

Title: Byelaw XXX: Automatic Identification System Byelaw 2016 IA No: NEIFCA_16_1 Lead department or agency: NEIFCA Other departments or agencies: MMO, MCA	Impact Assessment (IA)				
	Date: 09/010/2018				
	Stage: Final				
	Source of intervention: Domestic				
	Type of measure: Secondary legislation				
	Contact for enquiries: David McCandless Chief Officer, NEIFCA 01482 393515, david.mccandless@eastriding.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 2018 prices)	In scope of One-In, Three-Out?	Measure qualifies as
£129,850	£0	£5,300	Not in scope	Non-qualifying regulatory provision

What is the problem under consideration?
 North Eastern Inshore Fisheries and Conservation Authority (NEIFCA) has identified specific data deficits, where a lack of information on the spatial extent of fisheries, the distribution of fishing effort and the intensity of fishing activity is hampering the effective assessment and management of stocks within our jurisdiction.

Why is government intervention necessary?
 Recommendations from two independent reviews have recognised that stock management could be improved if information on vessel activity could be remotely captured at a resolution appropriate to NEIFCA jurisdiction. This can only be achieved through mandating a system.

What are the policy objectives and the intended effects?

1. To identify the accurate location and spatial distribution of all commercial fishing activities within the NEIFC District.
2. To remotely monitor, in 'real time', fishing activities within all the Marine Protected Areas located within the NEIFC District.
3. To quantify seasonal fishing intensity across all gear types.
4. To support safe navigation and improve the identification of vessels.

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

The following policy options have been considered:

Option 0. Do nothing

Option 1. Regulatory management - mandatory Automatic Identification System (AIS) requirement on all commercial fishing vessels

Option 2. Use of non-regulatory/voluntary adoption

Option 1 is preferred. The use of mandatory AIS will allow for the capture of information on all commercial vessels and gear types, ensuring all operators and activities are accounted for in the assessment of activities.

Will the policy be reviewed? It will be reviewed. If applicable, set review date: 06/2023					
Does implementation go beyond minimum EU requirements?			Yes		
Are any of these organisations in scope? If Micros not exempted set out reason in Evidence Base.		Micro Yes	< 20 Yes	Small Yes	Medium Yes
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 Chief Officer:



Date: 9 October 2018

Description:

FULL ECONOMIC ASSESSMENT

Price Base Year 2018	PV Base Year 2018	Time Period Years 10	Net Benefit (Present Value (PV))		
			Low: N/A	High: N/A	Best Estimate: -£129,850

COSTS (£)	Total Transition (Constant Price)	Years	Average Annual (excl. Transition) (Constant)	Total Cost (Present Value)
Low	Optional	5	Optional	Optional
High	Optional		Optional	Optional
Best Estimate	£26,500		£0	£103,350

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

- Class B AIS units will ensure all affected groups will comply with the proposed byelaw provisions.
- Following consultation with operators, 265 Class B units will be required at a fixed capital cost of £103,350 (£390 per unit). The Authority is committed to meeting the capital costs of purchasing and supplying the units with an expectation that affected businesses will meet the nominal cost of installation estimated at £26,500 (£100 per unit) assuming no maintenance or replacement costs.

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

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

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

No monetised values are available for the benefits of the proposed byelaw.

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

The proposed byelaw will provide a mechanism to obtain data related to the distribution and intensity of commercial fishing within the NEIFC District at a resolution sufficient to deliver statutory responsibilities.

Key assumptions/sensitivities/risks

Assumes 100% compliance and zero maintenance/replacement costs.

Discount rate

3.5%

BUSINESS ASSESSMENT (Option 1)

Direct impact on business (Equivalent Annual):			In scope of OI30?	Measure qualifies as
Costs: £129,850	Benefits: £0	Net: -£26,500	Not in scope	N/A

Evidence Base

1. Introduction

- 1.1. NEIFCA is charged with the sustainable management of fisheries within its jurisdiction, authorised through Section 153 of the Marine and Coastal Access Act (2009). Section 175(1) of the Act states that, "Every IFCA must collect such statistics relating to the exploitation of sea fisheries resources within its District as it considers necessary for the purposes of performing its duty under Section 153."
- 1.2. Strategic Environmental Assessments (SEA) for finfish and shellfish fisheries within the NEIFC District as well as ongoing work revising the management of commercial fisheries in Marine Protected Areas (MPAs) have highlighted significant data deficiencies regarding the distribution of fishing effort, spatial extent of stocks and intensity of activities (NEIFCA, 2013; NESFC, 2006). The mandatory use of AIS will address these deficits through the use of a standardised positional reporting system across all fisheries.

2. Rationale for intervention

- 2.1. IFCA's have duties to ensure that fish stocks are exploited in a sustainable manner by implementing appropriate management measures. Implementing this byelaw will ensure that fishing activities are conducted in a sustainable manner and that the marine environment is suitably protected.
- 2.2. Fishing activities can potentially cause negative outcomes as a result of 'market failures'. The failures in this case relate to public goods and services as well as common goods.
 - 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, means that individuals do not necessarily have an incentive to voluntarily ensure the continued existence of these goods, which can lead to under-protection/provision.
 - 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.
- 2.3. IFCA byelaws aim to redress these sources of market failure in the marine environment through the regulatory management:
 - Measures will support continued existence of public goods in the marine environment, for example conserving the range of biodiversity in the sea of the IFC District.
 - Measures will also support continued existence of common goods in the marine environment, for example ensuring the long term sustainability of fish stocks in the IFC District.

3. Policy objectives and intended effects

- 3.1. The key objectives of the proposed management are:
 - to identify the accurate location and spatial distribution of all commercial fishing activities;

- to remotely monitor, in 'real time', fishing activities throughout the NEIFC District;
- to quantify seasonal fishing intensity across all gear types;
- to support safe navigation and improve the identification of vessels.

3.2. The intended effect of this management measure is to improve the quality of information on the spatial distribution of effort and intensity of fishing within the NEIFC District.

4. Background

4.1. Current management

4.1.1. Current management systems for catch and activity reporting are based on European and National legislation. Vessels report their fishing activity to International Council for the Exploitation of the Sea (ICES) areas, rectangles or sub-rectangles and detailed in catch returns and log books and currently over 12 m vessels report their location, course and speed every 2 hours via mandatory VMS. Catch return and logbook data offers a broadscale overview of activity, which provides insufficient detail for the assessment of activity within IFCA Districts. More effectively capturing and utilising vessel monitoring system data means that fishing distribution and intensity can be monitored with a higher degree of precision (Witt and Godley, 2007).

4.2. AIS

4.2.1. Following independent recommendations, NEIFCA has reviewed options for capturing high resolution information and opportunities to align with current legislation. Officers are recommending the adoption of mandatory AIS throughout the district for all commercial vessels and gear types. AIS is a maritime communication device that transfers data wirelessly through the very high frequency (VHF) maritime band, allowing AIS equipped vessels and shore based stations to send and receive vessel information that can be displayed on a computer or chart plotter.

4.2.2. The system transmits the vessel's identity, the type of vessel, position, course, speed and navigational status automatically, updating information as often as every two seconds. It operates within approximately 20nm coverage making it highly suitable for small inshore vessels. In addition, the use of VHF radio waves to transmit and receive information, results in no ongoing fees after the initial unit cost.

4.2.3. There are two types of AIS regarded as suitable for the purposes of this byelaw; Class A and Class B. Class A units were developed for larger vessels (passenger ferries and vessels in excess of 300 gross ton), and will also function on smaller vessels. Class B are standalone units which were developed with smaller vessels in mind; simple installation and lower capital costs. Class B units are considered suitable to meet the requirements of the proposed byelaw.

4.3. Proposed byelaw considerations

4.3.1. During informal discussions, stakeholders identified that several vessels have already adopted AIS systems, either on a mandatory basis due to vessel length (over 15m), or on a voluntary basis. Following informal consultation 265 AIS units would be required to support the fleet. In recommending the byelaw, the following points have also been taken into consideration by Officers;

- Several commercial vessels within NEIFCA jurisdiction under 15m have voluntarily fitted AIS systems.
- Some offshore developments within NEIFCA jurisdiction have a mandatory requirement that any vessel entering a development area must display an AIS position at all times, therefore several vessels have voluntarily purchased and fitted AIS systems.
- Following capital purchase to comply in year one of the implementation of the byelaw there will be no further on-going costs or fees for the end user.

- Capital cost for Class B units have been estimated at £390.
- Installation costs have been estimated at £100 per unit.
- As a safety and navigation aid, AIS is an established system offering vessel position outputs. The system is currently legislated under Regulation 19 of Safety Of Life At Sea (SOLAS) Chapter V and is mandatory for all fishing vessels over 15m.

5. Policy Options

- 5.1. Option 0: Do nothing- this option would require the NEIFCA to make no changes to the current reporting system and the use of AIS on vessels under 15m will remain voluntary. The continued use of low resolution data to determine the distribution of fishing within the NEIFC District will result in poorly informed spatial management.
- 5.2. Option 1: Regulatory Management- the use of a mandatory AIS system at all times for commercial fishing vessels while transiting, fishing or anchoring within the authority's district will provide high resolution spatial and temporal data and will inform the authority of the level and distribution of fishing activity in the district.
- 5.3. Option 2: Use of non-regulatory measures – although there are a number of under 15m vessels voluntarily using AIS at present, the extent of usage is not comprehensive and with the capacity to switch off AIS, data would be unreliable.
- 5.4. Option 1 is preferred. Regulatory management is believed to be the most suitable method of providing high quality data on fishing activity that occurs within the NEIFC District. The new byelaw will inform the Authority of the distribution, intensity and seasonality of fishing activity for all gear types. It will also increase the safety of fishermen while working and navigating at sea.**

6. Preferred Option Impacts

- 6.1. The impacts of this new byelaw are not considered to be significant and NEIFCA has set aside funding reserves of £81,057 through savings made in the 2018/2019 financial to reduce the regulatory impact with a further undertaking that funds will be made available to ensure that the capital costs of supplying the AIS units to affected vessels are met. Following supply, there would be an expectation that the vessel operator would cover the cost of installing and maintaining the unit. Whilst some vessels are reluctant to publish information on their position, due to the potential for competition from other vessels there is already a moderate uptake of AIS throughout the District. The data collected from AIS transmissions will be used to assess and monitor fishing activity within the NEIFC District, which should support long-term sustainable and proportionate management.
- 6.2. Some concerns have been raised regarding the potential negative impacts on maritime safety resulting from the formal utilisation of AIS for fisheries compliance purposes. The theory being, that there would be a greater incentive for vessel operators to turn off AIS units when operating within the NEIFC District thus impacting on the current level of maritime safety. From a SOLAS perspective, of the potentially affected fleet, 77% of vessels fall below the size threshold requiring mandatory AIS operation and whilst a proportion of these vessels operate voluntary AIS the majority do not currently. The byelaw will ensure that all such vessels have an AIS unit supplied which they will be required to operate at all times, a requirement that will be strictly monitored. Such a regime has already been formally established under the Authority's scallop dredging regulations and compliance is considered high within the NEIFC District. Rather than impacting on vessel safety, within the NEIFC District the Authority considers that there will be a significant uplift in the current level of non-mandatory AIS transmissions across the District. This in turn will increase maritime 'visibility' and provide a precise vessel location to the MCA in the event of any safety or risk to life issue arising within the NEIFC District.

7. Regulatory Duplication

7.1. NEIFCA is fully aware that in potentially mandating AIS across its District there will be a level of regulatory duplication with regard to the proposed implementation and commissioning of the national Inshore Vessel Monitoring System (I-VMS) project. The value of utilising the existing AIS platform, alongside IVMS, to monitor fishing vessel activity has been recognised and endorsed by the IFCA Chief Officers Group and NEIFCA considers that it would strongly complement the national project.

7.2. Whilst the potential benefits of the national I-VMS project are fully recognised NEIFCA considers that from an operational perspective there remains a very strong need to achieve Ministerial confirmation of the AIS byelaw to cover activity across its District for the following key reasons:

- Given that the IVMS will operate exclusively on mobile networks with no satellite capability significant loss of signal from on-board transmitters is expected throughout most of the Authority's MPA sites where signal strength is considered very weak, including the Flamborough Head European Marine Site (EMS), parts of the Humber Estuary EMS and both the Holderness Inshore and Runswick Bay Marine Conservation Zones (MCZ). Although data will be transmitted once a signal is regained, the Authority's Inshore Fisheries and Conservation Officers will not be able to monitor activity in real time within the NEIFC District which will negate the ability to initiate any immediate response to any potential non-compliance issues. The additional mandatory requirement of an AIS transmission through the VHF network would alleviate these issues.
- The I-VMS is a closed system offering no 'ship to ship' capability without some form of reliable, cost effective, offshore internet connection which the Authority's main patrol vessel North Eastern Guardian III does not currently possess. Again, an additional requirement for mandatory AIS transmission would provide that 'ship to ship' capability and significantly enhance enforcement capabilities and compliance.
- It is proposed that the I-VMS will only be mandated in the future for commercial licensed fishing vessels. NEIFCA has identified a need to monitor all vessels exploiting sea fisheries resources for commercial gain within its District. The utilisation of the AIS platform provides a cost effective means of monitoring the activities of all vessels which may not necessarily be registered commercial fishing vessels but are still exploiting sea fisheries resources for commercial gain such as charter angling vessels.
- Currently I-VMS does not offer any solution for small open vessels which don't carry on-board mains electrical systems or which are un-powered. The current structure of the NEIFCA commercial fishing fleet includes vessels down to 4 metres overall length. Utilisation of the AIS platform offers a tried and tested alternative solution for such vessels through a detachable sealed unit which operates via re-chargeable batteries.
- A mandatory AIS system could, with additional agreement, enable vessels to continue fishing activities within the Authority's District if there are any issues with their on-board national IVMS.
- The I-VMS is a closed system and its data can only be viewed by regulators. AIS is an open 'ship to ship' system which supports a much higher degree of accountability. This is particularly relevant in gear conflict situations which historically have been a significant issue within the NEIFC District. Vessels are more likely to take steps to avoid gear conflict situations when their activities can be viewed 'ship to ship'.

8. Conclusion

This proposed AIS byelaw regulation will inform all existing data deficiencies on the spatial distribution and intensity of fishing effort and complement the proposed national I-VMS project without significantly impacting the industry. In addition to all the considerations detailed within this IA, Annex A summarises further considerations made in relation to policy and national marine planning.

One in Three Out (OI3O)

OI3O is not applicable for IFCA byelaws.

Small firms impact test and competition assessment

No firms are exempt from this byelaw. It applies to all firms who use the area. This measure 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.

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

The proposed byelaw will include management areas in the East inshore plan area and the North East inshore plan area.

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:

- In the East inshore plan area the byelaw is in accordance with the following objectives and policies from the East Marine Plans:
 - Objective 6: To have a healthy, resilient and adaptable marine ecosystem in the East marine plan areas.
 - Objective 7: To protect, conserve and, where appropriate, recover biodiversity that is in or dependent upon the East marine plan areas.
 - Objective 8: To support the objectives of marine protected areas (and other designated sites around the coast that overlap, or are adjacent to the East marine plan areas), individually and as part of an ecologically coherent network.
 - Policy BIO1: 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).
 - 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.
- In the North East inshore plan area no marine plan is currently in place. Therefore for management areas in this plan area consideration has been given to the Marine Policy Statement. The decision on this MPA management measure is in accordance with the Marine Policy Statement, in particular:
 - 3.1.8 Marine plan authorities and decision-makers should take account of the regime for MPAs and comply with obligations imposed in respect of them. This includes the obligation to ensure that the exercise of certain functions contribute to, or at least do not hinder, the achievement of the objectives of a MCZ or MPA (in Scotland). This would also include the obligations in relevant legislation relating to SSSIs and sites designated under the Wild Birds and Habitats Directives.

- 3.8.3 Decision makers must therefore have regard to the provisions of the Common Fisheries Policy (CFP) in developing any plans or proposals affecting fisheries. The CFP is currently being reviewed. The view of the UK Administrations is that the overall aim of the reformed CFP should be to attain ecological sustainability whilst optimising the wealth generation of marine fish resources and their long term prospects.

References

No.	Legislation or publication
1	North Eastern Sea Fisheries Committee. 2006. Pilot Shellfish Fisheries Strategic Environmental Report – Environmental Report. Available online www.ne-ifca.gov.uk .
2	North Eastern Inshore Fisheries and Conservation Authority.2013. Finfish Fisheries Strategic Environmental Assessment. Available online www.ne-ifca.gov.uk .
3	North Eastern Inshore Fisheries and Conservation Authority .2016. Byelaw Consultation Summary. Available on request from www.ne-ifca.gov.uk .
4	Shelmerdine, R. L. and Leslie, B. 2015. A multidisciplinary approach to collection and use of VMS data from an inshore scallop survey. Report of Fishing Industry Science Alliance (FISA) Project 04/12. Scottish Marine and Freshwater Science 6(13): pp27.
5	Witt, M. J. and Godley, B. J. 2007. A step towards Seascape scale conservation: Using Vessel Monitoring Systems (VMS) to map fishing activity. PLoS ONE 2(10): e11111. doi:10.1371/journal.pone.0001111
6	Woolmer, A. 2009. National shellfish resource base: Cost-effective and efficient methodology to map inshore <10m shellfish fleet. Report to Shellfish Industry Development Strategy. Salacia-Marine Ecological Consultancy.