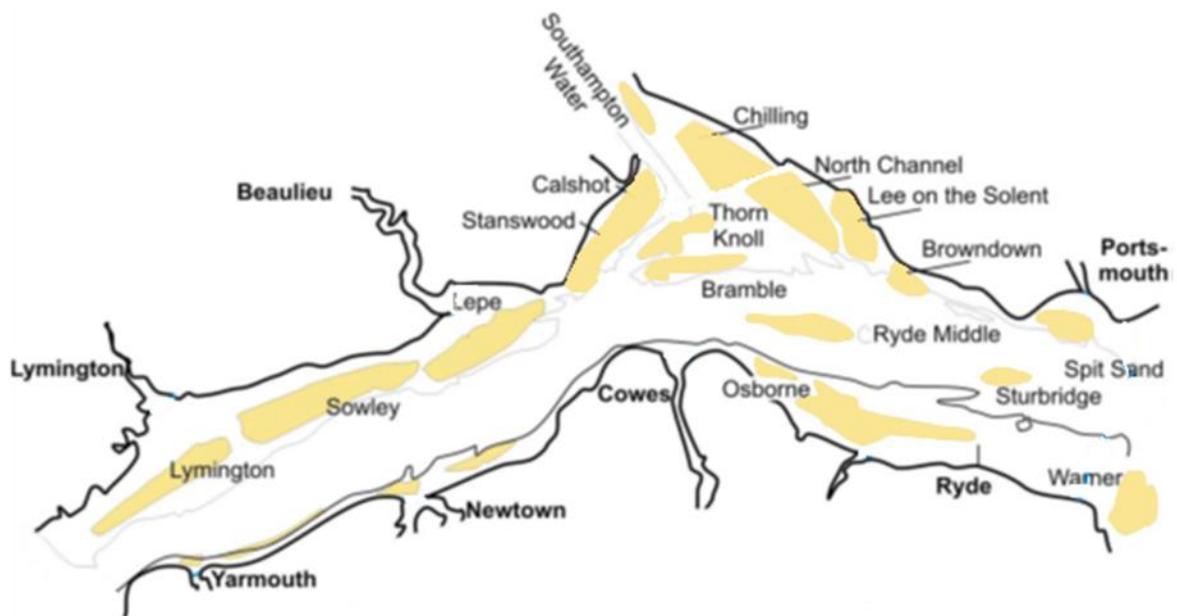


Solent Oyster Management Plan



Inshore Fisheries and
Conservation Authority

Solent Oyster Management Plan

Purpose of the Document

This document sets out to provide both a general framework and specific guidance for implementing a strategic, coordinated, multi-partner management effort to restore and manage oysters in the Solent.

First draft published XXXXX

This report is available to download from
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Version

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Partners Consultation	
Public Consultation	
Adoption	

Section 1. Oyster Management

1.1 Introduction

The native oyster, *Ostrea edulis*, in the Solent, is currently severely depleted when compared to historic abundance. The decline in oyster abundance can be attributed to many factors, including habitat destruction, disease mortality, predation, water quality, fishing and the interactions among these factors. The role of degraded water quality and its impact on the oyster resource has a dual nature: oysters are negatively impacted by sedimentation, turbidity and anoxic conditions, thereby limiting oyster restoration. Oysters also have the potential to improve water clarity and remove algae from the water through their suspension-feeding activities; thereby having a positive effect on water quality. However, at current low abundance their positive effects are minimal.

The consequences of this decline effect employment in the fishery and the overall health of the marine ecosystems in the Solent. As recently as the 1970s and 80s the Solent contained Europe's largest self-sustaining flat (native) oyster fishery, supporting 450 boats and directly employing 700 men during peak harvesting. The oyster population has been in continual decline since the 1980s, with a sharp decline observed in 2007. This dramatic reduction has continued with the fishery, in parts, being temporarily restricted since 2013.

The possibility of restoring native oysters to the Solent is an opportunity to return to the region's once self-sustaining population and exploitable levels; the benefit of this is to support employment in the oyster fishery and thereby the local economy; improve biodiversity in the Solent and contribute to nature conservation; and to improve water quality in the area. To achieve this Southern IFCA is working with partners in the implementation of a Solent Oyster Management Plan (SOMP).

The purpose of the SOMP is to provide both a general framework and specific guidance for implementing a strategic, coordinated, multi-partner management effort. Part of this renewed effort to rebuild the Solent's native oyster resource came from the commitment of the Blue Marine Foundation (BLUE), a marine conservation charity, to work with Southern IFCA to achieve shared objectives through the Solent Oyster Restoration Project. The project, led by BLUE and working closely with Southern IFCA, has drawn together multiple stakeholders to restore native oyster populations through a five-year management plan. Its aim is to reseed five million juvenile oysters in wild sanctuary sites and to date 23,000 brood oysters have been housed in innovative cage systems beneath marina pontoons.

Southern IFCA, as the lead regulator for inshore fisheries in the Solent has produced the first draft of the SOMP to coordinate and consolidate collaboration to achieve shared objectives for oyster restoration. The SOMP will be delivered through a partnership between BLUE and Southern IFCA through the latter's statutory obligations building on six years of collaboration in the Solent and Lyme Bay. Representatives from government agencies, academia, environmental groups and the oyster industry are invited to comment on the draft plan and contribute to shape the plan and improve it.

The SOMP defines several strategies for rebuilding and managing native oyster populations; the plan relies on the commitment of partners and the partnership approach runs throughout this plan. The Plan includes: evaluating the use of sanctuaries and harvest reserves to obtain optimum ecological and economic benefits; rebuilding habitat; managing harvest; mitigating development impacts; increasing maricultural opportunities; evaluating the impediments to aquaculture and ranching; improving coordination in water quality monitoring and improving coordination among the oyster partners.

The SOMP endeavours to improve and complement the ongoing efforts of multiple oyster partners toward restoration in the Solent. Currently, the major impediments to rebuilding the oyster resource are the impact of diseases, predation and the degraded condition of oyster habitat. The magnitude of these impediments cannot be over-emphasised and is a common theme throughout the document.

For a full review of the Solent Oyster please see the Blue Marine Foundation commissioned work by Macalister Elliot and Partners¹

1.2 Vision

A restored native oyster resource in the Solent.

A restored oyster resource can be described as abundant, self-sustaining, occurring over a wide range throughout the Solent, performing important ecological roles and supporting an oyster fishery.

1.3 Desired Benefits

A restored oyster resource will:

- Produce more oysters than are removed each year by natural mortality and harvest;
- Improve water clarity by filtering phytoplankton and sediment from the water;
- Provide ecologically valuable habitat for crabs, fish and other organisms;
- Provide income for families and communities; and
- Generate additional revenue to oyster industry.

A note on cooperation and the challenges of competing demands; in order to attain both ecological and socioeconomic objectives, compromises will be necessary, since these two objectives can work in opposition to one another. So as to overcome these challenges dialogue and cooperation will be essential.

¹ Gravestock, V. et al 2014 Solent Native Oyster (*Ostrea edulis*) Restoration – Literature Review & Feasibility Study. MacElister Elliot and Partners, Lymington. Hampshire.

1.4 Objectives

Objective 1.

Increase oyster populations to levels that restore important ecological functions, including water filtration and nutrient cycling; habitat and community structure; and adequate brood stock to sustain regional populations.

1a): Rehabilitate oyster habitat and increase oyster biomass.

1b): Conserve and manage oyster grounds and create sanctuaries.

1c): Achieve a significant increase in oyster biomass by 2025, relative to a 2015 baseline including the creation oyster beds consistent with OSPAR definitions.

Objective 2.

Achieve a sustainable oyster fishery and support jobs in the fishery sector through the introduction of effective systems of managing harvest.

Objective 3.

Reduce the impacts of disease, predation and development on oyster populations and habitats and extend the areas classified for shellfish collection

Objective 4.

Support restoration projects and improvements in water quality and monitoring.

1.5 Solent Oyster Management Plan Structure

The main components to rebuilding and managing the native oyster population in the Solent are:

- 1) to evaluate the use of harvest reserves / dredge areas to obtain optimum ecological and economic benefits;
- 2) to implement effective harvest strategies;
- 3) to augment oyster biomass with ranching²;
- 4) to evaluate aquaculture;
- 5) to track progress, oyster restoration projects, monitor results and communicate and engage local communities in oyster restoration.

All strategies consider the impacts and limiting factors associated with disease and predation.

² Definitions; Ranching and Aquaculture

In this report we refer to ranching and aquaculture separately however we recognise that under a broad and general definition viz. aquaculture can comprise ranching and vice versa. The reason for the separation in this report is however because forms of activity comprise variants with quite different economic implications. The first is where the fish are intended for harvest (or other use) by the releasing agency itself; this we refer to aquaculture. The oysters in this case will usually be in the whose ownership of a person or agency throughout their lifecycle in the Solent. We refer to ranching where the animals are intended to be harvested by other agents unrelated to the releasing agency. This activity is essentially stock enhancement.

The Solent

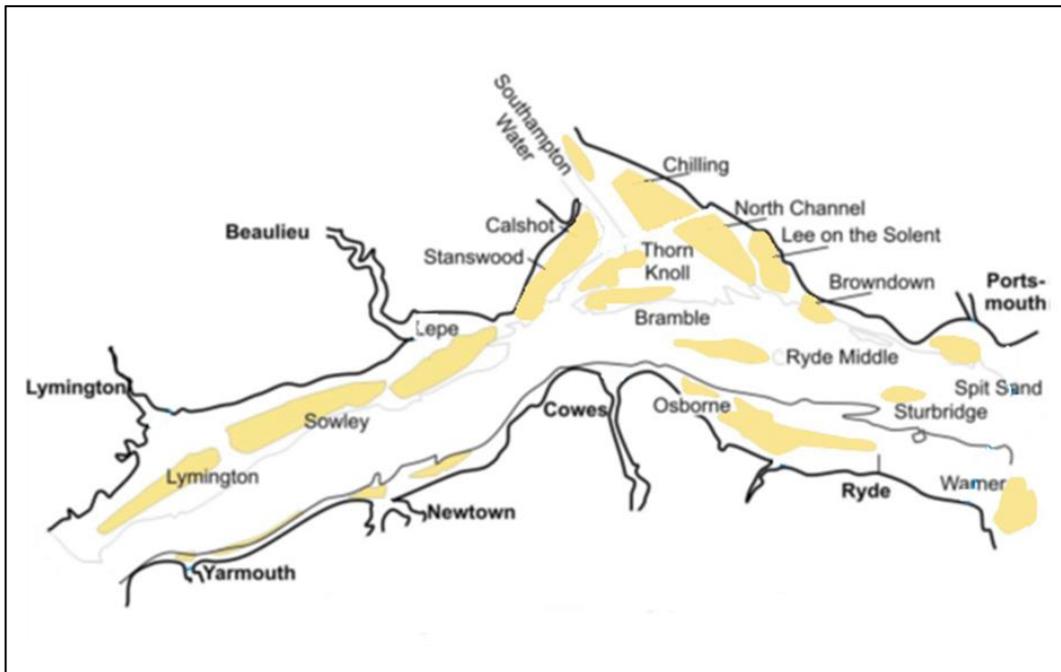


Figure 1. Oyster beds located in the Solent in 2009, as assessed by the annual CEFAS stock survey (adapted from Vanstaen and Palmer, 2009).

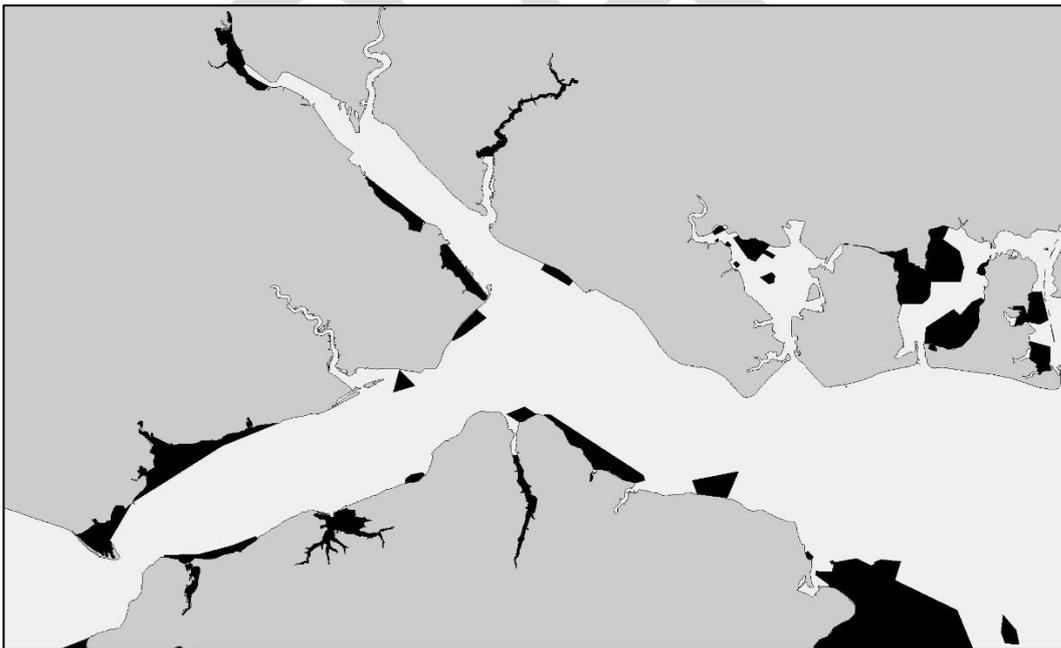


Figure 2. Bottom Towed Fishing Gear closed areas in the Solent³ (Southern Inshore Fisheries and Conservation Authority, Bottom Towed Fishing Gear Byelaw, 2016).

³ Management of fisheries in Marine Protected areas in accordance with DEFRA's policy approach to ensure that all existing and potential commercial fishing operations are managed in accordance with Article 6 of the Habitats Directive

<https://www.gov.uk/government/publications/revised-approach-to-the-management-of-commercial-fisheries-in-european-marine-sites-overarching-policy-and-delivery>

1) the use of harvest reserves / active dredge areas to obtain optimum ecological and economic benefits;

- a) Oyster Harvest Reserves protect the complex biological interactions of oyster bed communities and resident fish populations. Under proposals established for the protection of the marine environment generally shellfish harvest is prohibited in areas within the Solent and these may have function as harvest reserves (see figure 2). By protecting oysters from harvest there is the potential to increase oyster biomass, i.e., brood stock (spawning adults) and larval production. Current areas have not been selected or optimised for the purpose of oyster restoration, but they provide a valuable resource. There are also further opportunities to establish harvest areas where factors such as disease and predation mortality will significantly affect the success of oyster sanctuaries and the increase in oyster biomass. Harvest reserves in disease-endemic areas may have the added benefit of encouraging selection for disease tolerance by providing protection from harvest.
- b) Reserves have also been developed using artificial structures. Work led by the Blue Marine Foundation has established oyster cages. These cages support oyster biomass in the Solent.
- c) Establish active dredge areas to enhance habitat suitability for the settlement of cultch.

Action Table

1a	Investigate the value of shellfish prohibited areas as shellfish sanctuaries and, where consistent with wider environmental objectives, seek to maximise these areas potential for increasing oyster biomass.	Southern IFCA – Blue Marine Foundation – Science Partnership.
1b	Develop systems of management for the protection of juvenile oysters from predation; i.e. the use of ‘trestles’ and ‘tingle traps’.	Oyster fishermen - Southern IFCA – Blue Marine Foundation – Science Partnership.
1c	Develop and maintain the use of artificial structures for the purpose of enhancing oyster biomass	Blue Marine Foundation – Science Partnership.
1d	Identify areas suitable for oyster settlement and establish procedures to enable settlement enhancement.	Oyster Fishermen - Blue Marine Foundation – Southern IFCA
1e	Establish zonal plan of Solent for Shellfish Harvest ⁴	Southern IFCA – Fishermen’s Groups - Blue Marine Foundation – Local Authorities – CEFAS – Environment Agency

⁴ If ground can be prepared at the right time of year, spat may settle naturally. If the ground is recently turned or dredged and has a clean surface, spat will be even more inclined to settle. If clean, broken shell was laid in large patches, this might turn out to be the most efficient and productive method of all as the spat will settle readily and find cover from predators under the broken shell. This is a time served method of farming Native Oysters and was used extensively in the 19th and 20th century before hatchery techniques evolved.

Key Performance Indicators:

Estimate the biomass of oysters in protected areas, within acceptable confidence limits

Monitor the abundance of oyster larvae in Solent System

Produce records of oyster biomass associated with artificial structures and maintain and increase biomass over 5 years.

A zonal plan for Solent Oyster production is produced and it is informed by relevant evidence.

Production plans are shared for the purpose of bivalve mollusc (shellfish) harvesting area classification.

2) harvest strategies;

Oyster dredges are used to exploit a range of bivalve shellfish species across the Southern IFCA district. Species of oysters, clams and cockles and to a lesser extent, mussels, are found in close proximity within the district's waters and are exploited using similar dredging methods. Given the similarities between fisheries there is an opportunity to review existing regulations and harmonise the development of new management for these dredge fisheries under a Dredge Permit Byelaw.

Current trends and historic patterns indicate that intervention is necessary to control fishing mortality (F) and protect the spawning stock biomass of bivalve shellfish populations in the district thus enhancing the sustainability and economic viability of these fisheries. Whereas since 2013 Southern IFCA has applied the 'temporary closure of shellfish byelaw' in the event that shellfish beds are severely depleted, such an approach does not afford aspects of adaptive co-management such as the implementation of harvest control rules which are particularly relevant in the case of rebuilding shellfish stocks, establishing fishing opportunities and where disease and predation is a component of mortality. Furthermore, a flexible approach to the management of the exploitation of shellfish will enable areas of active management, such as the preparation of areas for shellfish settlement, and the management of sanctuary zones. In order to establish the appropriate level of Fishing mortality, understanding the interaction between F and disease is crucial, especially how the interaction impacts achieving the increase in biomass. Important questions include:

- Can adjusting F increase oyster standing stocks in the presence of disease / predation? Are there areas where disease mortality plays a greater role than F?
- What would be the effects of a harvest moratorium on increasing oyster biomass?
- What are the genetic considerations of removing large and/or disease tolerant individuals?

Action Table

2a	Work with stakeholders to develop a flexible system of harvest control to enable adaptive co management of the fishery.	all stakeholders
2b	Develop the Solent Oyster survey to establish biomass estimates and biological reference points	Southern IFCA – Science Partnership.
2c	Identify mortality rates associated with different densities of oysters.	Science Partnership - CEFAS

Key Performance Indicators:

Number of vessels active in fishery stable or increasing within 5 years

Number of vessel days increases within 5 years

Value of fishery increases relative to production within 5 years

Mortality in the fishery is quantified, harvest control rules account for mortality

Biological reference points established

3) Augmenting oyster biomass with ranching;

By increasing the oyster spawning biomass in the Solent recruitment may be enhanced. Evidence suggests that oysters are successfully reproducing in the Solent; oysters have episodic recruitment events and success is linked to wider environmental factors – however by increasing the spawning biomass there is a greater chance of stimulating recruitment.

Over twenty thousand oysters have been introduced to the Solent by BLUE in collaboration with the University of Portsmouth, MDL Marinas and Land Rover Ben Ainslie Racing (LRBAR). It is hoped that by protecting adult oysters in cages hung under pontoons they will produce large quantities of juvenile oysters and re-seed and establish wild oyster beds. Trials carried out over the summer of 2016 were successful and showed not only did the oysters flourish in cages but reproduced re-seeding wild areas.

Oyster cages will be monitored by researchers at the University of Portsmouth, one of three PhD studentships co-funded by BLUE for the project. Two PhD studentships at the University of Southampton are also involved in developing seabed sites and monitoring oyster condition.

Development in the Solent has an impact on Solent Oyster populations, whether directly through removal, by restricting fishing opportunities, or by smothering surrounding areas. The increased use of mitigation methods can reduce this impact; and in the case of identified risks to oyster beds a mitigation protocol, which works with fishers, is proposed.

Seed Collectors could be used to both monitor and collect wild spat. The wild spat can then be placed into bags to be grown on and then when big enough re-laid onto the seabed.

Action Table

3a	Develop and maintain the use of artificial structures for the purpose of enhancing oyster biomass	Blue Marine Foundation – Science Partnership - Southern IFCA –.
3b	Implement the Southern IFCA oyster mitigation protocol where development impacts oyster stocks and encourage partnerships through this process.	Southern IFCA - Blue Marine Foundation – Science Partnership – Marine Management Organisation.
3c	A collaboration project to establish spat collection and if feasible this should be developed and spat relayed into areas prepared for reception ⁵ .	Science Partnership - To be identified.

⁵ June, July and August, a weekly study needs to be done, looking at water samples throughout the Solent. If the presence of viable larvae is detected, then collectors can be considered

Key Performance Indicators:

Ratio of number of development plans and projects assessed to impact oysters vs. number of projects where mitigation applied

Biomass of oysters has increased

Number of receptors / by who / when

4) Evaluation of aquaculture;

Native Oyster populations in the Solent may be augmented with effective aquaculture of native oysters, however disease and predation are a considerable barrier to realising both the economic and environmental potential of supporting oyster restoration through this method. In this regard it is likely that ranching remains the most significant method of contributing to native oyster recovery. Although likely to require economic support, whether by way of integration into other coastal assets (such as for example partnerships with tourism, as illustrated by the National Lobster Hatchery in Cornwall) or through other funding sources such as the European Maritime and Fisheries Fund, for the purchase of oysters from elsewhere, there is the opportunity to explore the potential for native oyster ranching.

Thinking more broadly about the long-term viability of the oyster industry in the Solent and without compromise to the native species, there is the opportunity to consider how pacific oyster farming may be enabled to allow economic regeneration in the fisheries in the Solent. With warming seas pacific oyster farming is likely to be a viable alternative / addition to the native oyster fishery. Pacific oysters are also found extensively in the Solent. Southern IFCA has considerable experience in aquaculture management and already manages the largest pacific oyster production area in England in Poole Harbour, by way of the Poole Harbour Fishery Several Order 2015.

The Solent is a busy place and there exists a complex regulatory system which evolved in order to minimise negative effects of aquaculture on the marine environment. There are also a number of legal obligations for fish and shellfish farmers emanating from the European Union such as the Water Framework Directive, Marine Strategy Framework Directive, Habitats Directive, Birds Directive, and Aquatic Animal Health Directive most of which have now been transposed into UK law. This provides a mass of regulation which is very complicated for shellfish farmers to interpret and manage. Increased levels of practical guidance are needed so that these regulations can be understood and acted upon.

There is an opportunity to develop guidance and support for potential oyster aquaculture enterprises.

3a	To develop a planning guide for the Solent detailing the potential for aquaculture in the area.	Southern IFCA – CEFAS - Blue Marine Foundation – Science Partnership ---.
3b	To undertake feasibility plans for native oyster ranching in the Solent.	Blue Marine Foundation

Key Performance Indicators:

Guide produced by 2018

Feasibility study undertaken

5) Tracking progress, oyster restoration projects, monitor results and communicate and engage local communities in oyster restoration.

The structure of this plan is designed to support and build upon existing partnerships. Those specific oyster partnerships already mentioned in this report work alongside established and existing partnerships and coastal groups with a broader interest. So as to enable the plan there is a need to integrate further oyster restoration into the wider planning, community communication and management systems. Partners such as CEFAS, Coastal Local Authorities are essential in this. Existing forums, in particular the Solent Forum are central to communication in the Solent. More broadly initiatives such as the Local Enterprise Partnership, the Local Nature Partnerships, the Solent European Marine Site Management Group, the Solent Protection Society all have an important role.

In particular, as well as SOFA the coastal fishing communities such as those on both the main land and the Isle of Wight are essential stakeholders. There is a need to ensure that communication and engagement with these partners is enhanced and that they have the opportunity to contribute to and shape the oyster restoration efforts in the Solent.

A collaborative science forum project has been initiated by The Blue Marine Foundation between researchers in Universities. This project provides valuable data, in particular as it relates to the health of the marine environment.

Southern IFCA quantify a baseline oyster population in the Solent and will continue to standardise population monitoring efforts and measure progress toward the objective of increasing oyster biomass.

Oyster numbers and biomass data are obtained from the Solent Oyster Survey. Mean oyster densities are estimated from these sites and then extrapolated over an estimated habitat area. Data for estimating the Solent Oyster populations include fishery independent and dependent data, restoration efforts and ranching. The methodology to estimate biomass needs refinements. The information generated from these projects will provide the basis for managing the stock using biological reference points, i.e., appropriate mortality rates and biomass thresholds and targets. Information generated from these projects will provide the basis for managing the stock using biological reference points, i.e., appropriate mortality rates and biomass thresholds and targets.

5a	To support and continue to facilitate a science and evidence collaboration forum	Blue Marine Foundation – Science Partnership. SEMS
5b	To continue to monitor oyster populations and to refine stock assessment techniques	Southern IFCA, commercial Fishermen, Science Partnership, SOFA
5c	To evaluate the economic benefits of a healthy oyster stocks	Environment Agency – Southern IFCA

Key Performance Indicators:

Number of science partnership meetings

Number of partnership projects associated with oysters in the Solent

Stock assessment represents best available data and is widely understood / accessible.

List of Oyster Partnerships and Projects

Southern Inshore Fisheries and Conservation Authority (IFCA)

Created in 2011, with powers and duties principally described in the Marine and Coastal Access Act, 2009 Southern IFCA is one of 10 IFCAs in England. The 10 IFCAs have a shared vision and will lead, champion and manage a sustainable marine environment and inshore fisheries, by successfully securing the right balance between social, environmental and economic benefits to ensure healthy seas, sustainable fisheries and a viable industry.

Southern IFCA is funded by local authorities including Hampshire, Dorset and the Isle of Wight as well as Portsmouth, Southampton and Poole. The Authority is composed of 21 members. Members include councillors appointed by their local authorities, general members appointed for the specialist skills and knowledge and members appointed by the Marine Management Organisation, Environment Agency and Natural England.

Southern IFCA employs a team of Inshore Fisheries and Conservation Officers. Officers develop evidence to support the management decisions of the Authority and also enforce byelaws and other regulations.

The management of oyster fishing in the Solent for the purpose of sustainable harvest is currently delivered by way of byelaws. These byelaws are under review, for the purpose of supporting oyster restoration. The Authority has a duty to review existing legislation and, where necessary introduce new management to ensure the exploitation of sea fisheries resources is carried out in a sustainable way. From 2013 to 2017 the fishery has been subject to temporary closures, through the application of the temporary closure of shellfish beds byelaw for the purpose of recovery of beds which are severely depleted. In addition, byelaws define a season for the oyster fishery, the type and size of vessel that may be used and the size of oyster that may be removed.

Southern IFCA also has duties to protect the marine environment and, since 2012 in accordance with the requirement and policy of Defra, has been required to assess all fishing activities for their compatibility with the marine protected area designations in the Harbour. Having assessed the fisheries a number of temporary and permanent protections have been put in place; these restrict fishing both spatially and temporarily, for the purpose of nature conservation. Although these sites were not chosen for the purpose of oyster restoration, they are a planning consideration for future restoration.

Southern IFCA is a consultee as regards to marine licensing. The Solent is subject to various pressures from development as it is of national and international importance for trade and commerce. As a consultee Southern IFCA have developed an Oyster translocation protocol (see appendix 1). This protocol establishes a procedure for translocation of native oysters, prior to a seabed development, so as to mitigate the impacts of development on the seabed. This protocol is designed to assist sustainable development the marine environment.

Southern IFCA conducts a Solent Oyster Survey. The survey commenced in 2013 by Southern IFCA having been previously carried out by CEFAS and discontinued in 2011. The methodology has also been adapted from the CEFAS surveys to use a ladder dredge (typical of the current method of oyster fishing in the Solent), rather than a Baird dredge, as this better represents the equipment used by the fishing industry. The data is presented as catch per unit effort as well as oyster density to provide a measure relatable to what catch rates might look like as well as what the density of oyster on the ground might look like so consideration can be made towards the implications for stock recovery.

The Blue Marine Foundation and The Blue Marine Solent Oyster Restoration Project

The Blue Marine Foundation (BLUE) is a charity dedicated to creating marine reserves and establishing sustainable models of fishing. The Solent Oyster Restoration Project led by BLUE is working to restore the native oyster to the Solent, the strait that separates the Isle of Wight from mainland England and which once supported the biggest oyster fishery in Europe. This ambitious project has brought together a range of partners and stakeholders and aims to reintroduce 5 million oysters to the waterway over the next five years.

Leading a coalition made up of fishermen, marine and local authorities, scientists and conservationists, BLUE seeks to significantly increase the population of native oysters in the Solent by 2020. The restoration of the native oyster will provide wide-ranging ecological and social benefits for the region over the long-term by helping to improve water quality, foster valuable habitats and re-establish an important strand of the economy on the South Coast.

A number of restoration techniques are being used including protected seabed sites, ranching areas and cages suspended from pontoons in marinas across the Solent.

Over twenty thousand oysters have been introduced to the Solent in collaboration with the University of Portsmouth, MDL Marinas and Land Rover Ben Ainslie Racing (LRBAR). It is hoped that by protecting adult oysters in cages hung under pontoons they will produce large quantities of juvenile oysters and re-seed and establish wild oyster beds. Monthly monitoring indicates not only are oysters flourishing in cages but reproducing and re-seeding wild areas.

Oyster cages are being monitored by a researcher at the University of Portsmouth, one of three PhD studentships co-funded by BLUE for the project. Two PhD studentships at the University of Southampton are also involved in developing seabed sites and monitoring oyster condition. Three thousand oysters have been placed onto the seafloor in a Solent estuary as part of a trial to test different re-seeding methodologies to inform the larger scale restoration project.

In 2018 BLUE hopes to restore a million oysters into a protected seabed site and trial 'oyster ranching' areas across the Solent whilst continuing to add to cages at marinas.

Management Objectives

Objective 1

Restore native oysters through wild and ranching re-seeding of the Solent's waters with a significant volume of juvenile oysters using active management methodologies.

Objective 2

Protect wild and re-seeded mature breeding oysters in 'sanctuary sites' where they will be able to reproduce undisturbed in order to sustain long-term replenishment of the native oyster stock.

Objective 3

Improve the ability of the native oyster to provide a suite of ecosystem services for the Solent.

Objective 4

Develop awareness of the oysters, their importance and the wider marine environment, and develop support for the project through community engagement and education.

Sussex IFCA

Sussex IFCA is responsible for the management of Inshore Fisheries in Sussex. The Sussex IFCA District includes the majority of Chichester Harbour, with the exclusion of the Western part of Chichester Harbour, west of a line drawn down the middle of Emsworth Channel which demarks the County Boundary. So as to ensure coordinated management in Chichester Harbour, through an agreement with Southern IFCA, Sussex IFCA manages the oyster fishery throughout the extent of Chichester.

Sussex IFCA coordinates the CHOPI programme and manages the oyster fishery in the Harbour by way of an Oyster Permit Byelaw. The Oyster Permit Byelaw establishes a permit based system for the commercial exploitation of native oyster stocks by dredging. The Byelaw provides a responsive adaptive management for oyster fisheries and supports the development of sustainable fisheries through catch restrictions, gear configuration through permit conditions. The byelaw will enable stock management at sustainable levels and maximise economic benefit from the relevant fisheries for the benefit of the community. The byelaw's provisions will support the Authority in delivering its conservation duties within Chichester Harbour and the wider district. The flexible permit conditions will be reviewed when necessary and within a time period not exceeding four years. <https://secure.toolkitfiles.co.uk/clients/34087/sitedata/files/Oyster-permit-byelaw.pdf>

Appendix 1 - Oyster Translocation Protocol

Oyster Translocation Protocol

Purpose

This protocol establishes a procedure for translocation of native oysters, prior to a seabed development, so as to mitigate the impacts of development on the seabed. This protocol is designed to assist sustainable development the marine environment.

What is translocation?

In this protocol we refer to translocation as the capture, transport and release of oysters prior to seabed development. Mitigation measures, such as translocation are common on land but have not traditionally been used extensively at sea. The measure does not compensate for any impacts on the seabed but assist to mitigate such impacts.

Why is this important?

Sea bed developments can impact on native oysters, for example capital and maintenance dredging physically removes oysters from the seabed and the sedimentation associated with certain development can smother nearby oyster beds. Mitigation and compensatory measures can reduce the impacts of such activities by removing oysters prior to development and relocating them in areas which will not be impacted by the development. This reduces direct mortality through removal and secondary mortality through smothering. The relocation of oysters into high density beds may also increase the reproductive potential of oysters.

The native oyster needs careful conservation to safeguard its future and help return populations to favourable condition. To help achieve this goal, the native oyster species action plan has been prepared as part of the UK Biodiversity Action Plan. As a UK BAP priority species native oysters are identified as being amongst the most threatened and requiring conservation action under the UK Biodiversity Action Plan (UK BAP). Native oysters are also features within Marine Conservation Zones; the conservation objectives associated with this species within an MCZ may be impacted by development outside the designated area.

Biology of Native Oysters

The number of young native oysters joining the population each year is very variable, depending on a combination of factors such as temperature, food supply, currents and the availability of suitable habitat. Also, the likelihood of successful fertilisation depends on the population density of oysters. If the population density is high, lots of animals spawn together and lots of eggs are fertilised. If the population density is low or small populations become isolated, the oysters may spawn at different times and very few eggs will be fertilised. Hence, with care, translocation of oysters has to potential to improve the reproductive potential of oysters. However it is of note that care is needed to locate suitable areas for translocation and the density of oysters such minimise the risk to those oysters of disease and predation.

How does it work?

The Solent Oyster Restoration Project

The Solent Oyster Restoration Project is a collaboration of fishermen, regulators and non-governmental organisations that work together with the aim to restore native oysters in the Solent. The project is administered by the Blue Marine Foundation. Through the partnership the project aims to support the sustainable management of the seabed and can work with marine license holders to translocate oysters from areas due to be developed through

commissioning oyster fishing to clear an area of oysters from a site and relocating these oysters, in accordance with the Solent Oyster Restoration Plan, into areas designed to promote the restoration of this important species. The relocation will require preparation of the receiving beds and necessary permissions in accordance with the nature conservation designations, land ownership, development regulations and also local fisheries byelaws.

What a developer can expect

The licensing and permitting aspects of the translocation work can take 56 days but the practical clearance of areas can be achieved to fit in with developer's schedules. The collaboration will aim to work with developers to identify possible issues before they arise and minimise the impacts of developments on oysters.

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References

Gravestock, V. James, F. and Goulden, M. 2014 Solent Native Oyster (*Ostrea edulis*) Restoration – Literature Review & Feasibility Study. MacElister Elliot and Partners, Lymington. Hampshire.

Vanstaen, K. and D. Palmer (2010). Solent Regulated Fishery Oyster Stock Survey 15 - 21 June 2010. Technical report. Centre for Environment, Fisheries and Aquaculture

Science, Lowestoft Laboratory. 31 p. Vause, 2010, Chichester Harbour Oyster Partnership Initiative. Shellfish News, march 2010

Roos, 2014

Eagling, L. and Jensen, A., 2012, Native oysters in Chichester Harbour. Shellfish News 34: 21-22 <http://www.cefas.defra.gov.uk/publications/shellfishnews/sfn34-Interactive.pdf>

Palmer, D., Firmin, C., 2011. Solent Regulated Fishery Oyster Stock Survey 5 - 8 July 2011. Technical report. Centre for Environment, Fisheries and Aquaculture Science, Lowestoft Laboratory. 19 p.