

Title: Shrimp Permit Byelaw 2018 IA No: DRAFT_EIFCA005 Lead department or agency: Eastern Inshore Fisheries and Conservation Authority (IFCA) Other departments or agencies:	Impact Assessment (IA)			
	Date: 17/01/2019			
	Stage: Development/Options			
	Source of intervention: Domestic			
	Type of measure: Other			
Contact for enquiries: Julian Gregory (CEO) Eastern IFCA, 6 North Lynn Business Village, Bergen Way, King's Lynn, Norfolk, PE30 2JG; tel:01553 775321, email: mail@eastern-ifca.gov.uk				
Summary: Intervention and Options				RPC Opinion: Not Applicable

Cost of Preferred (or more likely) Option

Total Net Present Value	Business Net Present Value	Net cost to business per year (EANDCB in 2014 prices)	One-In, Three-Out	Business Impact Target Status
£-155,523	£-93,755	£10,366	Not applicable	To be determined

What is the problem under consideration? Shrimp fishing within the Wash and North Norfolk Coast Special Area of Conservation (SAC) has been assessed and adverse impacts on site integrity cannot be ruled out. Spatial closures (proposed within the Marine Protected Areas Byelaw 2018) mitigate the risk to the most sensitive sub-features (sub-tidal mixed sediment and subtidal mud). Outside of proposed closures, measures are required to prevent changes in behaviours (e.g. effort increases, novel gears) which would result in an adverse impact on site integrity. There is also a risk of displacement of activity into other marine protected areas. This byelaw will mitigate this risk by enabling Eastern IFCA to implement permit conditions, eligibility criteria for issuing permits and limitations on fishing effort.

Why is government intervention necessary? The risk to Marine Protected Areas (MPAs) dictates that a regulatory approach is required in relation to the protection of designated habitats.

What are the policy objectives and the intended effects?

Objectives: To manage long-term, sustainable shrimp fisheries within the Eastern IFC District which do not adversely impact the conservation objectives of marine protected areas. The intended effects of the byelaw are to implement necessary technical measures and effort limitations (as required) using a permit scheme and to obtain better fisheries information related to this fishing activity (including through requiring all shrimp fishing vessels to have operational vessel monitoring devices).

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. Shrimp Permit Byelaw 2018
Option 2. Total closure

The preferred option is option 1 – The proposed byelaw will enable Eastern IFCA to dynamically manage shrimp fisheries through the implementation of permit conditions to meet the requirements of the fishery and the marine environment. It will also provide a greater level of information regards fishing activity on which to base management.

Will the policy be reviewed? It will be reviewed. If applicable, set review date: 07/2024					
Does implementation go beyond minimum EU			No		
Are any of these organisations in scope?		Micro Yes	Small Yes	Medium Yes	Large Yes

What is the CO2 equivalent change in greenhouse gas emissions? (Million tonnes CO2 equivalent)	Traded: N/A	Non-traded: N/A
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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 Chief Executive: _____ Date: _____

Summary: Analysis & Evidence

Policy Option 1

Description:

FULL ECONOMIC ASSESSMENT

Price Base Year 2018	PV Base Year 2016	Time Period Years 10 years	Net Benefit (Present Value (PV))		
			Low: 0.0	High: 0.0	Best Estimate: 0.0

COSTS	Total Transition (Constant Price) 1 Years	Average Annual (excl. Transition)(Constant Price)	Total Cost (Present Value)
Low	£2,100	£13,382	£117,288
High	£3,500	£28,616	£249,818
Best Estimate	£2,100	£17,824	£153,423

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

Costs associated with electronic monitoring devices (between £114 and £168 per year) and the permit fee (£100 for Category One Permit, £44 for a Category Two Permit) affecting between 29 and 80 vessel owners. The transitional cost is limited to an estimated 6 fishers associated with the installation of separator trawls or sorting grids in their shrimp fishing gear (cost estimated at £350 per vessel). The scale of this cost is considered minimal in relation to the income from the fishery the average first sale value of which is £1.66 million per year (from 2010 to 2017 inclusive) impacts on some individuals may be of a greater scale.

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

The implementation of a permit scheme has the potential to change fishing behaviour as a result of 'market failures' leading to an increase in fishing effort and ultimately, poorer fishing returns and implementation of more restrictive fishing effort limitations.

BENEFITS	Total Transition (Constant Price) Years	Average Annual (excl. Transition)(Constant Price)	Total Benefit (Present Value)
Low	Unknown	Unknown	Unknown
High	Unknown	Unknown	Unknown
Best Estimate	n/a	n/a	n/a

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

none identified

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

Protection of the habitats identified as being at risk from shrimp fishing activity will have a positive effect on the overall ecological functioning of the MPA and potentially improve fishery productivity, including in relation to species other than shrimps.

Key assumptions/sensitivities/risks	Discount rate	3.5%
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Assumptions: Fishing activity levels (based on previous six years), costs associated with electronic monitoring devices.

Sensitivities/risks: Effort limitations/fishery closures may be required which have an economic impact on fishers (reduction of earnings, lost fishing opportunity). Permit scheme changes behaviours (increase in fishing effort and subsequent reduction in earnings per fisher). Displacement from spatial closures (Marine protected Areas Byelaw 2018) causes displacement of activity into more sensitive areas.

BUSINESS ASSESSMENT (Option 1)

Direct impact on business (Equivalent Annual):			Score for Business Impact Target (qualifying provisions only):
Costs: 10366	Benefits: 0.0	Net: -10366	
			N/A

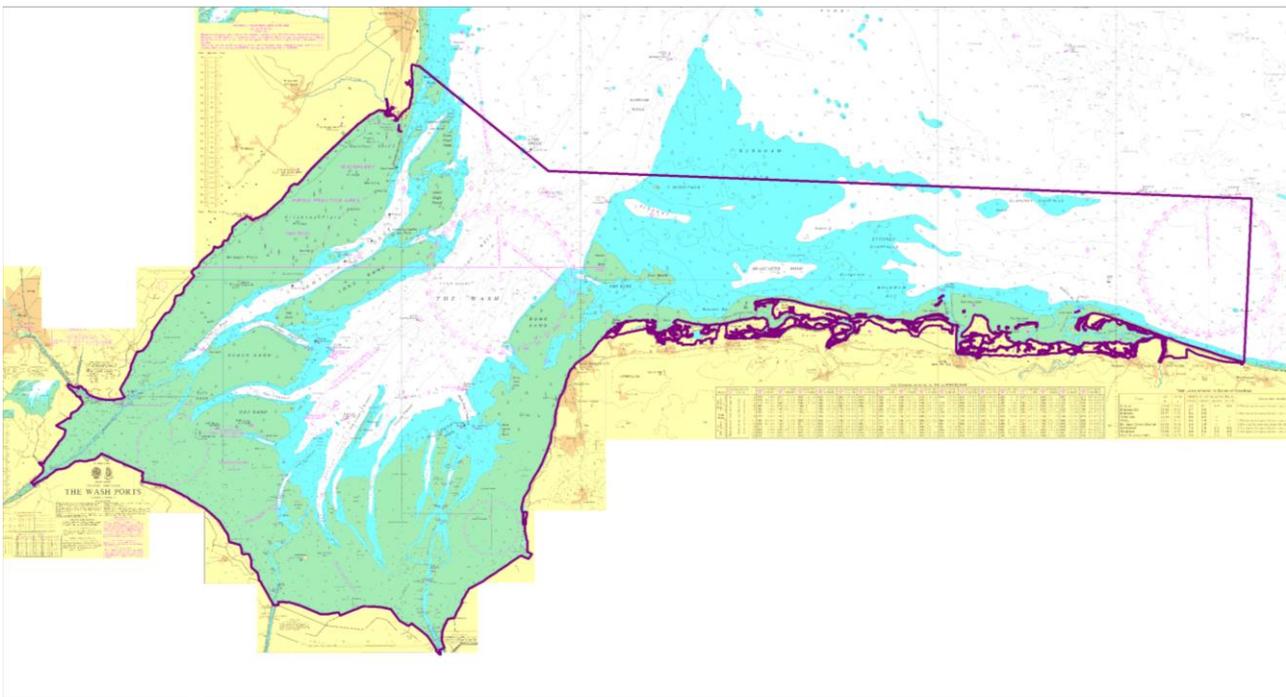
Evidence Base

Problem under consideration

Defra’s revised approach to managing fishing activity in European Marine Sites (EMS) requires Eastern Inshore Fisheries and Conservation Authority to ensure that fishing activity does not have an adverse effect on site integrity in marine protected areas (MPA) which occur within the IFC District. This requirement derives from Article 6 of the Habitats directive and the Conservation of Habitats and Species Regulations (as amended) 2017 (SI 2017/1012). Furthermore, Eastern IFCA are required under the Marine and Coastal Access Act 2009 to further the conservation objectives of any Marine Conservation Zones within the Eastern IFC District.

Eastern IFCA also has a duty to take action to ensure the sustainable exploitation of fisheries within its district as per section 153 of the Marine and Coastal Access Act 2009. In carrying out its duties Eastern IFCA is obliged to ensure good environmental status of fish and shellfish stocks as per the Marine Strategy Framework Directive (2008/56/EC) namely; sustainable fisheries with high long-term yields, stocks functioning at full reproductive capacity, and to maintain or increase the proportion of older and larger individuals.

The prolific shrimp fishery within the Eastern IFC District co-occurs primarily with the Wash and North Norfolk Coast Special Area of Conservation (SAC) – see fig 1. The fishery was assessed in accordance with s.61 of the Habitats and Species Regulations (as amended) 2010 and it was concluded that management measures are required to prevent an adverse effect on site integrity.



	Eastern IFCA/MMO Shrimp Workshop – 10 July 2015	Drawn by: SC Date drawn: 02/07/15 Boundary data source: JNCC
	Legend  The Wash and North Norfolk Coast Special Area of Conservation (SAC)	<small>(c) British Crown and SeaZone Solutions Limited. All rights reserved. Licence No.092809.021. This product has been derived in part from material obtained from the U.K. Hydrographic Office with the permission of the Controller of Her Majesty's Stationery Office and U.K. Hydrographic Office (www.ukho.gov.uk)</small>
Image ref: T:\S_Image_library\I_Maps_[finished]\2015_07_02_W&NNC_SAC Workspace ref: T:\S_GIS_Library\2015_07_02_W&NNC_SAC		Not to be used for Navigation

Figure 1. Chart showing the boundary of the Wash and North Norfolk Coast Special Area of Conservation.

The Wash and North Norfolk brown shrimp fishery is the most important in the UK, accounting for approximately 90% of UK landings (ICES, 2010). The annual first sale value of this fishery has ranged from £538,234 to £2,668,685 with an average value of £1,662,408 (Marine Management Organisation landings data release 23/08/2018). Between 29 and 54 different vessels have operated in the fishery annually from 2010 to 2017 with a total of 82 different vessels having operated over the same time period.

This is a year-round fishery but effort and landings typically peak from September to November (Innes et al., 2007; ICES, 2015). In the past, the fishery has been a significant employer in the ports of Boston and King's Lynn (Innes et al., 2007). Beam trawling for shrimp is one of the main fishing activities occurring within The Wash and North Norfolk Coast SAC. Aviat et al. (2011) reported that approximately 500 vessels and 1,000 fishers are involved in the North Sea brown shrimp fishery (i.e. across the whole of the North Sea brown shrimp fishing area, of which The Wash is a small part). Currently, approximately 37,000 tonnes of shrimp are fished per annum by Dutch (53%), German (33%), Danish (8%), UK (2%), Belgian (2%) and French (1%), including the Eastern English Channel vessels (Seafish, 2017). Reflecting on these percentages, The Wash and North Norfolk Coast brown shrimp fishery is of significant importance on a local level, however, it is not nearly as extensive or intensive as the continental fishery.

Traditionally, two species were targeted in The Wash and North Norfolk Coast area by this activity; brown shrimp (*Crangon* spp.) and pink shrimp (*Pandalus montagui*), with the pink shrimp fishery being the more important fishery for more than 150 years (MES, 2012). Currently there is no fishing for pink shrimp due to market conditions, competing potting activity and restrictions on towed demersal gear in the available grounds. The pink shrimp fishery used to operate in deeper waters of The Wash and its approaches and is often associated with biogenic reef created by *Sabellaria spinulosa* colonies.

Rationale for 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 (e.g. this byelaw). Implementing this byelaw will enable Eastern IFCA to 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:

1. 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.
2. 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.

3. 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.

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 MPAs will ensure negative externalities are reduced or suitably mitigated.
- Management measures will support continued existence of public goods in the marine environment by conserving the range of biodiversity in the sea of the Eastern IFC District.
- Management measures will also support continued existence of common goods in the marine environment by ensuring the long-term sustainability of shrimp stocks in the Eastern IFC District.

Dialogue with stakeholders.

Eastern IFCA has undertaken extensive engagement with shrimp fishers over the last three years in relation to the development of shrimp management measures. Consultation with the industry has been reported to Members previously at the Regulation and Compliance Sub-Committee meeting of December 2016 (<http://www.eastern-ifca.gov.uk/wp-content/uploads/2016/02/full-set.pdf>) in addition to reports from meetings and workshops which have been published on the Eastern IFCA website (www.eastern-ifca.gov.uk).

Officers have continued to engage with the industry in the intervening period and have undertaken additional Shrimp Industry Workshops which have been reported on the Eastern IFCA website (<http://www.eastern-ifca.gov.uk/wpcontent/uploads/2016/09/Shrimp-Workshop-Report.pdf>) and held a written informal consultation with the industry.

A summary of the outputs of the informal dialogue is set out here: http://www.eastern-ifca.gov.uk/wp-content/uploads/2018/07/2018_07_23_how_we_listened.pdf

Policy objective

The policy objectives are as follows:

1. To have the required protective effect on MPA within the Eastern IFC District whilst minimising the economic impact on the shrimp fishing industry;
2. To ensure long-term, sustainable shrimp fisheries which are prosecuted in line with maximum sustainable yield;
3. To collect such evidence as is required to inform effective management of the shrimp fishery.

The intended effects of the measures are as follows:

1. To require shrimp fishers to obtain a shrimp permit in order to prosecute shrimp fisheries;
2. To limit the amount of shrimp fishing activity within the Wash and North Norfolk Coast SAC such that the activity does not have an adverse effect on site integrity;
3. To introduce, vary or revoke technical gear requirements and other permit conditions through flexible permit conditions to prevent adverse effects on site integrity within MPAs and / or fisheries sustainability;
4. To introduce, vary or revoke eligibility criteria for the issuing of permits and to set limitations on the number of permits which may be issued to manage effort within the fisheries;
5. To require all shrimp fishers to provide the required fisheries data, including through the use of I-VMS, to enhance evidenced based management of shrimp fisheries;
6. To enable Eastern IFCA to implement measures which prevent shrimp fishing activity from having an adverse effect on stock sustainability and site integrity in MPA throughout the District through a proportionate process;
7. To enable Eastern IFCA to temporarily suspend the issuing of permits or close the shrimp fishery within the Wash and North Norfolk Coast SAC if there is a risk to fisheries sustainability or site integrity;
8. To partially recover costs associated with shrimp management measures.

With regards to the associated permit conditions

9. To limit the use of 'try-nets' (small trawls used by fishers to test for the presence or absence of shrimp during a trawl track without having to lift the main gear) as follows:
 - a. one per vessel;
 - b. must be hand-hauled;
 - c. must weigh no more than 20kg;
 - d. must be no longer than 500mm.
10. To prohibit the use of 'tickler chains' or any other attachment which penetrates the seabed;
11. To prohibit the use of shoes, skids or guides which are not 'flat' across their entire length;
12. To prohibit the use of shrimp fishing gear without a separator trawl or sorting grid to reduce by-catch of non-target species and reduce mortality of such.

Description of options considered (including status-quo);

Option 0 (do nothing) – Status Quo

Eastern IFCA has assessed the impacts of shrimp fishing on the Wash and North Norfolk Coast MPA. This assessment has concluded that adverse impacts on site integrity cannot be ruled out in relation to some habitats. Mitigation to protect these areas is proposed in the

form of spatial closures (to bottom-towed-gear) and this is considered separately in the Marine Protected Areas Byelaw 2018.

The 'do nothing' option therefore relates only to the fishing outside of these spatial closures.

The assessment also concluded that the current levels (last ten years) of shrimp fishing activity are not having an impact on site integrity outside of the proposed spatial closures. As such, the 'do nothing' option would still meet the conservation objectives of the site. However, the information used in the assessment is limited in its accuracy and scope and may have underestimated the levels of fishing activity during this period. Most importantly, the 'do nothing' option would enable fishers to change fishing behaviours (for example, increases in effort, fishing gear modifications) which may lead to fishing activity having an impact on the site.

Furthermore, this would not enable Eastern IFCA to improve data collection to better inform management decisions and assessments of impacts on MPA and fisheries sustainability.

The 'do nothing' option is not considered to adequately reduce the risk of impacts from shrimp fishing within MPAs and is therefore not considered a viable option.

Option 1 (preferred option) – Shrimp Permit Byelaw 2018

Eastern IFCA intends to introduce spatial closures within the Wash and North Norfolk Coast SAC for the protection of sub-tidal mixed sediments and subtidal mud sub-features of the SAC. Fishing activity outside of these closures (within the site) is considered not to be having an adverse effect on site integrity based on the level of effort and fishing practices over the last ten years. So as to ensure that fishing activity and behaviours do not change with the effect of an adverse effect on site integrity, Eastern IFCA proposes to implement a permit scheme so as to dynamically manage the fishery in line with the conservation objectives of the MPA and sustainability of fisheries. Without a mechanism to control effort in particular, shrimp fishing in The Wash and North Norfolk Coast poses a risk to site integrity.

Outside of the Wash and North Norfolk Coast MPA, a permit scheme will enable Eastern IFCA to redress any potential displacement resultant of measures in the Wash and North Norfolk Coast MPA. A permit scheme will also enable Eastern IFCA to manage these fisheries as required and in accordance with monitoring and control plans (which require the monitoring of activity levels) so as to ensure no adverse impacts on site integrity within other MPAs.

Further information (particularly through the implementation of electronic monitoring devices) will aid decision making to enable Eastern IFCA to meet conservation objectives of MPAs and minimise the impact on the fishing industry.

Option 2 – Closure of Wash and North Norfolk Coast to shrimp fishing

Closure of the site would meet the conservation objectives of the site but have disproportionate impacts on the industry and effectively end the UK's contribution to the markets in relation to brown shrimp, with some 90% of the UK's catch coming from The Wash.

Monetised and non-monetised costs and benefits

Option 0 – Do nothing option

There are no monetised costs associated with the 'do nothing' option.

The key non-monetised costs relate to the impacts on ecosystem functioning resultant of increases in fishing effort and changes in fishing behaviours (e.g. use of more damaging fishing gear). Impacts on ecosystem function is likely to lead to impacts on the sustainability of the fishery and its productivity.

In addition, the 'do nothing' option is not in keeping with the requirements of the Habitats Directive and as such may lead to infraction on the UK.

Option 1 – Shrimp Permit Byelaw 2018

The key monetised costs associated with the fishery relate to the requirement for vessels to have electronic monitoring devices and the permit fee as set out below.

There is also a transitional cost associated with the requirement for all vessels to use separator trawls or sorting grids on shrimp fishing gear.

Key monetised costs

Electronic monitoring devices

Inshore Vessel Monitoring Systems (I-VMS) and Vessel Monitoring System + (VMS+) installation costs – Eastern IFCA intends to implement the requirement to install I-VMS alongside a funding bid to cover the cost of I-VMS installation. It is intended that the cost of requiring additional units will be mitigated entirely through a combination of EMFF funding and Eastern IFCA funding support. The likely cost of installation of I-VMS devices is circa £1300 per vessel. Estimates for total cost are therefore proportionate to the total number of vessels who will require the device and installation. On an annual basis, the number of vessels operating in the fishery ranges from 29 to 54 over the period 2010 to 2017 (inclusive). The total number of different vessels operating during that period was 80. However, vessels with a length of 12m and over are already required to have a VMS+ device. As such, out of the 80 vessels which have operated in the fishery over the period 2010 to 2017 (inclusive) and which have a valid fishing licence and are less than 12m, 33 vessels remain, and it is on this the 'best estimate' is obtained. Therefore, the 'low', 'estimate is £37,700 (based on 29 vessels), the 'high' estimate is £104,000 (based on 80 vessels) and the 'best' estimate is £42,900 (based on 44 vessels – average number of vessels).

Vessels over 12m in length will not require installation of electronic monitoring devices under this regulation as VMS+ devices are already required by the MMO.

iVMS and VMS+ reporting costs – The cost of reporting via iVMS is between £114 and £168 per year at a reporting rate of once in three minutes. This cost extends to vessels operating VMS+.

The differences in the estimated costs for this requirement are primarily a reflection of the number of vessels operating within the shrimp fishery and level of cost associated with the reporting.

The low estimate takes into account the lowest number of vessels which have landed shrimp within the Eastern IFC District in any given year since 2010 (29 vessels) and the lowest potential reporting costs (being £140 per annum). The low estimate is therefore £3,306 per annum.

The high estimate takes into account the higher potential reporting cost and the total

number of different vessels which have landed shrimp within Eastern IFCA's district since 2010 (80 vessels). The high estimate is therefore £13,440.

The best estimate takes into account the mean number of vessels fishing for shrimp per year since 2010 (which is 44 vessels) and the mean potential cost of reporting (i.e. £142). The 'best' estimate is therefore £6,248 per annum.

The 'best' estimate is likely to be an overestimate given that the majority of fishers will not operate within the shrimp fishery all year and other fisheries may have requirements to use electronic monitoring devices (for example, it is proposed that Wash Fishery order 1992 licence holders will require iVMS to operate within that fishery). As such, the annual cost for reporting (i.e. £114 to 168) is likely to contribute to more fisheries than the shrimp fishery only. In addition, Defra are currently consulting on a national requirement for the implementation of electronic monitoring devices on all vessels under 12m.

Consultation with the fishing industry has revealed that smaller fisheries for shrimp exist outside of the Wash and North Norfolk Coast SAC. In particular, up to three vessels are reportedly fish for shrimp between Winterton and Sea Palling using a single, stern towed, hand-deployed shrimp fishing trawl. These fishers have reported that, the level of shrimp fishing over the last ten to fifteen years has been very low to nil. They anecdotally report that this is a result of larger vessels fishing close to the shore line removing all shrimp available. They reported having increased fishing activity during 2018. The level of catches are very small with a 'good days catch' being reported as '100 pints of shrimp'. Such shrimp are sold directly to consumers, thus not being recorded through sales notes and not featuring on MMO landing datasets.

In addition, there is thought to be a limited shrimp fishery in Suffolk, the catch of which is primarily used as bait in other fisheries.

The potential impact of the relatively modest I-VMS running costs on these fishers is likely to be of a greater scale proportional to the value of the catch of shrimp, particularly where the shrimp is used as bait. However, the inclusion of the I-VMS requirement is intended as to precede the propose national rollout of I-VMS requirements which may apply to all fisheries. It should also be noted that Eastern IFCA has agreed in principle that all vessels within the district will be required to have an electronic monitoring device. As such, considering the cost of this requirement in the context of these shrimp fisheries only would not reflect the true impact on these business models which is considered of low risk to business continuity given the modest costs. In addition, the potential cost to these fishers does not have a bearing on the need for Eastern IFCA to monitor levels of activity of bottom-towed-gear as required throughout the MPA within the district through monitoring and control plans. These plans will ultimately rely on Eastern IFCA being able to detect increases in fishing activity to respond with management measures as required.

Given that the information provided indicates that these fishers do not rely on shrimp catches to sustain a business model, the potential impact on these fishers is considered as a low risk to business continuity. It is however suggested that the viability issues they face in the context of over-exploited fishing grounds can be considered as part of the shrimp fishery sustainability work-stream.

Costs associated with permit fees

The proposed fee for a category one shrimp permit is £100 per annum. This cost reflects cost recovery for administering permits and data entry (£44) which is set out in

Table 1 below and an additional contribution to research, monitoring and compliance undertaken with regards to the measures (£56). The fee for a category two permit is £44. It should be noted that whilst fishers can obtain both permits on a single vessel, the associated cost will only be £100 (i.e. fishers only pay the permit fee once).

Table 1. Costs associated with the administration of a shrimp permit scheme per permit issued per year.

Unit	Unit cost	Number of units	Total cost
Return book	£6.50	1	£6.50
pre-paid envelope	£0.60	14	£8.40
Admin Officer time (including on-costs)	£11.54	2.5	£28.85
		Total	£43.75

The estimated costs for the permit fees are a reflection of the different number of vessels that operate under a permit and as set out in the calculations for electronic monitoring costs above. It only considers Category One permits (i.e. the higher cost permit) as the vast majority of shrimp fishers are thought to fish within the Wash and North Norfolk Coast SAC at some point during the year.

Therefore, the low cost is estimated as £2,900 per annum, the high cost is estimated as £8,000 per annum and the best estimate is estimated as £4,400 per annum).

Transitional costs (installation of separator trawls or sorting grids)

The direct cost implication on fishers is estimated to be in the region of £350 to install a separator trawl ('veil net') within a shrimp fishing net. The main concern from fishers was the impact that the installation of a separator trawl would have on the effectiveness of the gear to catch shrimp.

Fishers raised concerns that installing 'veil nets' in shrimp fishing gear with a lesser beam width (i.e. less than 4m) reduces the effectiveness of the gear. Officers are unaware of any study which would inform as to the effectiveness of smaller shrimp trawls installed with a veil net however, advice was sought from 'Seafish' and a net manufacturer indicated that a veil net could be installed and would work under the same principle as on larger gear and that it would likely cost a fisher in the region of £350. Seafish is a Non-Departmental Public Body (NDPB) set up by the Fisheries Act 1981 to improve efficiency and raise standards across the seafood industry and who often advise on gear improvements.

One response suggested that a trial is undertaken as to the potential impact on the effectiveness of the gear to inform if there are any impacts on shrimp fishers however, such an undertaking would likely be difficult and would not have an impact on the conclusion that 'veil nets' are needed in any case to conclude no impact on site integrity within the Wash and North Norfolk Coast in any case. Rationale for requiring their use outside of the Wash and North Norfolk Coast is also compelling, particularly given that the Natural England advise relates to the wider impacts of bycatch mortality having indirect impacts on site integrity and that the vast majority of the Eastern IFCA district is a designated MPA.

It is also worth noting that the Shrimp Processors Organisation Ltd (who lead on the development and implementation of the Shrimp fishery accreditation) have indicate that

there are actually eight vessels identified as not requiring veil nets under the Shrimp Fishing Nets Order 2002 but that five of these use veil nets anyway. This is a clear indication of the general consensus of the use of veil nets.

In terms of identified monetised costs, the 'low' and 'best' estimate assume that six vessels will require veil nets to be installed (i.e. £2,100). This is based on consultation with the industry and a cost of £350 per vessel. The 'high' estimate assumes a higher number of vessels requiring veil nets (being ten) given that there are thought to be additional shrimp fishers in Suffolk who fish for bait only with a total cost of £3,500.

The actual cost to fishers is moderate, especially when considering the scale of the potential non-monetised benefits of reducing by-catch mortality. Inshore areas typically support spawning and nursery areas and shrimp nets are capable of removing a significant number of individuals. Survivability of flat fish by-catch in particular is thought to be poor and 'veil nets' dramatically reduce the amount retained.

However, as with the analysis above regards the smaller scale fishers, the impact on individuals may be greater given the small scale of income generated from the shrimp fisheries. Also, as with above, given that these business models do not rely particularly on the shrimp fisheries, the potential impacts are not considered to be of risk to business continuity.

Cumulative impacts of costs to fishers

The total cost of the measures to an individual fisher in the first year of the byelaw being in effect will be between £158 and £618 depending on the permit type, I-VMS costs and whether a separator trawl is needed. The cost thereafter will be between £158 and £268 depending on the permit type and I-VMS costs.

The scale of these costs is considered low in the context of overall business costs and a low risk to business continuity. The scale of impact on an individual fisher will vary depending on the business model and the value of the shrimp fishery to each fisher.

Costs to Eastern IFCA

Eastern IFCA will incur costs associated with administering a permit scheme including through processing applications and inputting data from return forms. These are set out in Table 1 above.

In addition, Eastern IFCA intends to undertake monitoring to support the conclusions of the Habitat Regulation Assessment and ensure that adverse effects are not occurring within the site open to fishing. The associated cost cannot be monetised as ultimately the level of monitoring is likely to change annually. These have been included in the non-monetised costs.

Eastern IFCA is also likely to incur a cost associated with enforcing the new measures. Costs associated with minor non-compliance are considered in the non-monetised costs section below.

Additional Enforcement activities will be required in addition to education and engagement. The cost of these are estimated to be £7,176 based on six additional sea patrols and 4 additional shore patrols. This is likely to be an underestimate with regards to the initial implementation of the measures during which time the risk of non-compliance is higher. In addition, the number of patrols will increase if risk associated with the fishery increases as directed through the Tactical Coordinating Group.

It is anticipated that the permit fee will partially recover these costs. Therefore, including the cost recovery from the permits, the estimated monetised cost to the Authority is £2,739 (based on the 'best' estimate for cost recovery via permit fees). It should be noted however that there are likely to be significant non-monetised costs (which are set out in following section) which are not taken into account here.

Table 2. showing the breakdown of costs associated with additional compliance needs resultant of introducing a new byelaw.

Costs associated with 1 sea patrol

		employment			
Crew:-		cost	working days	cost per std 7.4 hour day	
Skipper	1	33,760.00	225	150.04	
Crew:-	3	29,410.00	227	388.68	
Total cost				538.72	
"on costs"					
Pension			21.50%	115.83	
E'ers NI		12,156.97	226	53.79	
				708.34	
		annual cost	days at sea		
<u>Operation cost of vessel</u>			70		
Maintenance/refit		15,000.00		214.29	
Insurance		3,000.00		42.86	
				257.14	
Total operation cost per day/trip				965.48	
6 additional sea patrols				5792.898	

Costs associated with 1 shore patrol

		employment			
Crew:-		cost	working days	cost per std 7.4 hour day	
Skipper	0	33,760.00	0	0.00	
Crew:-	2	29,410.00	227	259.12	
Total cost				259.12	
"on costs"					
Pension			21.50%	55.71	
E'ers NI		6,978.94	226	30.88	
				345.71	
Total operational cost of shore patrol				345.71	
4 additional shore patrols				1382.839	

total additional compliance costs

7175.74

Non-monetised costs

Provision of catch data

Fishers will be required to return catch data as required by Eastern IFCA in accordance with the proposed byelaw. There will be a minimal cost associated with completing and returning these forms in terms of lost time.

Gear modifications – ‘shoes’ and skids

There is a marginal cost associated with fishers having to ensure that shrimp fishing gear is compliant with permit condition 5; that the ‘shoes’ on shrimp gear must be ‘flat across its entire length’. This may require some fishers to add additional plates to the bottom of shoes which have ‘heels’ (the presence of which acts as a ‘wear plate’). Informal dialogue with fishers has indicated that the associated cost will be minimal, and fishers are generally not concerned about this measure.

Changes in fishing behaviours

One of the main concerns raised in the informal consultation relates to additional fishing effort from vessels which have not previously prosecuted the fishery. In particular, that a permit scheme will drive a behaviour for fishers to obtain a permit so as to get ‘track record’ for the fishery in the event that Eastern IFCA limit the number of permits. This would be on the perception that this will ensure them a permit in the future.

The proposed byelaw includes provision for Eastern IFCA to limit the number of permit and the fishing effort per vessel however, Eastern IFCA does not intend to implement this system until further work has been undertaken. The proposed byelaw would enable Eastern IFCA to implement such restrictions in accordance with the process set out in the schedule of the byelaw which includes consultation with impacted stakeholders and the production of an Impact Assessment.

The proposed byelaw also includes a provision for Eastern IFCA to close the fishery for periods of time not exceeding the permit year (i.e. until the following 1st August) for the protection of MPA or fisheries sustainability. As such, if fishing effort did increase significantly, Eastern IFCA may close the fishery with impacts on the industry. Eastern IFCA may close the fishery where there is an enhanced risk to the sustainability of stocks or to site integrity of the Wash and North Norfolk Coast Special Area of Conservation. Permit holders will be notified in writing of such a closure.

It should be noted that if fishing activity remains within the levels identified over the past ten years, there would not be a need to close the fishery. Therefore, there is a risk that the fisher could be closed if ‘new’ fishers enter the fishery and pose a risk to the sustainability or site integrity. In the case of site integrity, that is likely to be determined as fishing effort at levels in excess of what has been the case over the last ten years.

The impacts of having to close the fishery ‘mid-season’ is hypothetical because current levels of fishing activity are not thought to be having an impact on the site. In addition, the timing of the ‘permit year’ (i.e. August to August) reduces the likelihood of such closures by ‘restarting the clock’ at the point effort usually starts to increase.

However, the potential scale of impact on the industry can be estimated as follows:

Table 2. impact as a percentage of total landed weight of shrimp depending on timing of fishery closure (MMO data 2010 to 2017 inclusive)

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
All vessels	20.9	17.2	13.0	8.7	5.4	2.9	0.0	93.0	78.5	58.7	39.7	29.1
Vessels landing shrimp 10 or more months of the year	22.0	18.5	14.5	9.8	5.9	3.2	0.0	92.8	77.6	57.8	39.2	29.6

Table 2. impact as a percentage of total value of catch depending on timing of fishery closure (MMO data 2010 to 2017 inclusive)

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
All vessels	24.1	20.0	14.9	10.0	6.1	3.0	0.0	93.2	79.7	61.6	43.1	32.1
Vessels landing shrimp 10 or more months of the year	25.0	21.2	16.5	11.2	6.8	3.4	0.0	93.0	78.5	60.1	42.0	32.2

Tables 1 and 2 show the percentage of landed weight (table 1) and value of catch (table 2) cumulatively over the 'permit period' i.e. August to August. It shows the percentage of catch / value remaining during a normal 'permit year' and as such is an estimate of the scale of impact on fishers. For example, if the fishery closed during January, vessels would lose in the region of 24 to 25% of their total earnings from shrimp during that year.

While this provides some insight into the potential impact, it is worth noting that, if the fishery were to close early, given that the amount of effort which can be permitted is that which has taken place over the last 10 years, the industry wide impacts would be limited as the same amount of shrimp will have been caught but over a shorter period.

Impacts resultant from 'mid-season' closures will be primarily on vessels / fishers who would have relied on the shrimp fishery during the months it is closed. The level of impact on such fishers cannot be determined with the available data as cockle landings (which will make up a significant proportion of annual value of catch for many vessels) are not accurately recorded in sales notes and as such, not accurately reported in landing statistics making a comparison difficult.

The greatest impact would be felt by vessels whom do not have a Wash Fishery Order Licence or other target species. Impacts are however mitigated by the ability to fish outside of the Wash and North Norfolk Coast (e.g. the Lincolnshire coast which is anecdotally known to support a significant proportion of the effort from the larger, processor owned vessels).

Finally, there will also be a wider impact on loss of earnings from processor factories which rely heavily or solely on the processing of shrimps for certain periods of the year. These cannot be monetised with the available data however, it can be assumed that for the

individuals who work for these factories the impacts will be significant loss of earnings.

The likelihood of this occurring depends on the likelihood of 'new' vessels entering the fishery. Eastern IFCA has actively discouraged any 'new' vessels fishing for shrimp solely for the purpose of obtaining track-record when a permitting scheme is introduced. There is however the potential for new vessels to enter the fishery for this reason.

Ultimately, if the status quo is maintained then a 'mid-season' closure is unlikely to occur. Balancing the various needs of different business models will be difficult and it should be noted that there is a counter view that limiting the number of permits will also have a detrimental impact and may lead to the loss of fishing opportunity (e.g. through latent capacity, inhibition of new entrants etc.) and it is considered important to establish the best method for achieving the required effect with further consultation. Eastern IFCA will seek to engage with the industry and develop proposals for the administration of permits within a reasonable timeframe so as to minimise potential impact in any case.

Costs to Eastern IFCA

Eastern IFCA has committed significant resource to shrimp management measures development in its five-year business plan and a significant proportion of resource has been allocated to shrimp management research projects including continued monitoring of the sites condition, development of fisheries sustainability measures and extensive consultation with stakeholders. It is anticipated that these costs are offset slightly by the permit fee.

Monetised and non-monetised benefits

Without mitigation, the fishery has been assessed as potentially impacting the Wash and North Norfolk Coast SAC and as such, cannot proceed without mitigation. It could be argued therefore that the overriding benefit of these measures is the continuation of this fishery and the monetary benefit of these measures can be estimated as the total worth of the fishery over the coming years which is, as estimated from the average over the period 2010 to 2017 (inclusive) is £1,662,408 per year. That said, it is also acknowledged that an unknown proportion of that value comes from outside of the Wash and North Norfolk Coast SAC and therefore, the actual monetary value if this benefit cannot be estimated.

Protection of the sub-features identified as being at risk from shrimp fishing activity will have a positive effect on the overall ecological functioning of the MPA and potentially improve fishery productivity, including in relation to species other than shrimps. These benefits cannot be monetised with the currently available evidence. These benefits potentially include:

- Increased biodiversity;
- Increase productivity;
- Increase resilience of the habitats, species and ecological functioning (e.g. food webs) to climate change and impacts;
- Increase in non-use benefits to society (an understanding that spaces are left alone for nature)
- Increase in abundance of brood stock and spawning inside closed areas
- Spill-over into open fishing grounds.
- Increased CPUE in areas open to fishing around closed areas, that will reduce the costs (fuel) associated with fishing harder and for longer in open areas.

In addition, there is likely to be a positive impact on the shrimp fishery provided that ecological function of the site is furthered which may lead to better returns for fishers. Again, it is not possible to determine the scale of this potential benefit and as such, it cannot be accurately

monetised.

Option 2 – Total closure of Wash and North Norfolk Coast MPA to bottom towed fishing gear

Key monetised costs

The pink and brown shrimp fisheries in the Eastern IFC District are worth between £584,525 and £2,668,788 per annum. The vast majority of these fisheries are thought to occur within the Wash and North Norfolk Coast although other notable areas are off the Lincolnshire coast and north of the MPA.

Eastern IFCA has undertaken an assessment of the impacts of shrimp fishing within the MPA and found that some habitats are very sensitive to shrimp fishing activity and require closure (to all bottom-towed-gear). Other habitats are found to be less sensitive although it is thought that fishing activity could impact these habitats if activity increased.

The potential impact of this option is likely to be underestimated by the landed value of catch. The factories which process the shrimp caught (both of which are based in King's Lynn) rely to a large degree on the shrimp market. The market price for the processed shrimp is likely to be much higher than the landed value and which includes a significant amount of export to foreign markets (primarily Holland). There are a significant number of tertiary jobs associated with this fishery and these processing factories (i.e. engineers, factory workers, delivery drivers).

Only a minor increase in fishing effort is anticipated as a result of displacement from the closed areas and fishing at the current levels is assessed to be in keeping with the conservation objectives of the site. Closure of the whole site would meet the conservation objectives however, it is likely to cause a large impact on stakeholders with no additional benefit to site integrity as compared to option 1. As such, it is considered disproportionate to close the entire site to shrimp fishing activity as the associated risks to site integrity can be adequately mitigated through effort limitations as required.

Rationale and evidence that justify the level of analysis used in the IA (proportionality approach)

This assessment has used the following information:

- Fisheries / catch returns data supplied by the shrimp fishing industry to Eastern IFCA and the Marine Management Organisation
- Feedback from extensive informal consultation with the shrimp fishing industry;
- Expert knowledge from SeaFish and *C.I.V. Den Oever U.A* (net manufacturer)
- Information provided by the iVMS project board and suppliers

There is a notable limitation to Eastern IFCA catch returns for the shrimp fishing industry as there has been non-compliance at times with the requirement to provide this information.

Landed weights and values for shrimp landings primarily rely on Marine Management Organisation data for the years 2010 to 2016. Data for 2017 is still provisional and as such has not been included.

The scale of the potential impacts with regards to the proposed measures are small in comparison to the worth of the fishery to individuals and the industry as a whole. Therefore, the level of analysis is considered appropriate.

Risks and assumptions

Cost of reporting using I-VMS and VMS+

Fishers will be required to report certain information using an electronic monitoring device. Vessels of less than 12 m will be required to obtain and use an I-VMS device. In the case of vessel which are 12 m or above, this will be the VMS+ device which they are required to have under MMO licence conditions and European Commission legislation.

Presently these devices make reports at a much lower rate (two hours) than will be required by this byelaw and as such there will be an associated cost.

Fishers have raised a concern that the suppliers of the electronic monitoring devices will increase costs of reporting at some point in the future. I-VMS units must be type approved to be used but any company can get a device type approved. Under this model, market forces will mitigate against price increases as different companies vie for business. VMS+ however operate under a sole supplier model i.e. there is only one supplier permitted to provide the device and service for reporting. As such, there is no mitigation against this supplier increasing costs significantly in the future.

Changes in behaviour

Fishers have raised concerns about a permitting scheme changing the behaviour of fishers. In particular that the shrimp fishery will quickly become over-prescribed as fishers attempt to build 'track-record' to mitigate not being able to fish in the future if Eastern IFCA implemented a limitation.

Further vessels which operate in the fishery or have operated in the past

Resultant of the formal consultation, Eastern IFCA has become aware of some smaller scales shrimp fishers who were not previously known. Primarily, these relate to fishers who, may be commercial fishers but who either catch shrimp in so small a quantity that they are not captured by MMO landings figures, use shrimp only as bait for longlining or have not fished since before 2010 (i.e. the first year that data is available for shrimp fishing). This limitation has been mitigated through further dialogue with fishers to determine levels of effort and potential impacts. It is recognised that the requirement for a shrimp permit may have additional impacts on these fishers, but which cannot be captured with currently available evidence. That said, impacts on fishers who have not fished since 2010 (several such fishers suggested that they had not fished for seventeen years) would not realistically be taken into account and small-scale shrimp fishers will still be able to fish but will have to obtain a permit and fish within the constraints of the byelaw. Given the nominal permit fee proposed and the funding available to obtain I-VMS, the proposals are not considered likely to be of a significant impact to these fishers.

Summary and preferred option with description of implementation plan

The preferred option is Option 1 – introduction of the Shrimp permit Byelaw 2018. This will require fishers to obtain a permit to fish for shrimp in Eastern IFCA's District. A specific permit will be required to fish within the Wash and north Norfolk Coast SAC so as to enable Eastern IFCA to implement permit conditions and/or permit limitations for the protection of the site if required. This dynamic approach to managing the fishery is required given the dynamic nature

of the fishery.

Implementation of the byelaw will include engagement with the industry to raise awareness of the requirements under the byelaw and permit conditions. Eastern IFCA also intends to provide implement an Enforcement Policy with regards to the implementation of electronic monitoring devices to ensure a proportionate approach to the enforcement of this measures in particular.

Annex A: Policy and Planning

Which marine plan area is the MPA and management measure in?

East Inshore Marine Plan

Have you assessed whether the decision on this MPA management measure is in accordance with the Marine Policy Statement and any relevant marine plan?

- Yes

If so, please give details of the assessments completed:

Marine Plan Policy	Policy Text	Policy screened in or out from assessment	Assessment of plan policy
Policy AGG1	Proposals in areas where a licence for extraction of aggregates has been granted or formally applied for should not be authorised unless there are exceptional circumstances.	×	Does not apply.
Policy AGG2	Proposals within an area subject to an Exploration and Option Agreement with The Crown Estate should not be supported unless it is demonstrated that the other development or activity is compatible with aggregate extraction or there are exceptional circumstances.	×	Does not apply.
Policy AGG3	Within defined areas of high potential aggregate resource, proposals should demonstrate in order of preference: a) that they will not, prevent aggregate extraction b) how, if there are adverse impacts on aggregate extraction, they will minimise these c) how, if the adverse impacts cannot be minimised, they will be mitigated d) the case for proceeding with the application if it is not possible to minimise or mitigate the adverse impacts	×	Does not apply.

<p>Policy AQ1</p>	<p>Within sustainable aquaculture development sites (identified through research), proposals should demonstrate in order of preference:</p> <p>a) that they will avoid adverse impacts on future aquaculture development by altering the sea bed or water column in ways which would cause adverse impacts to aquaculture productivity or potential</p> <p>b) how, if there are adverse impacts on aquaculture development, they can be minimised</p> <p>c) how, if the adverse impacts cannot be minimised they will be mitigated</p> <p>d) the case for proceeding with the proposal if it is not possible to minimise or mitigate the adverse impacts</p>	<p>×</p>	
<p>Policy BIO1</p>	<p>Appropriate weight should be attached to biodiversity, reflecting the need to protect biodiversity as a whole, taking account of the best available evidence including on habitats and species that are protected or of conservation concern in the East marine plans and adjacent areas (marine, terrestrial).</p>	<p>✓</p>	<p>Eastern IFCA undertook a Habitats Regulations Assessment with regards to the potential impacts of shrimp fishing on site integrity within the Wash and North Norfolk Coast SAC. The assessment concluded that shrimp fishing (outside of the most sensitive areas which are proposed to be closed under the Marine Protected Areas Byelaw 2018) is not having an adverse effect on the site. The proposed byelaw enables Eastern IFCA to manage the fishery so as to ensure effort levels and fishing behaviours do not change to the extent that the site is impacted.</p>
<p>Policy BIO2</p>	<p>Where appropriate, proposals for development should incorporate features that enhance biodiversity and geological interests.</p>	<p>×</p>	

<p>Policy CAB1</p>	<p>Preference should be given to proposals for cable installation where the method of installation is burial. Where burial is not achievable, decisions should take account of protection measures for the cable that may be proposed by the applicant.</p>	<p>×</p>	<p>Does not apply.</p>
<p>Policy CC1</p>	<p>Proposals should take account of:</p> <ul style="list-style-type: none"> • how they may be impacted upon by, and respond to, climate change over their lifetime and • how they may impact upon any climate change adaptation measures elsewhere during their lifetime <p>Where detrimental impacts on climate change adaptation measures are identified, evidence should be provided as to how the proposal will reduce such impacts.</p>	<p>✓</p>	<p>Managing the shrimp fishery will promote a sustainable fishery and healthy environments which are more resilient to natural phenomenon and events related to climate change.</p>
<p>Policy CC2</p>	<p>Proposals for development should minimise emissions of greenhouse gases as far as is appropriate. Mitigation measures will also be encouraged where emissions remain following minimising steps. Consideration should also be given to emissions from other activities or users affected by the proposal.</p>	<p>✓</p>	<p>The byelaw will not have an impact on emissions levels.</p>
<p>Policy CCS1</p>	<p>Within defined areas of potential carbon dioxide storage,(mapped in figure 17)proposals should demonstrate in order of preference:</p> <ol style="list-style-type: none"> a) that they will not prevent carbon dioxide storage b) how, if there are adverse impacts on carbon dioxide storage, they will minimise them c) how, if the adverse impacts cannot be minimised, they will be mitigated d) the case for proceeding with the proposal if it is not possible to minimise or mitigate the adverse impacts 	<p>×</p>	<p>Does not apply.</p>

Policy CCS2	Carbon Capture and Storage proposals should demonstrate that consideration has been given to the re-use of existing oil and gas infrastructure rather than the installation of new infrastructure (either in depleted fields or in active fields via enhanced hydrocarbon recovery).	×	Does not apply.
Policy DD1	Proposals within or adjacent to licensed dredging and disposal areas should demonstrate, in order of preference a) that they will not adversely impact dredging and disposal activities b) how, if there are adverse impacts on dredging and disposal, they will minimise these c) how, if the adverse impacts cannot be minimised they will be mitigated d) the case for proceeding with the proposal if it is not possible to minimise or mitigate the adverse impacts	×	Does not apply
Policy DEF1	Proposals in or affecting Ministry of Defence Danger and Exercise Areas should not be authorised without agreement from the Ministry of Defence.	×	Does not apply
Policy EC1	Proposals that provide economic productivity benefits which are additional to Gross Value Added currently generated by existing activities should be supported.	✓	The shrimp fishery within the East Inshore Marine Plan Area are of national importance representing circa 90% of UK shrimp landings. The management of the fishery will allow for a longer-term, sustainable fishery to be continued.
Policy EC2	Proposals that provide additional employment benefits should be supported, particularly where these benefits have the potential to meet employment needs in localities close to the marine plan areas.	✓	At least two processor plants (which process shellfish) are known to process shrimp catches from across the district and further – enabling a productive shrimp fishery will support jobs in addition to fishing activity (e.g. factory cleaners, admin etc.).

<p>Policy EC3</p>	<p>Proposals that will help the East marine plan areas to contribute to offshore wind energy generation should be supported.</p>	<p>×</p>	<p>Does not apply.</p>
<p>Policy ECO1</p>	<p>Cumulative impacts affecting the ecosystem of the East marine plans and adjacent areas (marine, terrestrial) should be addressed in decision-making and plan implementation.</p>	<p>✓</p>	<p>The management of the shrimp fishery will support a healthy marine habitat which in turn, should have a benefit on the biodiversity of the wider ecosystem.</p>
<p>Policy ECO2</p>	<p>The risk of release of hazardous substances as a secondary effect due to any increased collision risk should be taken account of in proposals that require an authorisation.</p>	<p>✓</p>	<p>No additional collision risk identified as a result of the proposed byelaw.</p>
<p>Policy FISH1</p>	<p>Within areas of fishing activity, proposals should demonstrate in order of preference: a) that they will not prevent fishing activities on, or access to, fishing grounds b) how, if there are adverse impacts on the ability to undertake fishing activities or access to fishing grounds, they will minimise them c) how, if the adverse impacts cannot be minimised, they will be mitigated d) the case for proceeding with their proposal if it is not possible to minimise or mitigate the adverse impacts</p>	<p>✓</p>	<p>The purpose of the byelaw is to implement a permit scheme to enable Eastern IFCA to manage shrimp fishing activity such that it does not have an impact on site integrity within the Wash and North Norfolk Coast SAC. It is also intended that the byelaw is used to manage the fishery from a sustainability perspective to ensure the long-term sustainability of the fishery. Ultimately, protection of the habitats on which shrimp rely and the fishery from over-exploitation will have a long-term beneficial impact on shrimp fishing opportunities.</p>
<p>Policy FISH2</p>	<p>Proposals should demonstrate, in order of preference: a) that they will not have an adverse impact upon spawning and nursery areas and any associated habitat b) how, if there are adverse impacts upon the spawning and nursery areas and any associated habitat, they will minimise them c) how, if the adverse impacts cannot be minimised they will be mitigated d) the case for proceeding with their proposals if it is not</p>	<p>✓</p>	<p>The intention of the proposed byelaw is to protect important habitats from the impacts of shrimp fishing.</p>

	possible to minimise or mitigate the adverse impacts		
Policy GOV1	Appropriate provision should be made for infrastructure on land which supports activities in the marine area and vice versa.	×	Does not apply.
Policy GOV2	Opportunities for co-existence should be maximised wherever possible.	×	Does not apply.
Policy GOV3	Proposals should demonstrate in order of preference: a) that they will avoid displacement of other existing or authorised (but yet to be implemented) activities b) how, if there are adverse impacts resulting in displacement by the proposal, they will minimise them c) how, if the adverse impacts resulting in displacement by the proposal, cannot be minimised, they will be mitigated against or d) the case for proceeding with the proposal if it is not possible to minimise or mitigate the adverse impacts of displacement	✓	No displacement anticipated.
Policy MPA1	Any impacts on the overall Marine Protected Area network must be taken account of in strategic level measures and assessments, with due regard given to any current agreed advice on an ecologically coherent network.	✓	The intention of the byelaw is to ensure impacts on marine protected areas are mitigated and that Eastern IFCA has a mechanism to ensure future changes to fishing behaviour can also be mitigated through the introduction of flexible management measures.
Policy OG1	Proposals within areas with existing oil and gas production should not be authorised except where compatibility with oil and gas production and infrastructure can be satisfactorily demonstrated.	X	Does not apply.

<p>Policy OG2</p>	<p>Proposals for new oil and gas activity should be supported over proposals for other development.</p>	<p>×</p>	<p>Does not apply.</p>
<p>Policy PS1</p>	<p>Proposals that require static sea surface infrastructure or that significantly reduce under-keel clearance should not be authorised in International Maritime Organization designated routes.</p>	<p>×</p>	<p>Does not apply.</p>
<p>Policy PS2</p>	<p>Proposals that require static sea surface infrastructure that encroaches upon important navigation routes (see figure 18) should not be authorised unless there are exceptional circumstances. Proposals should:</p> <ul style="list-style-type: none"> a) be compatible with the need to maintain space for safe navigation, avoiding adverse economic impact b) anticipate and provide for future safe navigational requirements where evidence and/or stakeholder input allows and c) account for impacts upon navigation in-combination with other existing and proposed activities 	<p>×</p>	<p>Does not apply.</p>
<p>Policy PS3</p>	<p>Proposals should demonstrate, in order of preference:</p> <ul style="list-style-type: none"> a) that they will not interfere with current activity and future opportunity for expansion of ports and harbours b) how, if the proposal may interfere with current activity and future opportunities for expansion, they will minimise this c) how, if the interference cannot be minimised, it will be 	<p>X</p>	<p>Does not apply.</p>

	mitigated d) the case for proceeding if it is not possible to minimise or mitigate the interference		
Policy SOC1	Proposals that provide health and social well-being benefits including through maintaining, or enhancing, access to the coast and marine area should be supported.	X	Does not apply.
Policy SOC2	Proposals that may affect heritage assets should demonstrate, in order of preference: a) that they will not compromise or harm elements which contribute to the significance of the heritage asset b) how, if there is compromise or harm to a heritage asset, this will be minimised c) how, where compromise or harm to a heritage asset cannot be minimised it will be mitigated against or d) the public benefits for proceeding with the proposal if it is not possible to minimise or mitigate compromise or harm to the heritage asset	×	Does not apply.
Policy SOC3	Proposals that may affect the terrestrial and marine character of an area should demonstrate, in order of preference: a) that they will not adversely impact the terrestrial and marine character of an area b) how, if there are adverse impacts on the terrestrial and marine character of an area, they will minimise them c) how, where these adverse impacts on the terrestrial and marine character of an area cannot be minimised they will be mitigated against d) the case for proceeding with the proposal if it is not possible to minimise or mitigate the adverse impacts	×	Does not apply.

<p>Policy TIDE1</p>	<p>In defined areas of identified tidal stream resource (see figure 16), proposals should demonstrate, in order of preference:</p> <p>a) that they will not compromise potential future development of a tidal stream project</p> <p>b) how, if there are any adverse impacts on potential tidal stream deployment, they will minimise them</p> <p>c) how, if the adverse impacts cannot be minimised, they will be mitigated</p> <p>d) the case for proceeding with the proposal if it is not possible to minimise or mitigate the adverse impacts</p>	<p>×</p>	<p>Does not apply.</p>
<p>Policy TR1</p>	<p>Proposals for development should demonstrate that during construction and operation, in order of preference:</p> <p>a) they will not adversely impact tourism and recreation activities</p> <p>b) how, if there are adverse impacts on tourism and recreation activities, they will minimise them</p> <p>c) how, if the adverse impacts cannot be minimised, they will be mitigated</p> <p>d) the case for proceeding with the proposal if it is not possible to minimise or mitigate the adverse impacts</p>	<p>×</p>	
<p>Policy TR2</p>	<p>Proposals that require static objects in the East marine plan areas, should demonstrate, in order of preference:</p> <p>a) that they will not adversely impact on recreational boating routes</p> <p>b) how, if there are adverse impacts on recreational boating routes, they will minimise them</p> <p>c) how, if the adverse impacts cannot be minimised, they will be mitigated</p> <p>d) the case for proceeding with the proposal if it is not possible to minimise or mitigate the adverse impacts</p>	<p>X</p>	
<p>Policy TR3</p>	<p>Proposals that deliver tourism and/or recreation related benefits in communities adjacent to the East marine plan areas should be supported.</p>	<p>X</p>	<p>Does not apply.</p>

<p>Policy WIND1</p>	<p>Developments requiring authorisation, that are in or could affect sites held under a lease or an agreement for lease that has been granted by The Crown Estate for development of an Offshore Wind Farm, should not be authorised unless</p> <p>a) they can clearly demonstrate that they will not compromise the construction, operation, maintenance, or decommissioning of the Offshore Wind Farm</p> <p>b) the lease/agreement for lease has been surrendered back to The Crown Estate and not been re-tendered</p> <p>c) the lease/agreement for lease has been terminated by the Secretary of State</p> <p>d) in other exceptional circumstances</p>	<p>×</p>	<p>Does not apply.</p>
<p>Policy WIND2</p>	<p>Proposals for Offshore Wind Farms inside Round 3 zones, including relevant supporting projects and infrastructure, should be supported.</p>	<p>×</p>	<p>Does not apply.</p>