

Impact Assessment (IA)

Title: Byelaw XXX: Vessel Monitoring Byelaw

Date: 13/12/2016

IA No: NEIFCA_16_1

Stage: Consultation

Lead department or agency: NEIFCA

Source of intervention: Domestic

Other departments or agencies: MMO, MCA.

Type of measure: Secondary Legislation

Contact for enquiries:

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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	In scope of One-In, Two-Out?	Measure qualifies as
-£187,800	-£187,800	£0	N/A	N/A

What is the problem under consideration?

North Eastern IFCA 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. Recommendations from 2 independent reviews have recognised that stock management could be improved if information on vessel activity can be captured at a resolution appropriate to NEIFCA jurisdiction [1, 2].

Why is government intervention necessary?

Government intervention is required to redress data deficiencies in the marine environment by implementing appropriate management measures to support higher resolution data collection. This will improve subsequent management decisions and support continued provision of public goods in the marine environment.

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 NEIFCA district.
2. To quantify seasonal fishing intensity across all gear types.
3. 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;

0. Do nothing
1. Regulatory management - Mandatory AIS requirement on all commercial fishing vessels
2. Use of non-regulatory/voluntary adoption

Option 1 is preferred. The use of mandatory AIS systems 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: 3 years from implementation

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	Large 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
SELECT SIGNATORY:



Date: 13 December 2016

Summary: Analysis & Evidence Policy Option 1

Description:

FULL ECONOMIC ASSESSMENT

Price Base Year	PV Base Year	Time Period Years	Net Benefit (Present Value (PV) (£))		
			Low: N/A	High: N/A	Best Estimate: - £187,800
2016	2016	1			

COSTS (£m)	Total Transition (Constant Price) Years	Average Annual (excluding transition) (Constant Price)	Total Cost (Present Value)
Low	N/A	N/A	N/A
High	N/A	N/A	N/A
Best Estimate (£)	£187,800	£0	£187,800

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

1. Class A units have been estimated at £845 and Class B units at £420.
2. Following consultation with operators, an estimated 180 Class A and 85 Class B units are required.

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

Installation and maintenance costs

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

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

None

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

N/A

Key assumptions/sensitivities/risks	Discount rate (%)	3.5%
100% compliance		

BUSINESS ASSESSMENT (Option 1)

Direct impact on business (Equivalent Annual) £:			In scope of OITO?	Measure qualifies as
Costs: £187,800	Benefits: £0	Net: £0	N/A	N/A

Evidence base

1. Introduction

North Eastern IFCA (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.”

Strategic Environmental Assessments (SEA) for finfish and shellfish fisheries within the NEIFCA 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). Officers are proposing the mandatory use of AIS to address these deficits through the use of a standardised positional reporting system across all fisheries.

2. Rationale for intervention

Inshore Fisheries and Conservation Authorities 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.

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.

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 IFCA 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 IFCA District.

3. Policy objectives and intended effects

The key objectives of the proposed management are;

1. To identify the accurate location and spatial distribution of all commercial fishing activities,
2. To quantify seasonal fishing intensity across all gear types,
3. To support safe navigation and improve the identification of vessels.

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 NEIFCA District.

4. Background

4.1 Current management

Current management systems for catch and activity reporting are based on European and National legislation. Vessels report their fishing activity to ICES (areas / rectangles / sub-rectangles) detailed in catch returns and log books. Reporting to these spatial resolutions offers a broadscale overview of activity, which provides insufficient detail for the assessment of activity within IFCA management districts. With AIS data, fishing distribution and intensity can be monitored with a higher degree of precision (Witt and Godley, 2007).

4.2 Automatic Identification System (AIS)

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 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. 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 with 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. There are two types of AIS regarded as suitable for the purposes of this byelaw; Class A and Class B. Class A AIS 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 AIS are standalone units which were developed with smaller vessels in mind; simple installation and lower capital costs.

4.3 Proposed byelaw considerations

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, comprising of 180 Class A units and 85 Class B units. In recommending the byelaw, the following points have also been taken into consideration by Officers;

- i) Several commercial vessels within NEIFCA jurisdiction under 15m have voluntarily fitted AIS systems.
- ii) 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.
- iii) Following capital purchase, AIS has no on-going costs or fees, which reduces the financial impact of the byelaw significantly.
- iv) Capital cost for Class A units have been estimated at £845 and Class B at £420
- v) As a safety and navigation aid, AIS is an established system offering vessel position outputs. The system is currently legislated under Regulation 19 of SOLAS Chapter – V and is mandatory for all fishing vessels over 15m.

6. Policy Options

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 NEIFCA district will result in poorly informed spatial management.

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.

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.

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 NEIFCA 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.

7. Preferred Option Impacts

Impacts of this new byelaw are not considered to be significant. 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 NEIFCA district, which should support long-term sustainable and proportionate management.

8. Consultation

Two periods of informal consultation were undertaken during 2016, with 265 responses from operators indicating that they would require units to comply with the proposed byelaw. NEIFCA Officers are actively progressing a funding bid which would fully fund the capital purchase of units for the industry.

References

No.	Legislation or publication
1	North Eastern Sea Fisheries Committee (2006) <i>Pilot Shellfish Fisheries Strategic Environmental Report – Environmental Report</i> . Available online www.ne-ifca.gov.uk .
2	North Eastern Inshore Fisheries and Conservation Authority (2013) <i>Finfish Fisheries Strategic Environmental Assessment</i> . 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. <i>A multidisciplinary approach to collection and use of VMS data from an inshore scallop survey</i> . Report of Fishing Industry Science Alliance (FISA) Project 04/12. <i>Scottish Marine and Freshwater Science</i> 6(13): pp27.
5	Witt, M. J. and Godley, B. J. 2007. <i>A step towards Seascape scale conservation: Using Vessel Monitoring Systems (VMS) to map fishing activity</i> . <i>PLoS ONE</i> 2(10): e1111. doi:10.1371/journal.pone.0001111
6	Woolmer, A. 2009. <i>National shellfish resource base: Cost-effective and efficient methodology to map inshore <10m shellfish fleet</i> . Report to Shellfish Industry Development Strategy. Salacia-Marine Ecological Consultancy.

Annex I

Annual profile of monetised costs*

	Y ₀	Y ₁	Y ₂	Y ₃	Y ₄	Y ₅	Y ₆	Y ₇	Y ₈	Y ₉
Transition costs	£187,800									
Annual recurring cost – Best estimate	£0	0	0	0	0	0	0	0	0	0
Total present value of annual costs*:										£0
*For the estimation the Impact Assessment Calculator (https://www.gov.uk/government/publications/impact-assessment-calculator--3) was used considering a 3.5% discount rate, a 10 years appraisal period and 2014 as the price and present value base year.										

Net Impact*

	Y ₀	Y ₁	Y ₂	Y ₃	Y ₄	Y ₅	Y ₆	Y ₇	Y ₈	Y ₉
Transition Costs	£187,800	0	0	0	0	0	0	0	0	0
Annual Costs	0	0	0	0	0	0	0	0	0	0
Annual Benefits	0	0	0	0	0	0	0	0	0	0
Net Impact	-£187,800	0	0	0	0	0	0	0	0	0
*For the estimation the Impact Assessment Calculator (https://www.gov.uk/government/publications/impact-assessment-calculator--3) was used considering a 3.5% discount rate, a 10 years appraisal period and 2014 as the price and present value base year.										