

Title: Sussex IFCA Marine Protected Area Byelaw – Pagham Harbour Marine Conservation Zone and European Marine Site management IA No: SXIFCA004 Lead department or agency: Sussex IFCA Other departments or agencies: Natural England, Marine Management Organisation, Defra	Impact Assessment (IA)
	Date: 01/12/16
	Stage: Consultation
	Source of intervention: DOMESTIC
	Type of measure: Secondary Legislation
	Contact for enquiries: Tim Dapling, Chief Fisheries and Conservation Officer: 12a Riverside Business Centre, Shoreham-by-Sea, West Sussex, BN43 6RE, 01273 454 407, admin@sussex-ifca.gov.uk
Summary: Intervention and Options	RPC Opinion: N/A

Cost of Preferred (or more likely) Option			
Total Net Present Value	Business Net Present Value	Net cost to business per year (EANCB on 2009 prices)	In scope of One-In, Measure qualifies as Two-Out?
£0m	£0m	£0m	no N/A

What is the problem under consideration?
The Sussex IFCA MPA Byelaw and associated Pagham Harbour MCZ and EMS Schedule are proposed to further the conservation objectives of this 1st tranche MCZ site, in order to help the government achieve their commitment to providing a well-managed ecologically coherent marine protected area network, and in accordance with the duties of the IFCA under sections 125, 126, 153 and 154 of the Marine and Coastal Access Act 2009.

In addition, Pagham Harbour was classified as a SPA in March 1988. The site qualifies under Article 4.1 of the EU Birds Directive 1979 by supporting internationally important populations of regularly occurring Annex 1 species. It also qualifies under Article 4.2 of the EU Birds Directive in that it supports internationally important populations of regularly occurring migratory species. Government has revised the approach to the management of fishing activities within English European Marine Sites (EMS) to bring commercial fisheries management in line with other activities and ensure compliance with EU Habitats and Birds Directives to protect habitats and species for which sites were designated. Proposed management would also achieve wider sustainable fisheries benefits.

Why is government intervention necessary?
Government intervention is required to redress market failure in the marine environment by implementing appropriate management measures (e.g. this byelaw) to conserve features to ensure negative externalities are reduced or suitably mitigated. Implementing this regulatory notice will support continued provision of public goods in the marine environment.

Specifically, this byelaw will help provide appropriate risk-based management and protection across Pagham Harbour MCZ and EMS where fishing activities are deemed detrimental to achieving the protected features conservation objectives (see Section 1.5, Table 1).

What are the policy objectives and the intended effects?

- To further the conservation objectives stated for Pagham Harbour MCZ
- To ensure compliance with the Marine and Coastal Access Act (MCAA) 2009 and help achieve the government’s commitment to a well-managed, ecologically coherent network of MPAs
- To promote sustainable fisheries while conserving the marine environment
- To reduce external negativities and ensure continued provision of public goods
- To implement the government’s revised approach to fisheries within EMS
- To protect habitats and species for which EMS were designated from both current and possible future increases in damaging fishing activities
- To fulfil IFCA’s duties under Sections 153 and 154 of the MCAA 2009, to manage the sustainable exploitation of sea fisheries resources and further the conservation objectives of EMS respectively
- To fulfil the IFCA’s legal requirement under Article 6 of the Habitats Directive 1992, to take appropriate conservation measures to avoid damaging activities in EMS

What policy options have been considered, including any alternatives to regulation? Please justify preferred option (further details in Evidence Base)

- Option 0 Do nothing
- Option 1 Voluntary agreement
- Option 2 Sussex IFCA MPA Byelaw with associated Pagham Harbour Schedule
- Option 3 Whole site prohibition of all activities all year round

All options are compared to option 0. The preferred option is option 2 which will promote both sustainable fisheries and conserve the marine environment while ensuring compliance with the Marine and Coastal Access Act 2009 and Article 6 of the Habitats Directive.

Will the policy be reviewed? It will be reviewed. **If applicable, set review date:** 4 years

Does implementation go beyond minimum EU requirements?		N/A			
Are any of these organisations in scope? If Micros not exempted set out reason in Evidence Base.	Micro No	< 20 No	Small No	Medium No	Large No
What is the CO ₂ equivalent change in greenhouse gas emissions? (Million tonnes CO ₂ equivalent)			Traded: N/A		Non-traded: N/A

I have read the Impact Assessment and I am satisfied that, given the available evidence, it represents a reasonable view of the likely costs, benefits and impact of the leading options.

Signed by the responsible SELECT SIGNATORY: _____ Date: _____

Summary: Analysis & Evidence

Policy Option 2

Description:

FULL ECONOMIC ASSESSMENT

Price Base Year	PV Base Year	Time Period Years 10	Net Benefit (Present Value (PV)) (£m)		
			Low: Optional	High: Optional	Best Estimate:

COSTS (£m)	Total Transition (Constant Price) Years	Average Annual (excl. Transition) (Constant Price)	Total Cost (Present Value)
Low	Optional	Optional	Optional
High	Optional	Optional	Optional
Best Estimate	0	0	0

Description and scale of key monetised costs by 'main affected groups'

No legal commercial fishing is known to take place within Pagham Harbour, therefore no costs to industry associated with the proposed management are anticipated.

There is no known towed gear or potting activity within the harbour. In addition, there is no legal commercial netting activity but some illegal, unlicensed activity. Angling largely occurs around mouth of the Harbour. Intertidal hand gathering (bait and hand collection) is not known to be widespread within the harbour. There is one IFCA intel report of a large amount of shellfish being gathered.

Historically, West Sussex County Council (WSCC) byelaws excluded all commercial fishing within Pagham Harbour and allowed limited recreational rod and line activity, however, these are now no longer in place. WSCC previously issued 25 fishing permits and 15 bait digging permits which allowed the permit holders to fish or bait dig during certain periods of the year and within defined areas. This permit system was legally challenged in 2013 under the general rights and subsequently removed.

Remaining Local Nature Reserve byelaws prohibit public access to Tern Island (and New Island in proposed revised byelaws) at all times of the year and to the inner half of Church Norton Spit during the nesting season, April - August inclusive. Refer to Appendix IV for maps illustrating past West Sussex County Council management and current RSPB management.

As the historic stringent management for the site no longer exists, which prevented high fishing activity levels, there is the consequent threat of increased activity which could impact this important site. Due to the relatively pristine nature of Pagham Harbour, pro-active management is proposed to complement the remaining management in place and prevent potential damage.

Enforcement of the proposed byelaw and regulatory order will necessarily be met within the current budget and wherever feasible will be incorporated into existing business and patrol commitments. Whenever possible Sussex IFCA will work with joint agency partners to conduct land or sea patrols making effective use of resources to achieve common objectives and further reducing estimated costs.

Other key non-monetised costs by 'main affected groups'

Information gathered from fishers and other stakeholders during pre-consultation and Sussex IFCO expert intel has been used to support the evidence base and assumptions. The information received was largely qualitative and anecdotal, thus refinement of the monetised costs for commercial fisheries in Defra's MCZ IA were not possible.

BENEFITS (£m)	Total Transition (Constant Price) Years	Average Annual (excl. Transition) (Constant Price)	Total Benefit (Present Value)
Low	Optional	Optional	Optional
High	Optional	Optional	Optional
Best Estimate	0	0	0

Description and scale of key monetised benefits by 'main affected groups'

No monetised figures are available for the benefits of the recommended management. However, significant potential benefits are summarised below. It is considered that the potential environmental benefits of introducing the proposed regulatory notice outweigh the possible administrative burden.

Other key non-monetised benefits by 'main affected groups'

Introduction of the proposed management will further the site's conservation objectives. Protection of the site will have a range of environmental, sustainable fisheries and ecosystem services benefits – refer to Section 6.2. Evidence indicates that the management option of 'do nothing' could result in a decline of ecosystem services currently provided by the site and that the existing ecosystem services derived from Pagham Harbour make a contribution to the local economy, primarily through recreation activities.

Conservation of Pagham Harbour MCZ and EMS contributes to the delivery of a well-managed ecologically coherent network of Marine Protected Areas (MPAs) together with Defra's aim to conserve and enhance the marine environment and promote sustainable fisheries.

Key assumptions/sensitivities/risks**Discount rate**

3.5

That evidence and fisheries models are sufficient to reflect predicted outcomes.

BUSINESS ASSESSMENT (Option 2)

Direct impact on business (Equivalent Annual) £m:			In scope of OITO?	Measure qualifies as	
Costs:	0	Benefits: 0	Net: 0	No	N/A

1.0 Introduction

1.1 Impact Assessment purpose

This impact assessment (IA) outlines the costs and benefits of the proposed fishing activity management to protect the designated habitats and species of Pagham Harbour MCZ and EMS and further their conservation objectives. The IA also indicates why the option being recommended is the preferred option for management. A draft of this IA will be subject to public consultation.

1.2 Marine Protected Area network

The UK Government's vision is of 'clean, healthy, safe, productive and biologically diverse oceans and seas'. Under the Marine and Coastal Access Act 2009 (MCAA) the government committed to designating a well-managed ecologically coherent network of marine protected areas (MPAs), which is a key element for achieving this vision. This network will consist of existing MPAs including special areas of conservation (SACs), special protected areas (SPAs), sites of special scientific interest (SSSIs), Ramsar sites, and a new type of MPA called marine conservation zones (MCZs).

Within the Sussex Inshore Fisheries and Conservation Authority's (IFCA) district, Beachy Head West, Kingmere and Pagham Harbour were designated within a first tranche of MCZs in November 2013. Tranche 2 sites were designated in January 2016, and within the Sussex IFCA District include Utopia and a small section of Offshore Overfalls. Tranche 3 sites will be consulted on in summer 2017. Pagham Harbour is both a nationally and internationally important site for its wildlife and geology. As such it has a number of designations including Ramsar site (wetland site of international importance), Site of Special Scientific Interest (SSSI), Local Nature Reserve and Special Protection Area (SPA).

1.3 IFCA's MCZ duties

IFCAs are responsible for the management of inshore sea fisheries resources out to 6 nautical miles and the protection of the marine environment from fishing impacts within this area, balancing social, environmental and economic benefits.

Under section 154 of the MCAA IFCAs have a statutory duty to further the conservation objectives of any MCZ and are required to develop fisheries management measures for sites within 6nm to achieve this, as well as the subsequent enforcement. Figure 1 summaries IFCA's duties under MCAA with regards to MCZs. This work has been embedded in Sussex IFCA's annual plans, with development and introduction of management measures for Pagham Harbour identified as a priority following Kingmere and Beachy Head West MCZ management formulation.

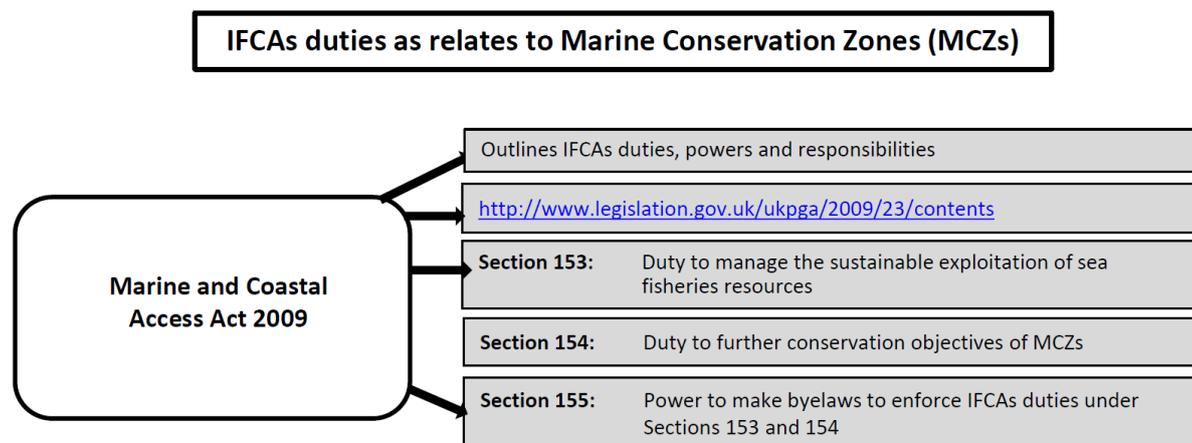


Figure 1: IFCA's duties as relates to Marine Conservation Zones

1.4 IFCA's EMS duties

Special Areas of Conservation (SAC) and Special Protection Areas (SPA) that are covered by tidal waters are referred to as European Marine Sites (EMS). EMS protect habitats and species of European importance and contain some of England's most vulnerable marine wildlife and habitats. In 2012, the Department for Environment, Food and Rural Affairs (Defra) announced a revised approach to the management of commercial fisheries in EMS. The objective of this revised approach is to ensure that all existing and potential commercial fishing activities are managed in accordance with our obligations under the European Union (EU) Habitats and Birds Directives (92/43/EEC and 2009/147/EC respectively), and is in line with the regulation of other marine industries and activities.

Activity and protected feature interactions require site-level assessment to determine whether fishing activity has a likely significant effect on protected site features, and if management is required to conserve these. IFCA's are the primary delivery body for the management of fisheries within EMS encompassed in an IFCA District. Figure 2 summarises IFCA's duties as relates to EMS.

The development of management for designated MCZs and EMSs within the Sussex IFCA District is a complex process and requires the Authority to take into consideration: the Authority's legal duties; site conservation advice and objectives; and the socio-economic needs of the community, assessing how these can be accommodated within appropriate, practical and economically feasible management.

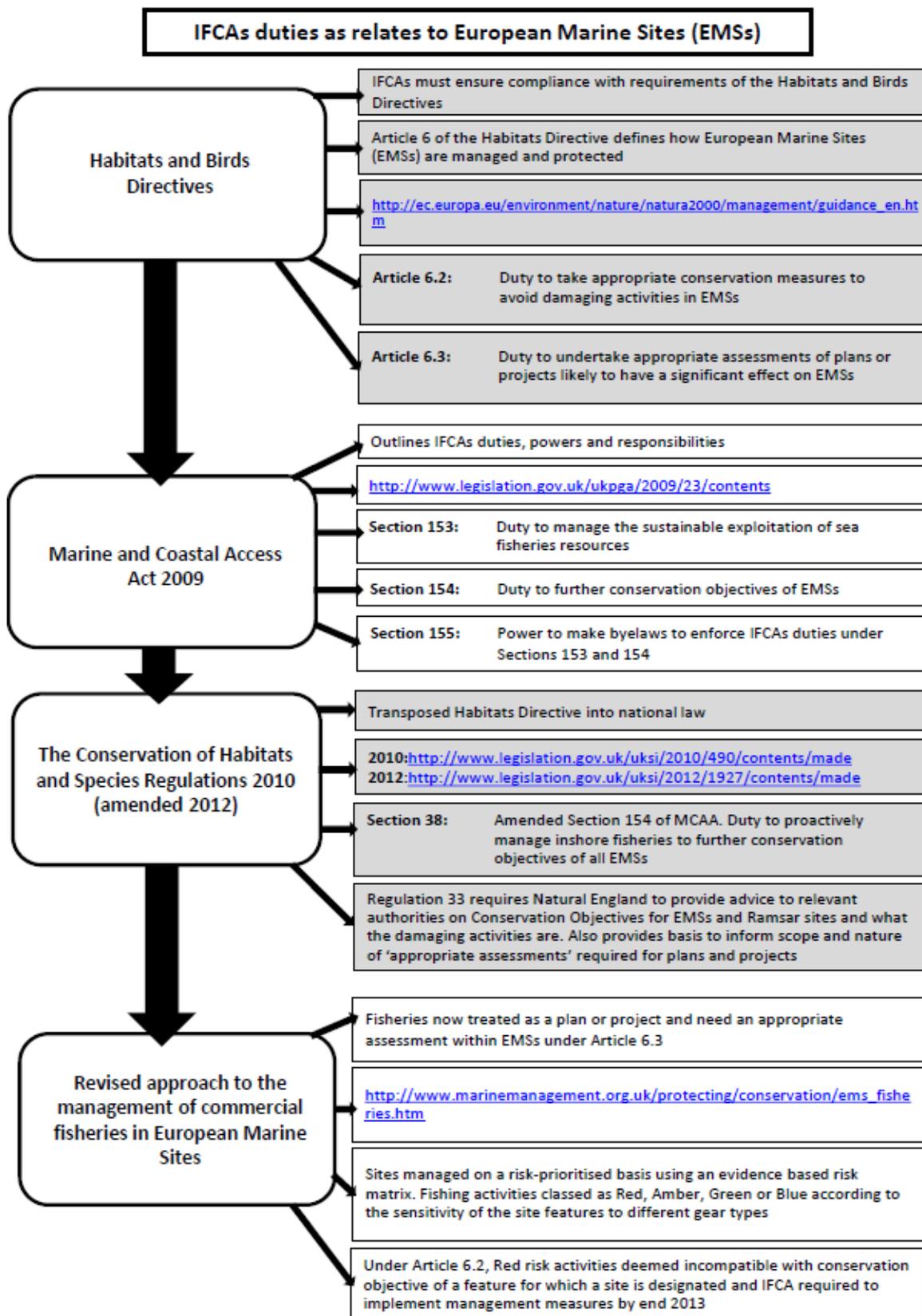


Figure 2: IFCA duties as relates to European Marine Sites.

1.5 EMS and MCZ protected features

The protected features within Pagham Harbour MCZ and EMS are summarised below.

Table 1: Pagham Harbour MCZ and SPA features and importance

Site	Description & Importance	Features for protection
Pagham Harbour MCZ	<p>Pagham Harbour MCZ is a small inshore site measuring 3 km², located between Bognor Regis and Chichester in West Sussex (see Annex II boundary map). This naturally occurring harbour is a tidal inlet which is fronted by two dynamic shingle spits.</p> <p>The harbour is renowned for its rich wildlife. The MCZ site offers specific protection to two different Schedule 5 species and one habitat type. The environment within Ferry Pool lagoon supports the rare lagoon sand shrimp. Defolin's lagoon snail is another rare species protected by this site, with colonies only known to occur in three locations in the UK. Both of these features lie above the MHW and are therefore outside of Sussex IFCA's management remit.</p> <p>Seagrass beds, made up of grass-like flowering plants, occur within the harbour itself and are a Biodiversity Action Plan (BAP) species. These provide an important food source for overwintering wildfowl and contain nutrients which support a range of animal communities. They also act as a nursery ground for juvenile fish and provide shelter for a wider range of species. Seagrass beds are sensitive to physical disturbance caused by some activities.</p>	<p>Designated for 3 features:</p> <ul style="list-style-type: none"> • Seagrass beds (only feature below MHW and therefore within Sussex IFCA's management remit) • Defolin's lagoon snail <i>Caecum armoricum</i> • Lagoon sand shrimp <i>Gammarus insensibilis</i> <p>The general management approach is maintain in favourable condition for all features.</p>
Pagham Harbour SPA	<p>Pagham Harbour SPA includes both marine areas and land which is not subject to tidal influence (See Annex III boundary map).</p> <p>The site protects the habitats of the internationally important populations of Annex I and migratory bird species which occur, in order to ensure their survival and reproduction within the European Union. Species listed on Annex 1 are in danger of extinction, rare or vulnerable. Pagham is a very good area for breeding terns which are generally greatly declining. As well as protecting their supporting habitats, significant disturbance must also be avoided to help protect these important bird populations.</p>	<ul style="list-style-type: none"> • Bird species/assemblage features: <ul style="list-style-type: none"> - Internationally important populations of regularly occurring Annex 1 species (little tern, common tern and wintering ruff) - Internationally important populations of regularly occurring migratory species (dark-bellied brent geese) • Generic sub-features: <ul style="list-style-type: none"> - Shallow coastal waters - Estuarine fish community - Intertidal mudflats and sandflats - Intertidal mixed sediments - Saltmarsh community - Estuarine birds - Surface feeding birds - Seagrass <p>Conservation Objective:</p>

Site	Description & Importance	Features for protection
		Subject to natural change, maintain in favourable condition the habitats for the internationally important populations of the regularly occurring Annex 1 bird species and regularly occurring migratory species, under the Birds Directive.

Tern disturbance within the SPA is a key concern. Pagham is a very good area for breeding terns which are generally greatly declining. Due to the small size of the harbour and location of nesting little and common terns, these notified features of the SPA are highly vulnerable to visual and noise disturbance.

Seagrass protection within the site would fulfil both MCZ and SPA requirements. Seagrass is an MCZ protected feature, a SPA sub-feature - providing key feeding habitat for the protected Brent geese - and a sensitive habitat assigned red risk in SACs.

There are also strong wider fisheries management rationale for the proposed management within Pagham Harbour, including protection of migratory species and juvenile fish populations. Although currently there is a very low-level of fishing activity, this is potentially the only near-pristine site within the district and a one-off fishing activity occurrence could have a significant effect on protected features.

The proposed management boundary (Figure 3) is in line with the MCZ boundary, inclusive of all areas within this extent. Some areas within this boundary are above mean high water. Sussex IFCA jurisdiction does not include areas above mean high water nor extend to activities other than those that are fisheries related. This management boundary has been used for maximum clarity and includes MCZ and EMS features.

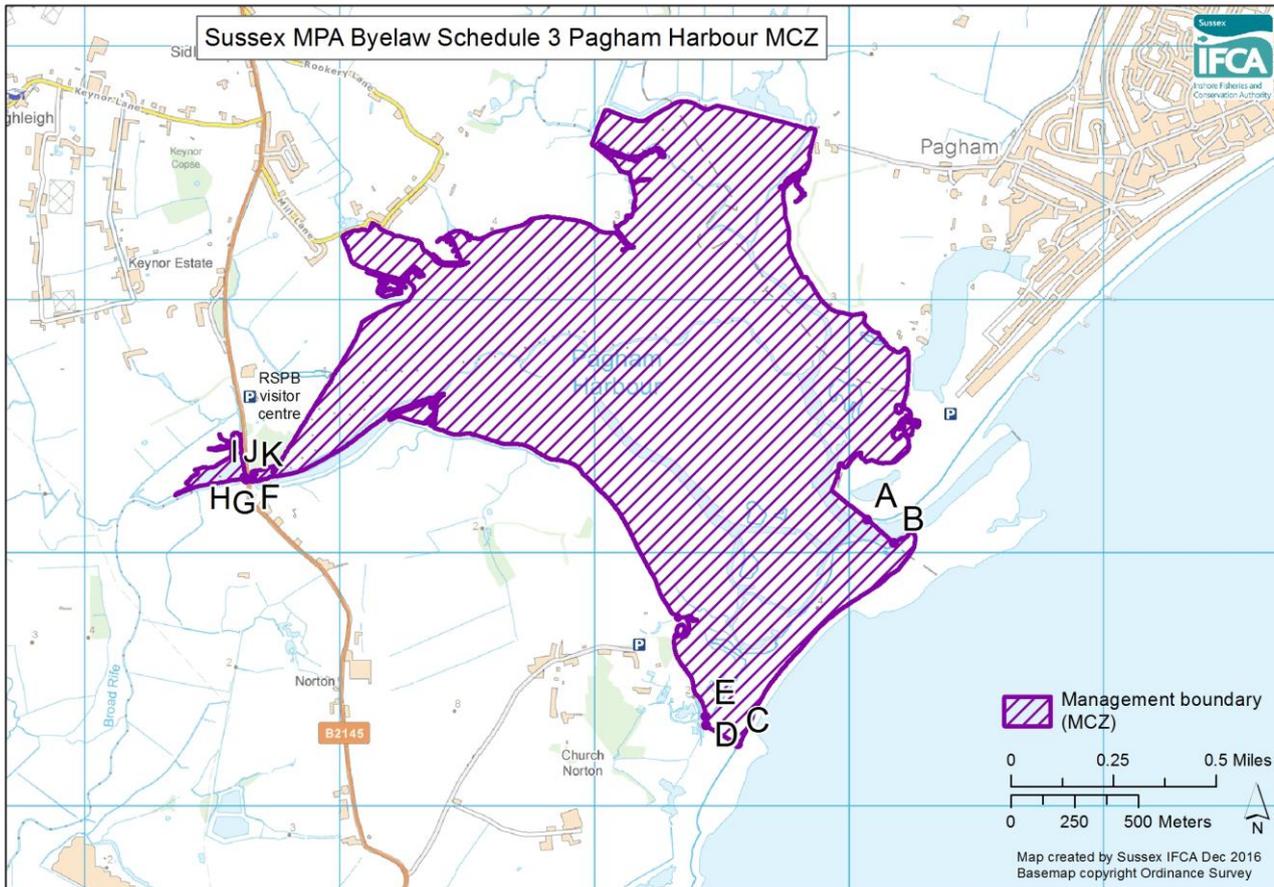


Figure 3: Pagham Harbour management boundary.

2.0 Rationale for intervention

2.1 Overarching rationale for government intervention

IFCAs have duties to ensure that fish stocks are exploited in a sustainable manner, and that any impacts from that exploitation on designated features in the marine environment are reduced or suitably mitigated, by implementing appropriate management measures. Implementing this regulatory notice will ensure that fishing activities are conducted in a sustainable manner and that the marine environment is suitably protected.

Fishing activities can potentially cause negative outcomes as a result of 'market failures'. These failures can be described as:

- **Public goods and services** – A number of goods and services provided by the marine environment such as biological diversity are 'public goods' (no-one can be excluded from benefiting from them, but use of the goods does not diminish the goods being available to others). The characteristics of public goods, being available to all but belonging to no-one, mean that individuals do not necessarily have an incentive to voluntarily ensure the continued existence of these goods which can lead to under-protection/provision. Sussex IFCA must ensure that the exploitation of sea fisheries resources is carried out in a sustainable way.
- **Negative externalities** – Negative externalities occur when the cost of damage to the marine environment is not fully borne by the users causing the damage. In many cases no monetary value is attached to the goods and services provided by the marine environment and this can lead to more damage occurring than would occur if the users had to pay the price of damage. Even for those marine harvestable goods that are traded (such as wild fish), market prices often do not reflect the full economic cost of the exploitation or of any damage caused to the environment by that exploitation. Sussex IFCA must seek to balance the social and economic benefits of exploiting the sea fisheries resources of the district with the need to protect the marine environment from, or promote the recovery from, the effect of such exploitation.

- Common goods - A number of goods and services provided by the marine environment such as populations of wild fish are 'common goods' (no-one can be excluded from benefiting from those goods however consumption of the goods does diminish that available to others). The characteristics of common goods (being available but belonging to no-one, and of a diminishing quantity), mean that individuals do not necessarily have an individual economic incentive to ensure the long term existence of these goods which can lead, in fisheries terms, to potential overfishing. Furthermore, it is in the interest of each individual to catch as much as possible as quickly as possible so that competitors do not take all the benefits. This can lead to an inefficient amount of effort and unsustainable exploitation.

Sussex IFCA must seek to balance the different needs of persons engaged in the exploitation of sea fisheries resources in the district. In summary, IFCA byelaws aim to redress these sources of market failure in the marine environment through the following ways:

- Management measures to conserve designated features of EMS and MCZs will ensure negative externalities are reduced or suitably mitigated.
- Management measures will support continued existence of public goods in the marine environment, for example by restricting the catch taken and conserving the range of biodiversity within MPAs in the IFCA District.
- Management measures will also support continued existence of common goods in the marine environment by reflecting the needs of commercial and recreational sectors, for example ensuring the long term sustainability of fish stocks in the IFCA District.

2.2 Natural England Conservation Advice and Conservation Objective

IFCA's management measures for MCZ and EMS sites are guided by Natural England's (NE) conservation advice on what is compatible with site's conservation objectives, together with the outcome of the process to develop and define management measures with the community. A Conservation Objective (CO) is a statement describing the desired ecological/geological state (the quality) of a feature for which an MCZ is designated – the aspiration for the site. The CO establishes whether the feature meets the desired state and should be maintained, or falls below it and should be recovered to favourable condition. Therefore 'favourable condition' is the overall aim and whether the features requires 'recovery to' or to be 'maintained in' is the action needed to achieve the objective. Protected sites in the UK use the term favourable condition to represent the desired state of their features. A 'feature' is one of the habitats, species or geodiversity interests that the sites are intended to conserve.

For habitats, they should be in good condition, or be brought into and remain in good condition, which means:

- (a) Its extent is stable or increasing (where possible)
- (b) Its structure and function, its quality and the composition of its characteristic species are such as to ensure that it remains in a condition which is healthy and not deteriorating.

For species:

- a) The quality and quantity of its habitat
- b) The composition of its population (number, age and sex ration) ensure that the population is maintained in numbers which enable it to thrive.

Pagham Harbour MCZ was designated for three features: Seagrass beds (only feature below Mean High Water Mark and therefore within Sussex IFCA's management remit), Defolin's lagoon snail (*Caecum armoricum*) and Lagoon sand shrimp (*Gammarus insensibilis*). Seagrass is a Biodiversity Action Plan (BAP) species, and both Defolin's lagoon snail and the Lagoon sand shrimp are Schedule 5 species. The general management approach is maintain in favourable condition for all features.

Pagham Harbour SPA was designated to protect bird species/assemblage features: internationally important populations of regularly occurring Annex 1 species (little tern, common tern and wintering ruff) and internationally important populations of regularly occurring migratory species (dark-bellied brent geese), as well as generic sub-features: shallow coastal waters, estuarine fish community, intertidal mudflats and sandflats, intertidal mixed sediments, saltmarsh community, estuarine birds, surface feeding birds and seagrass. The Conservation Objective is, subject to natural change, maintain in favourable condition the habitats for the internationally important populations of the

regularly occurring Annex 1 bird species and regularly occurring migratory species, under the Birds Directive.

NE regional lead advice for the Pagham Harbour SPA site, provided during EMS Habitats Regulations Assessments work, was that due to very little or no fishing activity occurring no Likely Significant Effect could be concluded within assessments. However due to the small size of the harbour and location of nesting little and common terns, these notified features of the SPA are highly vulnerable to visual disturbance. A one off fishing event could trigger an adverse effect on integrity, therefore management is advised. The removal of historic stringent site management and subsequent potential for increased fishing activity, coupled with the near-pristine nature of the site, also promotes the need for pre-emptive management. The seagrass feature within both the SPA and MCZ also requires protection. Management equivalent to that in Chichester Harbour for seagrass would be consistent.

3.0 Policy objectives and intended effects

3.1 Underlying policy objective

One of the underlying policy objective of the proposed Pagham Harbour MCZ and EMS management measures within the MPA Byelaw is to ensure Sussex IFCA's obligations to further the conservation objectives of MCZ sites are met. IFCAs have a duty under the MCAA to manage the exploitation of commercial and recreational sea fisheries resources in a sustainable way and to protect marine ecosystems from the impact of fishing in the 0-6nm limit off England.

Their nationally agreed vision is to: "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". Under Section 155 of the MCAA, IFCAs may make byelaws for their district to enforce their duties under Sections 153 and 154, to manage the sustainable exploitation of sea fisheries resources and further the conservation objectives of MCZs respectively.

Another underlying policy objective of the proposed byelaw introduction is to ensure Sussex IFCA's obligations to protect features under the government's revised approach to the management of commercial fisheries in EMS are met. The proposed management is in line with both Sussex IFCAs duties outlined under MCAA and their legal requirement under Article 6.2 of the Habitats Directive, to take appropriate conservation measures to avoid damaging activities in EMS.

In addition, seagrass beds (designated feature in MCZ and sub-feature in SPA) are a UK Biodiversity Action Plan (BAP) priority habitat, identified as being the most threatened and requiring conservation action. Under the Natural Environment and Rural Communities Act 2006 all public authorities have an obligation to have regard for the conservation of biodiversity when carrying out their functions.

3.2 Sussex IFCA principles underpinning MCZ management

The Authority will:

- Further the conservation objectives of the MCZ, in accordance with the conservation advice from the Government's Conservation Advisor, Natural England
- Reflect the terms of the MCZ site Designation Order
- Base decisions on best available evidence and allow, where possible, for the collection of further evidence
- Take into account site user knowledge and wider stakeholder views, with the IFCA being the ultimate decision making body
- Develop management which is proportionate, adaptive and subject to review
- Strive to introduce management that promotes compliance and support from the community, whilst still adhering to the conservation objectives
- Develop management that is economically viable, aims to minimise enforcement complexity and is sustainable for the IFCA

The above principles will be achieved using the structure of the Authority's Principal Committee and its Technical Subcommittee.

4.0 Background

4.1 IFCA evidence requirements

One of IFCA's success criteria is to make the best use of evidence to deliver their objectives. In order to sustainably manage sea fisheries resources, IFCA's need to gather evidence to inform decisions, evaluate options, propose management solutions and, where necessary, develop and agree byelaws. They also need to evaluate outcomes and review the effectiveness of any action taken.

4.2 Feature extent evidence

There is a high level of confidence in features location evidence for both MCZ and EMS features. Refer to Annex I for the feature map, based on NE and RSPB data.

4.3 Fishing activity evidence

There is a good understanding of fishing activity level and location within the site. Fishing activity sightings data has been collected by Sussex IFCA, and its predecessor the Sussex Sea Fisheries Committee, for over 15 years. There is just a single observation of fishing activity within the Harbour; angling in 2005, with some additional angling activity largely around the mouth of the Harbour (Annex II). There is no known towed gear activity or any existing commercial potting enterprise. No legal commercial netting activity occurs, but an intelligence report was received in 2013 of some illegal, unlicensed netting activity, contravening prescriptions within Sussex IFCA's Fixed Engine Byelaw. Intertidal hand gathering (bait and hand collection) is not known to be widespread within the harbour. Research by Portsmouth University (Watson et al., 2015) found no bait collection activity within the harbour throughout the study duration. An intelligence report from the RSPB in 2013, however, detailed a recent occurrence of individuals gathering a large amount of shellfish, 3-4 sacks, greater than would be expected for personal use; there is one intel report of a large amount of shellfish being gathered (Annex III).

Historically, West Sussex County Council (WSCC) byelaws excluded all commercial fishing within Pagham Harbour and allowed limited recreational rod and line activity, however, these are now no longer in place. WSCC previously issued 25 fishing permits and 15 bait digging permits which allowed the permit holders to fish or bait dig during certain periods of the year and within defined areas. This permit system was legally challenged in 2013 under the general rights and subsequently removed.

Remaining Local Nature Reserve byelaws prohibit public access to Tern Island (and New Island in proposed revised byelaws) at all times of the year and to the inner half of Church Norton Spit during the nesting season, April - August inclusive. Refer to Annex IV for maps illustrating past West Sussex County Council management and current RSPB management.

4.4 Impacts evidence

As the historic stringent management for the site no longer exists, which prevented high fishing activity levels, there is the consequent threat of increased activity which could impact this important site. Due to the relatively pristine nature of Pagham Harbour, pro-active management is proposed to complement the remaining management in place and prevent potential damage.

Particular areas of concern are the seagrass beds and breeding terns.

Seagrasses are considered highly sensitive to physical disturbance, including that caused by trampling and digging (e.g. Davison and Hughes 1998, Skilleter et al. 2006, Tyler-Walters and Arnold, 2008). An experimental study of the effects of trampling on *Thalassia testudinum* in Puerto Rico recorded significant decreases in seagrass cover and increases in sand cover. Heavier trampling (50 passes per month for four months) also resulted in reduced rhizome biomass of up to 72% and loss of standing crop of up to 81% (Eckrich and Holmquist 2000).

Clam harvesting, whereby intertidal sediments dominated by *Zostera noltii* are dug up using a hand blade, in the Ria Formosa lagoon (Southern Portugal) was found to have an adverse effect on vegetative shoot density and total plant biomass, leading to increased fragmentation of the seagrass meadows. Both relatively low and relatively high levels of clam harvesting disturbance (intensity and

frequency) resulted in negative effects on seagrass density (Alexandre et al. 2005, Cabaco et al. 2005). An experimental analysis of the effects of recreational clam digging within *Zostera marina* beds in Newport, USA resulted in significant reductions in above and below ground seagrass biomass (Boese, 2002).

The observed recovery rates of seagrasses from anthropogenic disturbance are variable, thought in part to be related to variation in intensity, frequency and extent of disturbance, although the recovery potential of seagrass is generally considered to be relatively poor (Mazick & Smyth, 2013). The recovery potential of seagrass from 'foot-based' activities specifically is more uncertain due to the limited number of studies. In Eckrich and Holmquist's (2000) experimental study of the effects of trampling, recovery was incomplete after seven months and reduced cover was still visually distinguishable at several study sites after 14 months, whilst recovery from the experimental removal of *Zostera marina* shoots took between 24 and 30 months (Boese et al., 2009). Although recovery from the negative effects of a single experimental clam harvesting event on shoot density of *Z. noltii* meadows occurred within 1 month, recovery from the ongoing activity in the Ria Formosa lagoon was considered unlikely due to the intensity and frequency at which it actually occurs (Cabaco et al. 2005).

Although these studies concern impacts on non-UK species of seagrass they are considered relevant for the assessment of risk posed to seagrass habitats in the UK. There is some variation in the level of impact detected within these studies and in the rates of recovery from impact; however the balance of available evidence still strongly suggests that seagrass has a high sensitivity to commercial intertidal handwork, bait digging and crab tiling and that recovery rates are generally slow. Expert judgement of the available evidence has concluded that the risk of significant impact is sufficient to require precautionary management.

Tern disturbance within the site is a key concern. Pagham is a very good area for breeding terns which are nationally greatly declining. Due to the small size of the harbour and location of nesting little and common terns, these notified features of the SPA are highly vulnerable to visual and noise disturbance.

There are also strong wider fisheries management rationale for the proposed management within Pagham Harbour, including protection of migratory fish species and juvenile fish populations.

4.5 Community engagement

Balanced Seas - site selection

After over two years of discussion, taking into account social and economic factors alongside the best available scientific evidence, stakeholders passed 127 final site recommendations to Government advisory bodies in September 2011. All the MCZ sites went out for public consultation between December 2012 and March 2013, enabling further input from the community into the sites to be designated.

For more information on the Balanced Seas project visit:

<http://webarchive.nationalarchives.gov.uk/20120502155440/http://www.balancedseas.org/page/home.html>

Defra - proposed MCZs consultation

The summary of responses from Defra's consultation on proposed MCZ sites between December 2012 and March 2013 (Defra, 2013b), indicated general support for the site from recreational, fishing, conservation and archaeological sectors. There are existing conservation designations including Ramsar, SSSI and a Local Nature Reserve and MCZ features were chosen to ensure minimum overlap. There was some local concern that the MCZ designation would restrict coastal defence and recreational (mainly walking and bird watching) activities (Balanced Seas, 2011).

Sussex IFCA – informal consultation

An informal consultation drop in took place on Wednesday 7th September 2016, 16:00-20:00, at the Pagham Harbour RSPB centre. Eleven attendees were offered information on the proposed management measures and invited to comment. All were supportive of the management measures and acknowledgement of the importance of the Harbour and its wildlife. There were some concerns around the bag limit for marine worms and a potential previously agreed limit with Natural England (NE) for the Solent. Through subsequent consultation with NE Sussex IFCA were advised no bag

limit had been agreed. Proposed limits are consistent with Beachy Head West MCZ management measures, and are based on a quantity which would respect the needs of recreational gatherers collecting for non-commercial, personal consumption needs. There was also concern regarding restriction of angling activity from the north side of the Harbour entrance due to its proximity to tern nesting areas. The boundary of the restriction area has been altered to allow angling from this location and still afford protection to breeding terns.

5.0 Options

5.1 Evidence-based decision making cycle

IFCAs must have a consistent approach to their decision making and be able to articulate clearly to stakeholders why they have chosen a certain approach. An evidence-based decision making cycle approach provides a common framework for decision making by IFCAs and has been adopted in the current management options consideration for features and fishing activities within Pagham Harbour.

Sussex IFCA aims to ensure that appropriate risk based management is implemented within Pagham Harbour where activities are deemed detrimental to achieving the sites conservation objectives, in order to comply with Sections 125, 126, 153 and 154 of the Marine and Coastal Access Act (2009) (see Annex V for further details). It is the expectation of Defra that appropriate management measures could involve both statutory and non-statutory measures to ensure adequate protection is achieved.

Management decisions should be based on the best available evidence, but using a precautionary approach where necessary. Management will be applied on a risk-prioritised, phased basis, with management implemented at MPA sites most at risk of damage first. Figure 4 describes the management cycle to evaluate sites and assess the need for potential management measures to further site's conservation objectives.

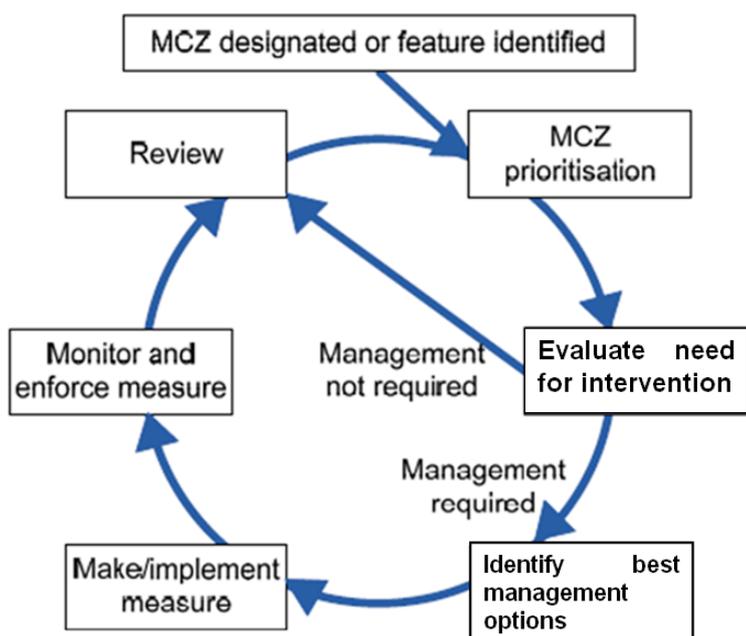


Figure 4. Management cycle

5.2 Option 0: Do nothing

As the historic stringent management for the site, which prevented high fishing activity levels, no longer exists, there is the consequent threat of increased activity which could impact this important site. Due to the relatively pristine nature of Pagham Harbour, pro-active management is required to complement the remaining management in place and prevent potential damage. As such, Option 0 has been rejected.

5.3 Option 1: Voluntary agreement

Solely voluntary measures are not deemed appropriate for the management of fishing activity within the site due to the sensitivity of features. Where existing activities are having an impact on the achievement of a site’s conservation objectives or where there is significant risk that they may do so either now or in the future, government indicates that statutory measures are likely to be required. The likelihood of compliance in any management arrangement and the risk associated with non-compliance also needs to be considered. As such, Option 1 has been rejected.

5.4 Option 2: Sussex IFCA MPA Byelaw with associated Pagham Harbour management

Option 2 is considered the most appropriate and proportionate management method to address risk to features and move towards achieving their conservation objectives, while balancing the needs of fishers in the area.

Formulation of a new Schedule, associated with Sussex IFCA’s Marine Protected Area Byelaw, is recommended. The proposed management will fulfil our wider fisheries management remit, as well as encompassing EMS and MCZ management needs. It is recommended that the Authority takes a pro-active, rather than re-active, approach to Pagham Harbour management. Although currently there is a very low-level of fishing activity, this is potentially the only near-pristine site within the district and a one-off fishing activity occurrence could have a significant effect on protected features. Tern disturbance within the SPA is a key concern. Pagham is a very good area for breeding terns which are generally greatly declining. Due to the small size of the harbour and location of nesting little and common terns, these notified features of the SPA are highly vulnerable to visual and noise disturbance.

Seagrass protection within the site would fulfil both MCZ and SPA requirements. Seagrass is an MCZ protected feature, a SPA sub-feature - providing key feeding habitat for the protected Brent geese - and a sensitive habitat assigned red risk in SACs.

There are also strong wider fisheries management rationale for the proposed management within Pagham Harbour, as outlined in Table 2, including protection of migratory species and juvenile fish populations.

Table 2: Recommended management options

Gear grouping	Management	Rationale
Towed gear	Whole harbour, year round prohibition.	Protection of migratory species (salmonids, eels), bass, juvenile fish populations, seagrass and terns.
Netting	Whole harbour, year round prohibition.	Protection of migratory species (salmonids, eels), bass, juvenile fish populations and terns.
Potting	Whole harbour, year round prohibition.	Exclusion of all commercial fishing activity to protect near-pristine site. Protection of terns and seagrass.
Recreational sea angling	Seasonal restriction around Tern Island, New Island and tern nesting areas, April-August. (Bird Conservation Area see Figure 5).	Reduction of tern disturbance while nesting.
Intertidal fisheries resources hand gathering	Prohibition year round over seagrass beds and seasonally (April-August) around Tern Island, New Island and	Consistent with Chichester Harbour EMS seagrass management.

Gear grouping	Management	Rationale
	tern nesting areas, April-August. (Bird Conservation Area see Figure 5).	Reduction of tern disturbance while nesting.
Intertidal fisheries resources hand gathering	Prohibited for any person to remove in any one day more than: <ul style="list-style-type: none"> * 5 edible crabs, <i>Cancer pagurus</i> (with a recreational shellfish permit & subject to MLS) * 20 crabs in total of any species other than <i>Cancer pagurus</i> * 1kg of any bivalve or gastropod mollusc spp. * 1kg prawns * 1kg worms * 2kg of intertidal algae Prohibition of crab tiling	An intertidal hand gathering bag limit would enable effort limitation and provide consistency in MPA management, with equivalent limits also proposed for another coastal MPA site, Beachy Head West MCZ. Suggested volumes are based on a quantity which would respect the needs of recreational gatherers collecting for non-commercial, personal consumption needs. Algae is an important food source for Brent geese thus bag limits also help support protection of this SPA feature.

The proposed management should have negligible socio-economic cost associated with it as very little fishing activity occurs within Pagham Harbour. Enforcement complexity associated with the proposed measures is expected to be low. Anticipated level of sectoral support and compliance levels is expected to be good.

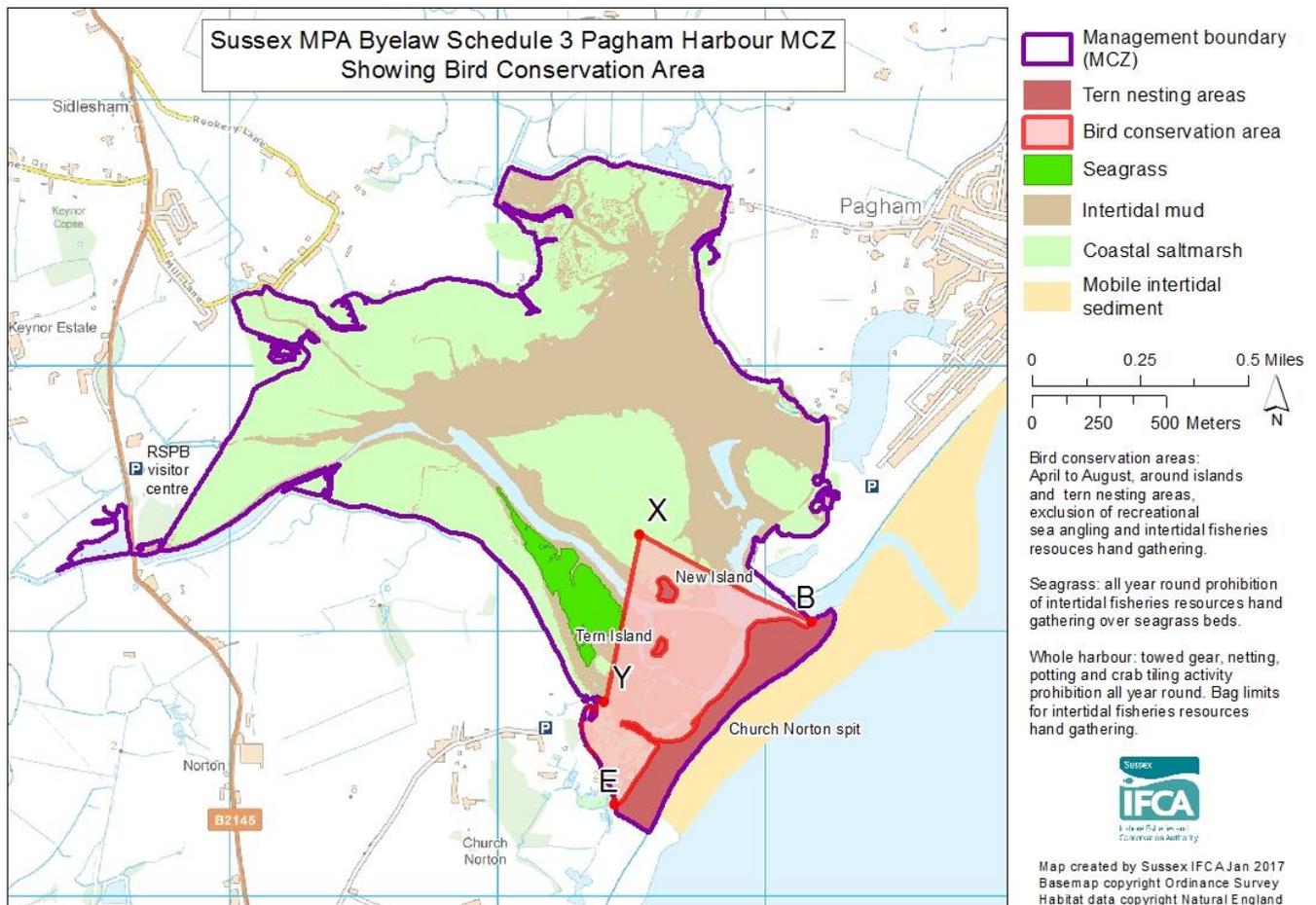


Figure 5 – Bird Conservation Area: Seasonal exclusion zone around tern nesting areas

5.5 Option 3: Whole site prohibition of all activities all year round

The government's steer for MCZs is for them to be multiple use MPA sites, as opposed to no take zones. Based on government advice under the EMS revised approach, management of identified damaging activities is solely required over the sensitive feature, not throughout the whole EMS. Full site closure to all fishing activities within the site is considered too conservative and cannot be justified. This option would go beyond NE's conservation advice. Such a management measure would not be in line with IFCA's duty to sustainably manage the inshore marine environment 'ensuring healthy seas, sustainable fisheries and a viable industry'. As such, Option 3 has been rejected.

6.0 Costs and benefits

6.1 Key monetised and non-monetised costs

Lost revenue

The best available evidence has been used to assess the impacts of the proposed management measures, taken from:

- Defra MCZ consultation on proposals for designation in 2013. 12th December 2012 to 1st April 2013. Annex I2 Option 2, Site Specific Impact Assessment: rMCZ 25.1 Pagham Harbour
- Information gathered from fishers during informal consultation engagement by Sussex IFCA
- Local IFCA officers' expert knowledge

Monetised costs estimated in Defra's MCZ consultation IA suggest that there may be an increase in costs of assessing environmental impacts for future licence applications. Archaeological excavations, surface recovery, intrusive and non-intrusive surveys, diver trails and visitors will be allowed. As there are currently no commercial fishing activities taking place in the site, there will be no lost revenue to fisheries from the implementation of the proposed management measures.

Displacement

As there are currently no commercial fishing activities taking place in the site, there will be no displacement of fishing activity from the implementation of the proposed management measures. There may be some minor displacement of intertidal hand gathering and angling activities away from the seasonal restriction areas.

Administrative burden

Sussex IFCA will regulate and monitor the site through the use of:

- Education/Communication Strategies – provide advice and information on Pagham Harbour. This can be done via information packages, public events, community groups, festivals and/or signage, which can be delivered during specific meetings or whilst conducting routine land or sea patrols.
- Land based patrols – mobile land patrols conducting inspections on landings, premises, vehicle's and person's. Intelligence gathering, sightings and key communication messages delivery to the community.
- Sea based patrols – mobile sea patrol conducting boarding inspections, intelligence gathering, vessel sightings and key communication messages delivery to the fishing community.
- Joint agency working – working with joint agency partners in order to conduct land or sea mobile patrols utilising effective use of resources to achieve common objectives and deliver key communication messages.
- Monitoring and research - conducting regular research and gathering data to support the enforcement efforts within the site.

Through regular enforcement patrols (land and sea) and partnership working the Authority will monitor fishing activity and develop a thorough understanding of permissible activities following the introduction of management. Compliance activities will reflect the developed risk based approach for MPA management.

Enforcement of the proposed byelaw and regulatory order will be met within the current budget and wherever feasible will be incorporated into existing business and patrol commitments. Whenever possible, Sussex IFCA will work with joint agency partners to conduct land or sea patrols making effective use of resources to achieve common objectives and further reducing estimated costs. Using fully developed costings and an unconstrained model, a best current estimate of £1k for sea and land patrol costs, monitoring/research and communications is calculated for Pagham Harbour MCZ and EMS management.

It is important to highlight that low community support and resulting poor compliance will incur greater costs, thus Sussex IFCA has strived through pre-consultation work with the community to generate good support for management.

6.2 Benefits

Ecosystem services

The habitats, species and other ecological features of the site contribute to the delivery of a range of ecosystem services, in particular recreational activities.

- Angling: Pagham is a popular location for shore anglers. Those who use this location, greatly appreciate it because of the lack of marine traffic and rich wildlife both above and below water. Large numbers of shore anglers fish on the seaward side of the spit, but generally cast their lines outside the MCZ. The seagrass beds found within the site may provide important nursery areas for flatfish and, as such, are likely to help support potential on-site and off-site angling activities.
- Wildlife watching: The seagrass beds found within the site may provide a safe haven for juvenile fish and other species such as sea horse, sea anemone and sessile. These contribute to an area of high biodiversity, which in turn may support foraging areas for sea birds such as little egret, ringed plover and lapwing. The Harbour is also an important breeding area for little tern. The Harbour is a popular area for bird watching, as the site overlaps with the Pagham RSPB reserve.
- Recreation: Pagham Harbour is a popular recreational area for visitors and residents for sailing, wildlife watching and coastal walking.

- Nutrient cycling: Marine sediments have an important role in the global cycling of many elements including carbon and nitrogen. Nitrogen and phosphorous remineralisation provide a significant contribution to the nutrients required by primary producers in the water column.
- Regulation of pollution: The features of the site (seagrass beds) contribute to water purification and the sequestration of carbon.
- Natural hazard protection: The features of the site (seagrass beds) contribute to local flood and storm protection through erosion control.
- Commercial fisheries: Whilst no legal commercial fishing activity currently occurs within the site, protecting seagrass and other habitats from potential future damaging activity will help support sustainable fisheries in the area. Seagrass beds are important nursery and spawning areas for a variety of commercial fish and shellfish species and provide a sheltered home for many other animals, such as pipefish and seahorses.

Environmental benefits

The proposed management of Pagham Harbour MCZ and EMS will help achieve the site's conservation objectives. Management of the site has a vast range of environmental benefits, including protection of:

- Seagrass: The proposed management will facilitate the protection of an internationally important habitat. Restricting access, known to damage eelgrass beds, will help protect them from current and possible future destructive activity and help achieve the conservation objective of maintaining the habitat in favourable condition as measured by its extent. Eelgrass beds are a declining habitat, included on the OSPAR List of Threatened and/or Declining Species and Habitats (declining in Region II – North Sea and Region III – Celtic Sea, and threatened in Region V – Wider Atlantic). Eelgrass is also a UK BAP Priority Habitat and an important feature in estuary Sites of Special Scientific Interest, under the UK Wildlife and Countryside Act 1981. In addition, they provide important food for wildfowl, such as Brent geese, and nutrients to support animal communities on the seabed. As well as promoting biodiversity, eelgrass beds store carbon, cycle nutrients, support numerous industries (e.g. fishing and tourism) and help reduce coastal erosion as their roots catch and trap sediments. Eelgrass/algae beds value is estimated as \$19,004 ha-1yr-1 globally – some three times more than coral reefs (Constanza et al, 1997).
- A site which contributes to an ecologically coherent network of MPAs.
- Seabirds: The site provides foraging and nesting habitat for a diversity of bird species, in particular for the internationally important populations of the regularly occurring Annex 1 bird species and regularly occurring migratory species.
- Protection of migratory species (salmonids, eels), bass and juvenile fish populations.

Research and education

Monitoring of the site may help inform current understanding of how the marine environment is impacted by anthropogenic pressures and management intervention. Pagham LNR has a dedicated Education Officer who organises school visits to the site. In addition, wildfowl and wader walks and birdwatching workshops are regular events. There is a purpose built education centre next to the RSPB visitor centre accommodating more than 30 pupils and the reserve organises national curriculum tailored classes and fieldwork. Visitors to the site may derive benefit from the development at additional local (marine focussed) education activities such as events and interpretation boards.

Intrinsic value

Protection of the site will benefit the proportion of the UK population that values conservation of the site's features (existence value), the ecosystem services they provide, conservation of habitats and species for use by others in the current generation (altruistic value) or future generations (bequest value) and the site's contribution to an ecologically coherent network of MPAs (Defra, 2013a).

6.3 One In Two Out (OITO)

OITO is not applicable for byelaws implemented for MPA management as they are local government byelaws introducing local regulation and therefore not subject to central government processes.

6.4 Small firms impact test and competition assessment

No firms are exempt from this byelaw as it applies to all firms who use the area, it does not have a disproportionate impact on small firms. It also has no impact on competition as it applies equally to all businesses that utilise the area.

7.0 Risks and assumptions

Key assumptions and that evidence and fisheries models are sufficient to reflect predicted outcomes.

Reputational risks are a potential hazard with management introduction at this site, in terms of being:

- Negatively perceived by fishing community and wider stakeholders due to restrictive measures
- Negatively perceived by stakeholders for not protecting the site
- Negatively perceived by government for not implementing legislation and statutory failure of duty

8.0 Conclusion

It is considered that the environmental benefits of introducing the proposed management outlined in Option 2 outweighs the potential monitoring, administrative and enforcement burden and costs to industry.

This work contributes to the fulfilment of Sussex IFCA's responsibility to ensure the sustainable management of inshore fisheries, balancing environmental, social and economic costs and benefits.

The proposed management to protect the designated habitats and species of Pagham Harbour MCZ and SPA is a key component in Sussex IFCA carrying out its role locally in providing a well-managed network of MPAs around the coast of England.

Sussex IFCA Pagham Harbour MCZ and SPA management will be defined within a structured Site Management Plan that will reflect principles of a defined management cycle describing implementation, monitoring, review and refinement. A review period of four years will be set for the management plan and assessing the effectiveness of the recommended MPA Byelaw and associated Pagham Harbour MCZ and SPA management measures, and the voluntary code of conduct.

In developing management measures for Pagham Harbour MCZ and SPA, the Authority is fulfilling its obligations and commitments outlined in its Annual Plan for achieving the government's vision for clean, healthy, safe, productive and biologically diverse oceans and seas.

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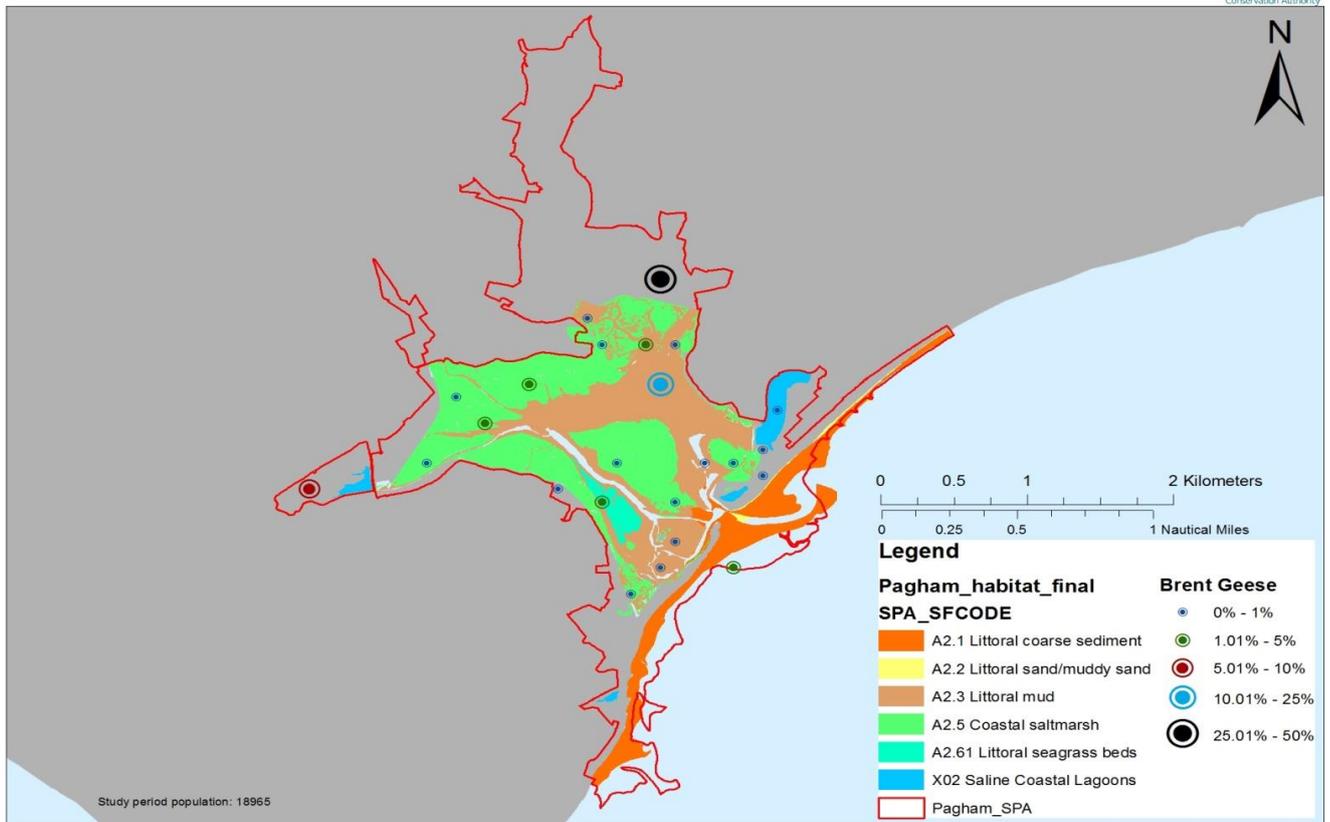
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Annex I: SPA boundary map, with important Brent geese areas, seagrass and other protected features locations illustrated



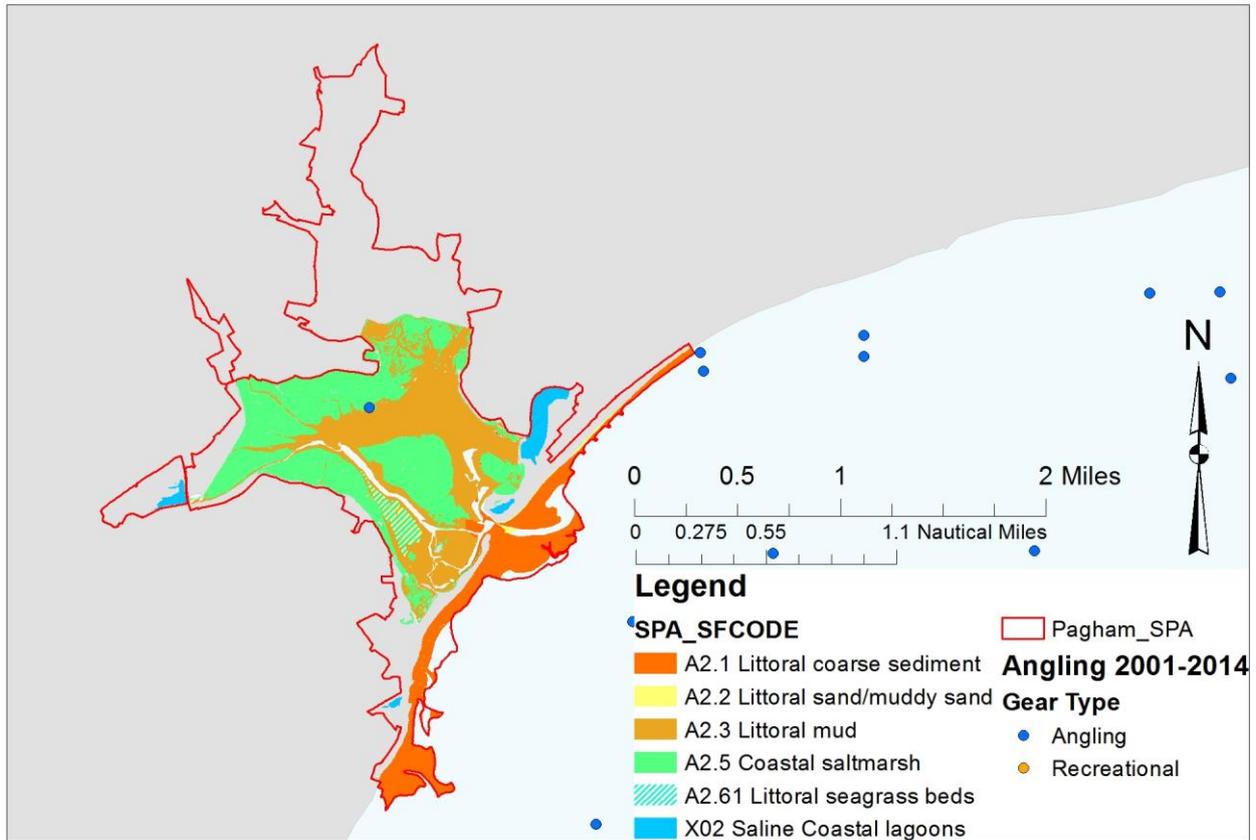
Important Brent Geese Areas



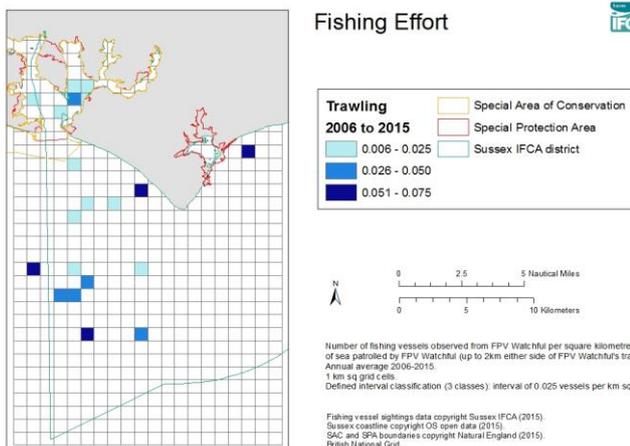
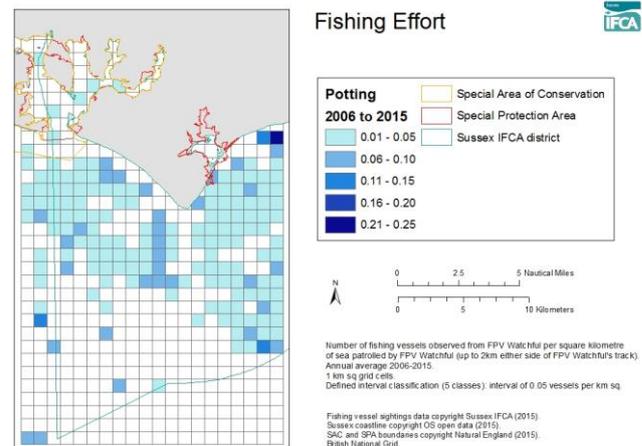
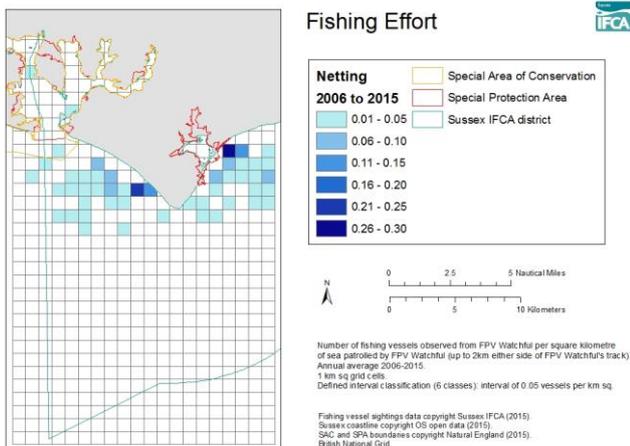
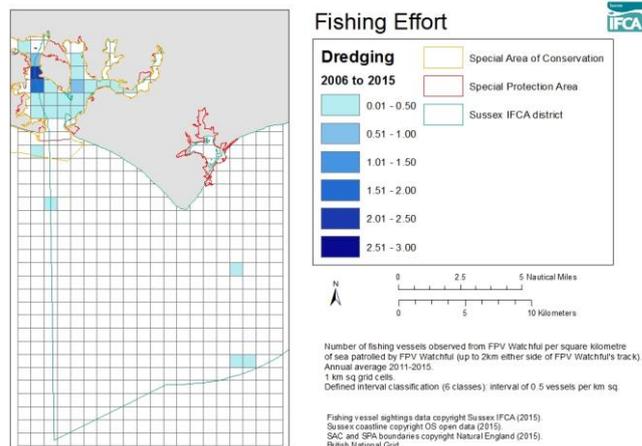
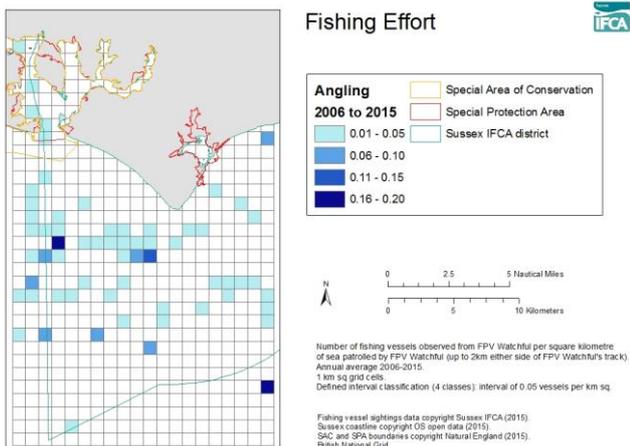
Annex II: Fishing activity map: Sussex IFCA sightings data 2001-2014



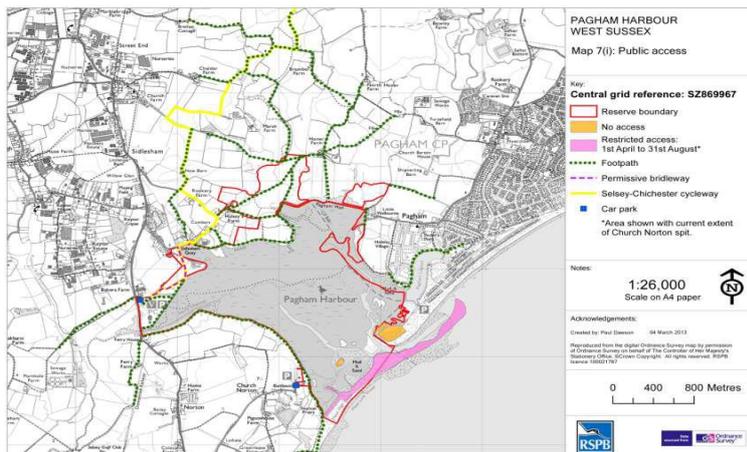
Recreational angling in Pagham Harbour 2001-2014



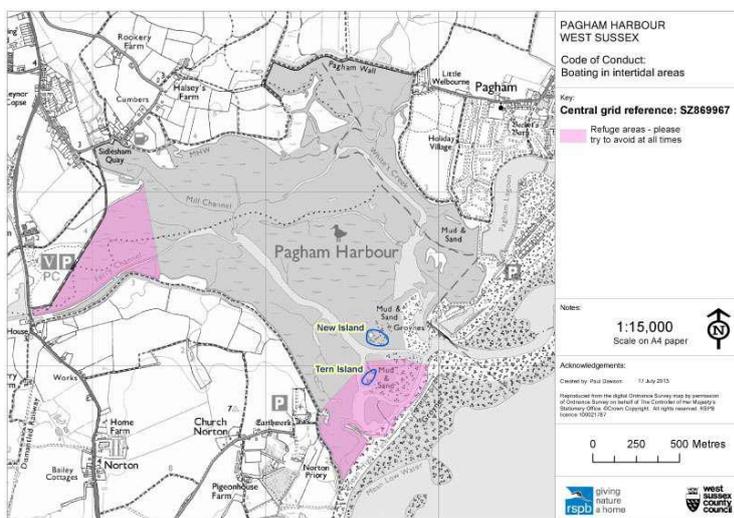
Annex III: Fishing effort maps



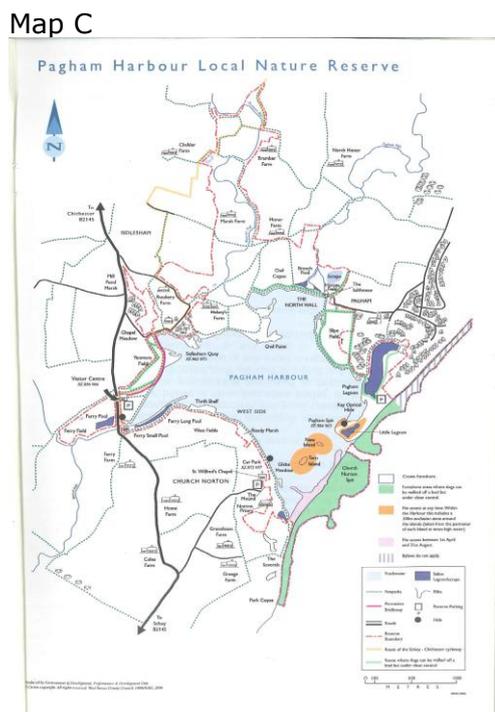
Annex IV: Maps illustrating current RSPB public access (map A) and boating management (map B) outlined in the RSPB Pagham Harbour Local Nature Reserve Management Plan, 2013-2018, and past West Sussex County Council Pagham Harbour management (2006 & 2009, maps C & D respectively)



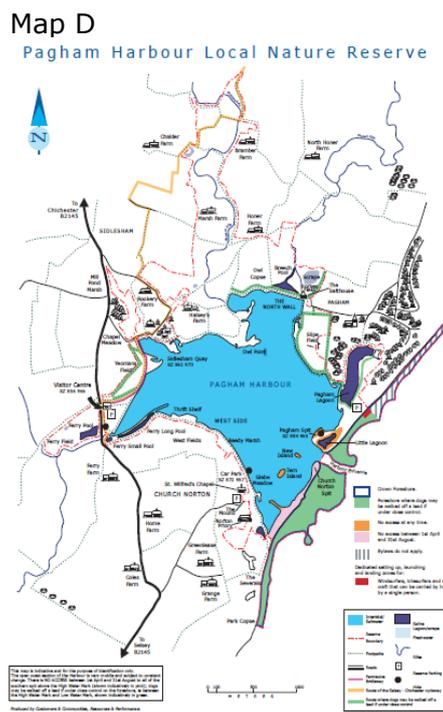
Map A



Map B



Map C



Map D

Annex V: Marine and Coastal Access Act obligations

- Duty in relation to MCZ implementation

The duty in section 125 requires public authorities, so far as is consistent with the proper exercise of their functions, to exercise their functions:

- i. in the manner which the authority considers best furthers the conservation objectives for the MCZ; or, where this is not possible;
- ii. in a manner which the authority considers least hinders the achievement of the conservation objectives.

Section 126 applies to all public authorities with responsibility for authorising applications for activities (such as shellfish extraction) capable of affecting:

- i. a protected feature of an MCZ; or,
- ii. any ecological or geomorphological processes on which the conservation of an MCZ feature is partially or wholly dependent.

The duty in section 154 requires IFCA to further the conservation objectives of MCZs.

- Provisions for management

Sections 129 to 132 of the Act give MMO the power to make byelaws, including emergency and interim byelaws, for the purpose of furthering the conservation objective of an MCZ.

Section 140 of the Act makes it an offence for any person to intentionally or recklessly damage the protected features of an MCZ in such a way that the conservation objectives have, or may have, been significantly hindered.

The purpose of this section is intended to prevent:

- i. Acts of environmental vandalism – intentional acts where the purpose is to damage the designated feature of an MCZ;
- ii. Reckless damaging behaviour – where the person was aware (or should reasonably be expected to have been aware) that damage was a likely consequence of their actions, but they continued regardless.

Sections 155 to 157 of the Act give IFCA the powers to make byelaws, including emergency byelaws, for the purpose of furthering the conservation objectives of an MCZ.

Section 156 sets out a non-exhaustive list of the types of activities for which IFCA may make byelaws (including emergency byelaws) to manage sea fisheries resources in their district. Provisions that may be made by a byelaw under this section include prohibiting or restricting the exploitation of sea fisheries:

- i. in specified areas or during specified periods;
- ii. limiting the amount of sea fisheries resources a person or vessel may take in a specified period.

The provisions cover:

- i. permits (including conditions for the issue, cost and use of permits);
- ii. vessels;
- iii. methods and gear, (including the possession, use, retention on board, storage or transportation of specified items).

- Risk and uncertainty

In carrying out their duties under Part 5 of the Act, it is inevitable that public authorities will be required to take decisions on the basis of incomplete or uncertain information. For example, it will sometimes be impossible or impractical to establish with certainty:

- i. whether an activity or proposed development is capable of affecting an MCZ, and whether the impact is insignificant;
- ii. whether or not a proposed development may 'hinder the achievement' of an MCZ's conservation objective;
- iii. the extent of any damage to the environment;
- iv. or whether equivalent environmental benefit measures will secure the desired outcome.

Decision-making should be reasonable and proportionate to the level of risk and potential impact. Decisions should be based on the balance of best available evidence and have regard to any advice from Statutory Nature Conservation Bodies (SNCBs). In cases where the risk to the conservation objectives of the site could be high, it may be appropriate to follow a precautionary approach. Where evidence is inconclusive, regulators should make reasonable efforts to fill evidence gaps but will also need to apply precaution within an overall risk-based approach. This means that if the risks from an activity are uncertain preventative measures may be required.

- Monitoring in regard to MCZ reporting

Section 124 requires an assessment every 6 years, outlining the extent to which conservation objectives have been achieved across the MCZs, and the contribution of sites towards achieving an ecologically coherent network of MPAs.

Subsection 3 directs the appropriate SNCB to carry out the monitoring of MCZs.

The report should contain:

- i. the number of MCZs which the authority has designated during the relevant period;
- ii. in relation to each such MCZ.
 - the size of the MCZ, and
 - the conservation objectives which have been stated for the MCZ;
- iii. the number of MCZs designated by the authority in which the following activities are prohibited or significantly restricted;
 - any licensable marine activity;
 - fishing for or taking animals or plants from the sea.
- v. information about any amendments which the authority has made to any designation orders;
- vi. the extent to which the conservation objectives stated for each MCZ which it has designated have been achieved;
- vii. any further steps which are required to be taken in relation to any MCZ in order to achieve the conservation objectives stated for it.