

Title: Vessel Length and Towed Fishing Gear Engine Power Byelaw IA No: 4 RPC Reference No: Lead department or agency: Kent and Essex Inshore Fisheries and Conservation Authority (KEIFCA) Other departments or agencies: Environment Agency (EA), Marine Management Organisation (MMO), Department for the Environment, Food and Rural Affairs (Defra)	Impact Assessment (IA)
	Date: 27/08/2019
	Stage: Consultation
	Source of intervention: Domestic
	Type of measure: Secondary Legislation
Contact for enquiries: Dominic Bailey, Assistant Chief Officer, KEIFCA, Paragon House, Albert Street, Ramsgate, Kent, CT11 9HD, 01843 585 310 dominic.bailey@kentandessex-ifca.gov.uk ,	

Summary: Intervention and Options	RPC Opinion: N/A
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Cost of Preferred (or more likely) Option (in 2016 prices)

Total Net Present Social Value	Business Net Present Value	Net cost to business per year	Business Impact Target Status Qualifying provision
£	£	£	

What is the problem under consideration?

There are different byelaws of permitted vessel length and engine power in the parts of the Kent and Essex Inshore Fisheries and Conservation District; inherited from Kent and Essex Sea Fisheries Committee (SFC), Sussex SFC, Eastern Sea Fisheries Joint Committee (SFJC) and the EA. A new byelaw is required to standardise these regulations into a single byelaw which covers the entire KEIFC District. It is widely accepted that vessel length and engine power relate to fishing capacity of a vessel and its associated impact on the marine habitats and species. This byelaw will therefore help to manage pressure on fish stocks and the negative effects of fishing activities on the marine environment within the District.

Why is government intervention necessary?

Government intervention is required to ensure that vessel size and power regulations are standardised across the entire KEIFC District. The byelaw aims to reflect the modern profile of the inshore fleet which is made up of smaller vessels. Futureproofing this model from an influx of larger and more powerful vessels in the District will ensure fisheries are exploited in a sustainable way and that the marine environment is afforded appropriate protection.

What are the policy objectives and the intended effects?

- To establish a standardised byelaw regulating fishing vessel length and for vessels using towed fishing instruments, engine power throughout the KEIFC District.
- To bring the KEIFCA vessel length regulations in line with that of the neighbouring Sussex IFCA.
- To simplify and rationalise length restrictions in a way that is easily understood by stakeholders and easily monitored and enforced by KEIFCA.
- To better reflect the profile of the modern inshore fleet, namely smaller vessels that have less impact on stocks and the environment, and therefore ensure long term sustainable fisheries.
- To futureproof fisheries within the District from an influx of larger vessels from outside the District.
- To effectively limit towed gear size, which will limit impact on the seabed and therefore provide District wide habitat protection.

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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: Maximum vessel length of 14 m and total maximum engine power for towed gear does not exceed 221 kilowatts, and in the case of derated engines, did not exceed 243 kilowatts before derating.

Option 2: Vessel length restrictions

Option 3: Vessel engine power restrictions

All options are compared to option 0. Option 0 continues an inconsistent regime with different regulations in different places. The preferred option is option 1. A maximum vessel length of 14m would be an optimum limit as feedback from the industry has supported that this size is a good descriptor of the inshore fleet within the Kent and Essex District. In addition, 14m is currently being used for the maximum vessel length in the Thames cockle fishery, and in the neighbouring Sussex IFC District. Less than 1% of the current inshore fleet would be affected by these changes. A maximum engine power for towed gear does not exceed 221 kilowatts, and in the case of derated engines, did not exceed 243 kilowatts before derating is preferred, as this wording was used by the KESFC byelaw and Thames Estuary Cockle Fishery Order 29914 (TECFO) legislation, is well understood by the industry, and is more conservative than the current EU wording. These engine power restrictions would only apply to towed gear, mirroring KESFC legacy byelaws.

This byelaw will standardise regulations across the district, promote a sustainable inshore fishery, and maintain holistic protection for inshore habitats within the District.

Will the policy be reviewed? It will be reviewed. If applicable, set review date: June 2034 at the latest

Does implementation go beyond minimum EU requirements?		Yes			
Is this measure likely to impact on trade and investment?		No			
Are any of these organisations in scope?		Micro 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 Chief Officer Dr William Wright Date: 27/08/2019

Summary: Analysis & Evidence

Policy Option 1

Description: Maximum vessel length of 14 m and total maximum engine power for towed gear does not exceed 221 kilowatts, and in the case of derated engines, did not exceed 243 kilowatts before derating.

FULL ECONOMIC ASSESSMENT

Price Base Year	PV Base Year	Time Period Years	Net Benefit (Present Value (PV)) (£m)		
			Low: Optional	High: Optional	Best Estimate:
COSTS (£)		Total Transition (Constant Price) Years	Average Annual (excl. Transition) (Constant Price)	Total Cost (Present Value)	
Low	Optional		Optional	Optional	
High	Optional		Optional	Optional	
Best Estimate					
Description and scale of key monetised costs by 'main affected groups'					
There are several vessels known to operate inside the District which exceed the specifications of the new byelaw, and will therefore be exposed to costs as business plans are forced to change. However, these costs will be mitigated due to the proposed exemption mechanism. This is designed to support such vessels, allowing continued access if the business relies on it.					
Other key non-monetised costs by 'main affected groups'					
All three exemption criteria (periodic proof of use, change of ownership and a review period) allow continued access for current businesses with a clear expectation to permanently downsize vessels inside the District over a specified period. This allows long term business plans to be gradually adjusted, while realising the benefits of the byelaw when vessels are sold or cease fishing.					
BENEFITS (£)		Total Transition (Constant Price) Years	Average Annual (excl. Transition) (Constant Price)	Total Benefit (Present Value)	
Low	Optional		Optional	Optional	
High	Optional		Optional	Optional	
Best Estimate					
Description and scale of key monetised benefits by 'main affected groups'					
NA					
Other key non-monetised benefits by 'main affected groups'					
Few vessels over 14m are based in the District, therefore this byelaw will ensure that the current fleet profile of smaller local vessels is maintained in future. Implementation of this byelaw would also result in inshore areas being sustainably fished and would protect supporting habitats from potentially damaging impacts of heavy fishing gear from vessels that have not invested in the local area.					
Key assumptions/sensitivities/risks				Discount rate (%)	3.5
The assessment assumes that no unknown vessels work in the District and that all vessels have correctly declared length and engine power values on their licence and registration documents.					

BUSINESS ASSESSMENT (Option 1)

Direct impact on business (Equivalent Annual) £:			Score for Business Impact Target (qualifying provisions only) £:
Costs:	Benefits:	Net:	

Evidence Base (for summary sheets)

1. Introduction

IFCAs have been established under the Marine and Coastal Access Act 2009 (MaCAA) as the lead regulator for the sustainable management of inshore fisheries. As such, the Kent and Essex Inshore Fisheries and Conservation Authority (KEIFCA) is the appropriate Authority to implement and enforce fisheries management measures within the 6-nautical mile District. Legislation which limits vessel specifications such as length and engine power is an established method of managing fishing fleets. This type of regulation is key to managing a sustainable fishing industry and healthy marine environment inside the District.

Current regulations relating to fishing vessels specifications (vessel length and engine power) that apply in the KEIFC District are contained in legacy byelaws inherited from the Kent and Essex Sea Fisheries Committee (KESFC), Sussex Sea Fisheries Committee (SxSFC), Eastern Sea Fisheries Joint Committee (ESFJC), and the Environment Agency (EA). Vessel specifications in legacy byelaws differ, meaning currently different rules apply in different areas across the District, as shown in Figure 1.

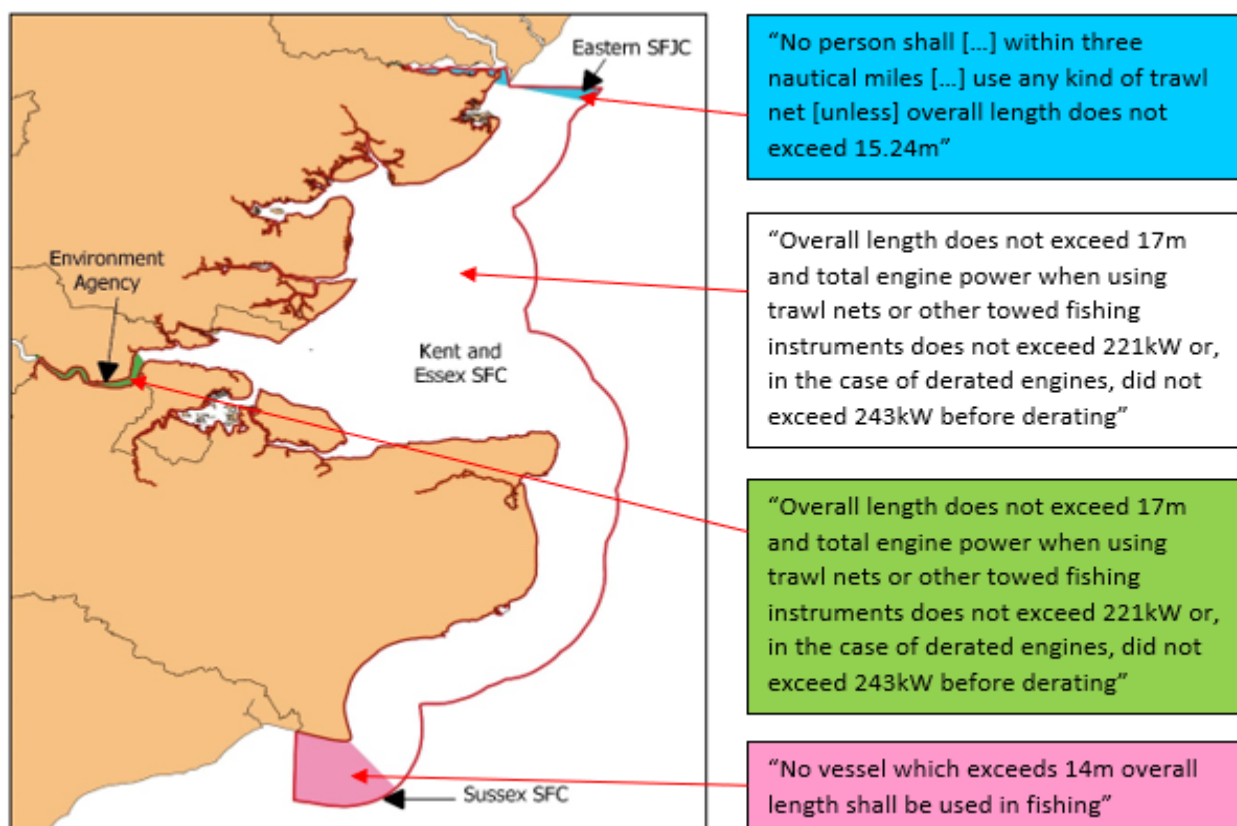


Figure 1. Location and wording of legacy byelaws relating to vessel specifications

Operating under different rules in different parts of the District is unnecessarily complicated for stakeholders and regulators alike, highlighting the need for a new standardised byelaw. As with legacy byelaws, the new byelaw comprises two metrics: vessel length and engine power. These have been selected as they are simple parameters that are widely used by regulators, including other IFCAs, to manage fishing fleet specifications.

Vessel length, or length overall (LOA) measured in meters describes the maximum length of a vessel's hull measured parallel to the waterline and is regulated by most IFCAs. Limiting vessel length inside the District ensures that inshore fishing grounds are left for smaller vessels to exploit. Small local "day-boats" are typically non-nomadic and cannot travel further afield than inshore areas for their fishing grounds. In contrast, larger vessels can generally stay at sea for days at a time and therefore have access to a far greater range of fishing grounds. Smaller vessels can be more sustainable, with studies showing they spend less time fishing per landed value and catch, in addition to catch per unit effort and profits being higher than large boats (Damasio *et al.*, 2016). Larger fishing vessels may also have a greater

environmental impact (e.g. fish mortality and seabed disturbance), however this depends on type and size of gear and time spent at sea (European Environment Agency, 2015). Regulators can easily access vessel length information for commercial vessels in the fleet as it is recorded on the Maritime and Coastguard Agency (MCA) vessel registry. Therefore, this simple metric can be used to effectively regulate the inshore fleet.

Engine power is another common vessel specification metric used by regulators, including IFCAs. Engine power or horsepower is the maximum power that an engine can put out. It can be expressed in kilowatts or horsepower (e.g. 221 kW is equal to 300 hp). Engine power relates to the size and weight of fishing gear that a vessel can operate, as heavier gear requires a more powerful engine. This is especially true for towed gears such as trawls and dredges which have an impact on the seabed. Engines can be derated to reduce the amount of work that can be undertaken (i.e. the weight of gear that can be towed), and therefore limits for derated engines are sometimes included in regulations. Limiting engine power for towed gear will ensure that only lighter fishing gear which has less impact on sensitive seafloor habitats can be used inside the District.

This impact assessment (IA) outlines the various management options including vessel length and engine power in the District that have been proposed by KEIFCA and consulted on by stakeholders. The costs and benefits of these options are assessed, and the rationale for preferred options is justified. Data on vessel length (m) and engine power (kW) to inform this IA was obtained from the Marine Management Organisation (MMO), specifically January 2018 vessel lists for the District. Data on vessel income was taken from the Seafish publication “Quay Issues: 2016 Economics of the UK Fishing Fleet”.

2. Rationale for intervention

MaCAA 2009 provides a framework for managing the demands put on our seas, and aims to ensure clean healthy, safe, productive and biologically diverse oceans and seas, by putting in place effective systems for delivering sustainable development of the marine and coastal environment. This justifies the need for a new vessel specification byelaw, and also aligns with national and local marine strategies.

2.1. Marine Policy Statement

The Marine Policy Statement (MPS) is the framework for taking decisions affecting the marine environment, and contributes to the achievement of sustainable development in the United Kingdom marine area. It has been prepared and adopted for the purposes of section 44 of the MaCAA 2009. The new byelaw seeks to align the MPS in the following ways:

- *Achieving a sustainable marine economy* - reserving inshore fishing grounds for smaller vessels, facilitating a sustainable local industry.
- *Ensuring a strong, healthy and just society* – supporting the local fishing economy is vital as they play a key role in coastal communities.
- *Living within environmental limits* – protecting sensitive inshore habitats from the impacts of heavy fishing gear.
- *Promoting good governance* - KEIFCA are implementing clear, timely and proportionate regulation. Relevant stakeholders are consulted to ensure that all views are considered throughout the decision-making process.
- *Using sound science responsibly* - best available evidence is used to inform the byelaw making process.

2.2. 25 Year Plan to Improve the Environment

Defra’s 25-year plan describes a strategy for the future of fisheries and the marine environment in the UK and emphasises the need for sustainably exploited natural resources to allow long term benefits. The objectives are associated with those of the proposed byelaw:

- Reversing the loss of marine biodiversity and, where practicable, restoring it.
- Increasing the proportion of protected and well-managed seas, and better managing existing protected sites.
- Making sure populations of key species are sustainable with appropriate age structures.

- Ensuring seafloor habitats are productive and sufficiently extensive to support healthy, sustainable ecosystems

2.3. IFCA duties (Local)

KEIFCA has clearly defined duties to manage sustainable fisheries and conserve the marine environment within the coastal waters off Kent and Essex, set out in MaCAA 2009. This includes seeking to ensure that the exploitation of sea fisheries resources is carried out in a sustainable way, balancing the social and economic benefits of fishing with the need to protect the marine environment. Section 155 subsection (5) of MaCAA allows IFCAs to create byelaws that prohibit or restrict the use of vessels of specified descriptions. This legislative framework designates KEIFCA as the appropriate authority to manage vessel length and engine power.

IFCA high level “Success Criteria” directly relate to this byelaw’s objective to standardise legislation in the district, as Success Criterion 2 requires that “IFCAs implement a fair, effective and proportionate enforcement regime.” To achieve this, KEIFCA must A) ensure regulations are consistent and appropriate across the entire District and B) develop regulatory consistency with other organisations. Both objectives can be achieved by introducing a new vessel specification byelaw.

2.4 Market Failures

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

- Public goods and services – A number of goods and services provided by the marine environment such as biological diversity are ‘public goods’ (no-one can be excluded from benefiting from them, but use of the goods does not diminish the goods being available to others). The characteristics of public goods, being available to all but belonging to no-one, mean that individuals do not necessarily have an incentive to voluntarily ensure the continued existence of these goods which can lead to under-protection/provision.
- 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.
- 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.

KEIFCA byelaws aim to redress these sources of market failure in the marine environment through the following ways:

- Management measures to support continued existence of public goods in the marine environment, for example conserving the range of biodiversity in the sea of the KEIFC District.
- Management measures to also support continued existence of common goods in the marine environment, for example ensuring the long-term sustainability of fish stocks in the KEIFC District.

3. Policy objective (and intended effects)

The policy objective pertinent to this IA is to replace current legacy byelaws relating to vessel specifications, as these vary across the KEIFC District and need to be standardised. After consultation with stakeholders, KEIFCA have received feedback on several new regulatory options for managing vessel length and engine power. After reviewing the evidence supplied by the initial consultation at a technical panel meeting, the decision has been made to propose a new byelaw which restricts vessel length of all fishing vessels, and engine power for vessels using towed gear. Standardising these limits across the entire District is therefore an appropriate means of fulfilling KEIFCA's duties under MaCAA 2009. Restricting vessel length will also maintain access for local inshore day boats, and continuing to restrict engine power for vessels using towed gear will maintain District wide protection from high impact mobile gear (EEA, 2015).

Policy objectives:

1. **Standardise legislation across the KEIFC District:** replace legacy byelaws with a new byelaw which restricts all vessels to a maximum of 14m in length, and engine power for vessels using towed gear to 221 kW (243 kW before derating).
2. **Bring legislation in line with neighbouring IFCA byelaws:** mirror the 14m vessel length restrictions in Sussex IFC District.
3. **Reflect the modern profile of the inshore fleet:** ensure access to inshore grounds is specific to under 14m local boats which make up over 99% of the fleet.
4. **Protect marine ecosystems from heavy towed gear:** minimise the impact of towed fishing activity on seafloor habitats and species.

The objectives will simplify and rationalise the current system, as a standardised byelaw will be easily understood by stakeholders, and easily monitored and enforced by KEIFCA. Few vessels will be affected by the byelaw, as less than 1% of the fleet exceeds the proposed restrictions and mitigation for the outlying vessels will ensure that cost is minimised for businesses that rely on access, including resident vessels over 14 m and those with grandfather rights granted under legacy byelaws. There will be economic benefits for local fishermen, as only smaller vessels will maintain specific access to inshore fishing grounds. The byelaw will contribute towards maintaining a healthy ecosystem by effectively limiting the size of towed gear, and therefore impact on the seabed habitats district-wide.

4. Options

A range of management options were proposed in an initial stakeholder byelaw consultation before being considered by the KEIFCA technical panel on the 10th October 2018.

Option 0. Do nothing: This option would retain the four existing byelaws for vessel length. This option continues an inconsistent regime with different vessel lengths in different places. It would mean that KEIFCA's obligations to simplify legislation as set out in the IFCA Success Criteria would not be met.

Option 1. Maximum vessel length of 14 m and total maximum engine power for towed gear does not exceed 221 kilowatts, and in the case of derated engines, did not exceed 243 kilowatts before derating.

With regards to vessel length, this option would mean that 99.5% of vessels based inside the KEIFC District would be unaffected by the new byelaw. Furthermore, a 14m vessel length limit is used in the KEIFCA cockle fishery legislation and Sussex IFC District, and therefore develops regulatory consistency with other legislation. This option was initially agreed by KEIFCA at January and May 2018 meetings and received positive feedback from the fishing industry during the initial consultation, with general agreement that a maximum of 14m is a good descriptor of the modern inshore fleet. Stakeholder consultation supported vessel length restrictions for all fishing vessel regardless of gear type. This approach makes legislation simpler as current length restrictions in 3 out of 4 legacy byelaws apply to all vessels.

With regards to engine power, this option uses the current KESFC byelaw wording that applies to the vast majority of the District, and is also used in KEIFCA cockle fishery legislation. The definition of engine power would also remain the same despite alternative, more complicated definitions being

proposed during the consultation. This is because total engine power in kW is available for all fishing vessels on MCA registry documents and is robust enough for legislative purposes. As vessels with powerful engines only exert a greater impact footprint when using towed gear, engine power restrictions would only apply to towed gear, as in current regulations. Applying the same engine power regulations as the KESFC byelaw will ensure maximum consistency for the industry and will not require numerous exemptions. This option is therefore preferred.

Option 2. Various vessel length restrictions

- 10m maximum length (proposed by Wildlife Trusts): With 10-15% vessels currently based inside the District over 10m this option would have a significant impact on the inshore fleet. To minimise cost to businesses, a large number of exemptions would have to be granted, which would make it harder to agree on specific exemption criteria. Under 10m vessel length is a widely used descriptor, for instance there is a separate quota allocation for “under 10s”, however a government fisheries white paper indicates this may change after Brexit. A 10 m maximum vessel length has been used by KEIFCA in a native oyster permit, however this is a “micro fishery” where larger vessels cannot be economical. In contrast, vessels that operate in KEIFCA cockle fisheries are typically all over 10m, as vessels must be a certain size to transport the designated volume of catch at 13.6 m³. This option is not considered further.
- 15m maximum length (proposed by Interfish): This would mean 99.5% of local vessels would be able to continue fishing without impact. The 15m descriptor is used by the MCA to categorise vessels for safety purposes, however this length is not used regularly in fisheries management. Furthermore, 15m is not a good descriptor of the inshore fleet, as there are no vessels in the District between 14 – 15m. This option is not considered further.

Option 3. Various engine power restrictions

- Total engine does not exceed 221 kilowatts: This option has the simplest wording; however, it could lead to complications with derated engines that were previously compliant with the legacy KESFC byelaw. It could therefore lead to a high number of exemptions which would be more complicated to implement and is therefore not considered further.
- Total engine does not exceed 221 kilowatts or, in the case of derated engines, did not exceed 300 kilowatts before derating: This option adopts wording used in Council Regulation (EC) 850/98, however these limits are greater than the current KESFC byelaw for derated engines. This could potentially allow more powerful vessels to fish inside the District and expose marine habitats to greater impacts from towed fishing gear. Effective derating is also difficult to reliably enforce, and therefore this option is not considered further.

4.1. Exemption criteria for vessels that exceed new byelaw specifications

There are a small number of vessels that are known to operate inside the District which exceed the proposed vessel specifications of the new byelaw. This includes:

- 14-17m vessels that fish inside the District
- Over 17m vessels based outside the District with a “Grandfather Rights” exemption to current (legacy) byelaws
- Vessels under construction that are designed to comply with current (legacy) byelaws but would exceed requirements of the new byelaw (exemption via “pipeline clause” used by other IFCAAs)

These vessels would not retain access to fish inside the District unless an exemption mechanism is put in place. Exemption criteria must demonstrate a track record of fishing inside the District, and several options were considered by the KEIFCA technical panel, with the decided option detailed below;

Vessels must have at least a 100-hour track record of fishing in the District in the last two years demonstrated with multiple sources of proof (VMS/VMS+/IVMS vessel tracking, electronic logbook records and sales notes). This is the confirmed option as demonstrating a track record over a two-year

period would reduce the risk of vessels being excluded due to a recent lack of fishing activity on reasonable grounds (e.g. having a refit which could take up to a year).

The exemption is maintained by proving the same 100-hour track record every two years and will be upheld as long as the vessel remains in the same legal and beneficial ownership. Therefore, if an exempted vessel were to be sold, the exemption would be lost. A review clause of 15 years and then every 5 years after that is also incorporated into the byelaw which sets a clear expectation for exempted vessels to cease fishing inside the District eventually, while allowing enough time for businesses to adapt to the new legislation.

6. Analysis of costs and benefits

Limitations of analysis

The implementation of this byelaw has the potential to impose costs and benefits for both the fishing industry and KEIFCA as regulators, however there are limitations in estimating effects accurately.

MMO fleet data used in these estimations shows only vessels that are registered at Kent and Essex ports, but has also included the neighbouring port of Rye in Sussex, as some of the Rye fleet work inside the KEIFC District. Consequently, this dataset does not include “nomadic” vessels that move between ports throughout the year. Such vessels have been accounted for based on KEIFCA’s knowledge of other vessels that have a history of working inside the District periodically.

Estimations of monetary costs are attempted, however variables such as individual income are difficult to quantify and highly variable, and therefore have a high level of uncertainty. Vessels can utilise a variety of gear types and can therefore be difficult to categorise. Although calculations have been made to estimate the closest possible value of loss to those vessels that would be affected by the byelaw, these are based on the best available economic data from Seafish reports. These reports use averaged data for large numbers of vessels, and therefore such calculations do not reflect individual businesses and could be inaccurate.

Much of this analysis is also non-monetised as attributing value to factors such as ecosystem services is extremely complex and therefore beyond the scope of this analysis.

6.1. Costs for recommended option

The introduction of a new vessel length limit of 14m and a power limit of 221 kW (derated 243 kW) for towed gear, could result in the following costs:

- Direct cost to vessel owners due to reduced access to fishing grounds
- Costs associated with individual businesses having to adopt new long-term plans
- Administrative and compliance costs

6.2. Vessel length

6.2.1. Vessels with grandfather rights from previous byelaws

In order to understand the costs to the industry, it is important to determine how many vessels will be affected by the new vessel limit. Figure 2 shows a distribution of vessel lengths for vessels with home ports based inside the District. In total there are 222 vessels based inside the District ranging from 3 – 16.99m. Only one of these vessels is over 14m, showing that less than 1% of the fleet would be affected by the new vessel length limit. This data may not represent all relevant vessels however, as some boats based outside the District occasionally work inside. For example, there are three over 17m vessels with a “Grandfather Rights” exemption to the legacy KESFC byelaw. Furthermore, it is important to consider business owners with vessels currently under construction, as these may be designed to comply with current (legacy) byelaws but would exceed requirements of the new byelaw. A realistic estimate is that five vessels would be affected with these categories considered, amounting to less than 2.5% of the total fleet.

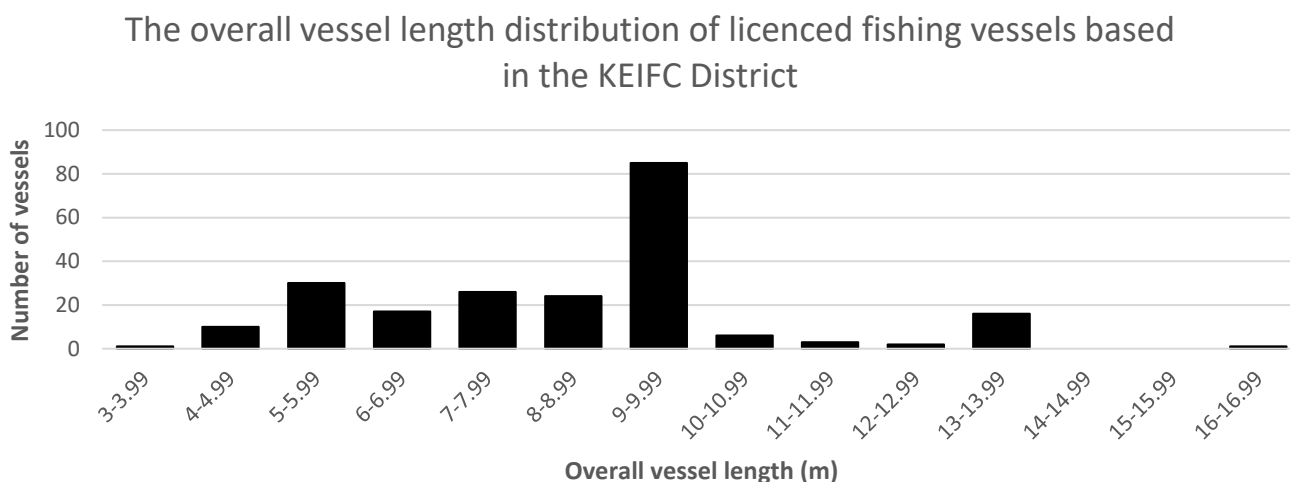


Figure 2. Distribution of vessel lengths for vessels with home ports based inside the District

6.2.2. Direct cost to over 14m vessel owners due to reduced access

Implementing this byelaw without mitigation would impact vessels that have access to fish inside the District under current regulations but would not comply with the new byelaw. This includes 14-17m vessels and those over 17m with grandfather rights granted under KESFC byelaws. Economic data in Table 1 shows the average income for different segments of the UK fleet based on gear type, vessel specification, and location. Known vessels that would exceed byelaw limits include beam trawlers, demersal otter trawlers and scallop dredgers.

Table 1. Fleet economics data from Seafish for fishing segments that most closely describe vessels that may be affected by the new byelaw

Segment (vessel, gear, and location)	Average annual income (£)	Fuel as % of income
North Sea Beam trawl under 300 kW	107,000	27
North Sea demersal trawler under 24m under 300 kW	324,000	9
UK scallop dredge over 15m	518,000	13

Direct monetary costs might be incurred if over 14 m vessels are denied access immediately after the byelaw is introduced. Average annual income shown on Table 1 estimates monetised cost to a vessel if

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it fished 100% of the time inside the District. This is unlikely however, as larger vessels tend to fish further afield, outside of the District, and diversify in their fishing grounds.

There could be greater costs associated with fuel consumption if a vessel is forced to travel further afield to fishing grounds outside the District. Fuel consumption can range between 9 and 27% of income for such vessels, and therefore increase in fuel costs of just 10% could equate to £6,734 per year for a scallop dredger, or £2,889 for a beam trawler, or £2,916 for a demersal trawler.

Mitigation

As mentioned, there are several vessels known to operate inside the District which exceed the specifications of the new byelaw, and will therefore be exposed to costs as business plans are forced to change. However, these costs will be mitigated due to the proposed exemption mechanism. This is designed to support such vessels, allowing continued access if the business relies on it. The exemption prevents immediate loss of access (which could incur significant costs described above) and substitutes it for minor administration costs. Exemptions are specifically designed to insulate current business owners from change, and therefore if a vessel is sold the exemption would not be transferred to the new beneficial owner. Furthermore, a review clause of no more than 15 years, and then every 5 years after that represents a clear expectation for exempted vessels to cease fishing inside the District eventually, while allowing enough time for businesses to adapt to the new legislation.

Qualifying for exemptions will involve submitting information to prove an initial track record, and subsequent proof of use every two years. This mechanism means that if a vessel stops fishing inside the District the exemption is lost as the business no longer relies on access. A 100-hour track record of fishing inside the District (every two years) constitutes 3-7 days per year, which therefore makes up 3-7% of fishing time and therefore the same proportion of annual income. This represents a logical demarcation, as any vessel fishing less than 3-7% of their time inside the District will mostly rely on other areas.

Vessels that currently fish below the 100-hour threshold will not qualify for an exemption. Estimates can be made if we assume this will cost a vessel, that does not qualify for exemption, less than 3-7% of their income. These costs are shown in Table 2. This cost is not realistic however, as it would be possible for the vessel to mitigate these costs itself by fishing elsewhere.

Table 2. Estimated annual costs for vessels that fish less than 100 days every 2 years inside the District, as a proportion of total income.

Segment (vessel, gear, and location specifications)	Minimum costs (£) (3% of income)	Maximum cost (£) (7% of income)
North Sea Beam trawl under 300 kW	3,210	7,490
North Sea demersal trawler under 24 m under 300 kW	9,720	22,680
UK scallop dredge over 15 m	15,540	36,260

Another potential issue arises from vessels that are currently under construction or being purchased that meet the requirements of the current (legacy) byelaws but exceeds new byelaw limits. Businesses could have entered into an enforceable financial commitment to construct or purchase such a vessel prior to the byelaw being made. A new-build vessel is a highly significant investment and could cost well over £500,000, meaning the new byelaw would have a catastrophic impact if the owner's long-term business plan is contingent on fishing inside the District and access was denied. To mitigate these costs, a pipeline clause will allow an exemption to be granted for such cases, (despite the lack of track record) based on access needs to fulfil a long-term business plan and see a return on investment.

6.3. Engine Power

Engine power distribution shows a range between 2.8 and 245 kW for vessels based in the District. Of these, over 99% of vessels have ratings of 221 kW or less, with one overpowered vessel being equipped for both netting and trawling which operates both inside and outside the current KESFC engine power area.

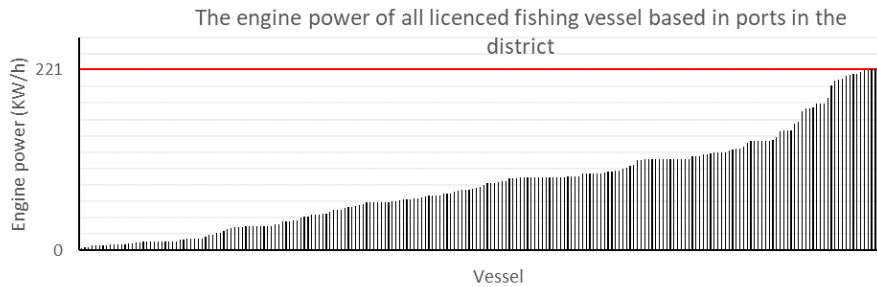


Fig 3. Chart showing the engine power of all vessels in the KEIFC District

6.3.1. Direct cost to vessel with over 221 kW engines/derated 243 kW due to reduced access

As the new engine power limit matches the old KESFC byelaw which applied to most of the District, it should not affect vessels that comply with existing legislation in this area. Additionally, the preferred option will only apply to vessels using towed gear, and therefore static gear vessels will not incur any cost. However, vessels from inherited parts of SxSFC and ESFJC Districts that exceed engine limits might have reduced access to fishing grounds.

Rye is in the Sussex IFC District, but is an important port for the inshore vessels, some of which work inside the KEIFC District, especially in the inherited SxSFC area. There are several vessels working out of Rye that use towed gear including scallop dredges and demersal trawls. The port is also known to attract visiting trawlers during the summer months to target sole and plaice. These vessels could be affected by engine limitations as Sussex IFCA do not have any vessel specification restrictions other than a 14m length limit. Future options for fishing grounds could be reduced for vessels operating from Rye if they have an engine power over 221 kW and use towed gear, however almost all inshore vessels will have engines under 221 kW due to EU regulations.

At the time of this IA KEIFCA are not aware of any vessels using towed gear over 221 kW operating in the inherited SxSFC or ESFJC areas, and therefore there should not be any cost associated with engine limitations.

6.4. Costs associated with changing individual business plans

Fishing vessels are essential tools for fishermen and are highly valuable assets. If the byelaw were implemented without mitigation, then businesses could suffer significant financial cost overnight. Vessels that exceed byelaw limits in the District would be forced to find new fishing grounds, increase fuel costs, and potentially sell their vessel. This would incur costs for the skipper when selling and buying a vessel, including handover or delivery costs, time spent unable to fish, and changes to mortgages. However, due to mitigation in place such vessels will not have to make any immediate changes.

The review clause which requires the exemption mechanism to be reviewed after no more than 15 years, and then every following 5 years, represents a clear expectation for exempted vessels to cease fishing inside the District eventually, while allowing enough time for businesses to adapt to the new legislation. This may incur costs as vessels that exceed byelaw vessel specification limits will eventually lose access inside the District, however it allows time for businesses to adapt long term plans to meet new limits. Business owners may choose to sell oversized vessels and buy new ones that comply with new limits. Vessels periodically require new fishing gear and engine refits, and these anticipated costs should fall within the initial 15-year period and therefore give businesses the opportunity to make changes to plans. Ultimately new limits will eventually be met by all vessels in the long term. As fishing vessels do not depreciate quickly if well maintained, there should be limited additional costs to businesses from adopting new long-term strategies.

All three exemption criteria (periodic proof of use, change of ownership and a review clause) allow continued access for current businesses with a clear expectation to permanently downsize vessels

inside the District over a specified period. This allows long term business plans to be gradually adjusted, while realising the benefits of the byelaw when vessels are sold or cease fishing.

6.5. Costs to KEIFCA: administration and compliance

Administrative costs to KEIFCA include drafting and preparing the new byelaw and arranging consultations. There are some costs involved in advertising the new management measures, although these can be advertised through word of mouth to fishermen and on the Authority’s website at no additional cost. There will be some additional administrative costs for implementing the exemption clause of the byelaw. This will involve processing proof of use information submitted by owners of exempted vessels. KEIFCA staff will establish if exemption criteria are met and that the vessel has remained registered to the same owner. This cost will be minimal, as there are approximately five vessels that may qualify for exemption. Furthermore, periodic proof of use to maintain the exemption will only be required every two years. Costs for this include office staff time in drafting and sending letters, as well as receiving and processing replies. This would also include office material costs (stationary and postage). The cost is likely to decrease over the years, as the fishing vessels with exemptions are sold or stop fishing inside the District.

The lead responsibility of ensuring compliance with an IFCA byelaw under section 155 of the Marine and Coastal Access Act 2009 will fall to KEIFCA. KEIFCA currently have byelaws in place throughout the District relating to vessel specifications. The proposed byelaw covers the entire District which covers all combined legacy areas, and therefore compliance management and costs will be comparable (Table 2). KEIFCA would monitor compliance onshore and from their patrol vessel and respond to relevant intelligence.

Table 2. Annual additional costs of ensuring compliance with recommended option

Activity	Cost per Unit (£)	Number of Units per year	Total cost per year (£)
Routine shore patrol surveillance *	250	6	1,500
Routine Sea Patrols **	1,500	8	12,000
Intelligence led patrols***	2,250	4	9,000
Prosecution/investigation/Guilty Plea only ****	10,000	1	10,000
TOTAL			32,500

* Routine shore based compliance checks involving one Inshore Fisheries and Conservation Officer (IFCO) plus vehicle

** Patrol Vessel (PV) running costs per day based on 2014 IFCA stats

*** Intelligence led surveillance involving several IFCOs and one patrol vessel per day

**** Including IFCO and PV time, administration and legal fees. Not guilty pleas could increase court costs

6.6. Benefits of recommended option

The preferred option will achieve KEIFCA high level objectives of standardising legislation, while creating an area that is specific to the smaller boats of the inshore fleet. This would also help protect seabed habitats inside the District from heavier towed gear. It will result in the following benefits:

- Standardised legislation across the entire District
- Economic benefits to inshore fishermen
- Future benefits of maintaining a healthy ecosystem

Economic and environmental benefits can be valued (for example increased fish stocks or natural capital), however this is difficult to apply and beyond the scope of the impact assessment. Therefore, the described benefits are non-monetised.

6.7. Standardised legislation across the entire District

Introducing a standard set of regulations to limit vessel specification across the entire District will bring continuity for all stakeholders. The vessel length of 14m was widely accepted by the industry in the initial consultation as an accurate descriptor for the inshore fleet. Similarly, the engine power limit of 221 kW

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was supported as it is used internationally and maintains the same limits as the legacy KESFC byelaw in terms of derated engines and an application to towed gear only.

As a result, 99% of vessels in the fleet will see their interests taking priority for regulators as small vessels are granted a specific access to the District. In addition, it will be more straightforward for IFCOs to monitor and enforce the new byelaw, as the same rules apply across the District. Furthermore, a 14m length limit will bring KEIFCA legislation in line with neighbouring Sussex IFCA byelaws, creating a continuous belt comprising 20% of the English coastline with the same vessel length limit (see Figure 4). This will contribute towards IFCA Success Criterion 2, which requires that “IFCAs implement a fair, effective and proportionate enforcement regime” by developing regulatory consistency inside the District and with other organisations.

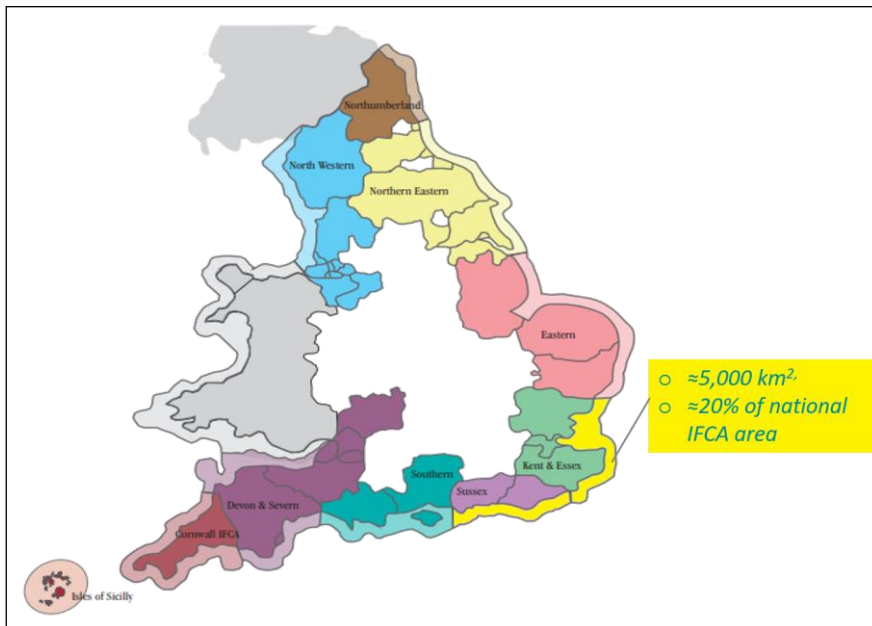


Figure 4. Map of IFC Districts showing the area in yellow with potential regulatory consistency for a 14m vessel length limit

6.8. Economic benefits to inshore fishermen

There is a long tradition of fishing along the Kent and Essex coasts, with historic ports such as West Mersea and Ramsgate providing bases for the generations of small local businesses which have made their livelihood from the sea. The new byelaw will support long-term sustainable inshore fisheries by setting aside the District for smaller vessels to work. Inshore boats typically have fewer options to fish further afield and are non-nomadic. Local fishermen are more likely to invest in the idea of exploiting resources sustainably than visiting boats, as they cannot move to new grounds if stocks become overexploited.

Local vessels and the fishermen often have strong links to the local community, providing a strong maritime identity to coastal towns which attract numerous visitors due to the picturesque and iconic boats moored in the harbours. Local fishermen also invest in their community infrastructure and economy, for example Whitstable and Leigh-on-Sea have developed extensive shellfish processing facilities which employ local people. In turn, this produce is sold in restaurants and fishmongers of these ports where customers will pay a premium to eat locally sourced, sustainable seafood.

Few vessels over 14m are based in the District, therefore this byelaw will ensure that the current fleet profile of smaller local vessels is maintained in future. Implementation of this byelaw would also significantly contribute towards the sustainable use of inshore areas and would help to protect supporting habitats from potentially damaging impacts of heavy fishing gear from vessels that have not invested in the local area.

6.9. Future benefits of a healthy ecosystem

A unique benefit of this byelaw is that it applies to all fishing vessels across the entire District, affording protection for all habitats inside the 6nm limit. Importantly, this includes areas that are not covered by MPAs and exemplifies a holistic approach to manage all inshore areas, regardless of designation. Local businesses have invested in this concept, as healthy ecosystems can help to provide sustainable fisheries in future.

The byelaw effectively limits the size of towed gear that can be used inshore. In turn this limits the impact of towed gear such as dredges and trawls on the seabed, as larger, heavier gear has a much greater impact than lighter gear (EEA, 2015). Inshore areas have a much higher diversity of habitats and species than offshore areas due to the variety of depth, energy and substratum. Ensuring long-term protection of inshore habitats from heavy gear can benefit ecosystem health. Healthy ecosystems provide numerous benefits, including:

- Ecosystem services (carbon and nutrient cycling)
- Essential fish habitat
- High biodiversity and biomass
- Support healthy stock of commercial fish (through provision of prey and essential fish habitat)
- Ecosystem resilience/ability to recover from other disturbance events (both natural and anthropogenic)
- Wider ecosystem benefits (i.e. supporting bird and marine mammal species reliant on subtidal fish/invertebrates as food sources)

The primary management measure for regulating key pressure stocks such as sole, cod and thornback ray are EU quotas introduced under the Common Fisheries Policy (soon to be the Fisheries Act 2019). However, by ensuring exclusive access for smaller vessels to inshore areas, only lighter towed gears can be used which could benefit inshore stocks by preventing mortality and improving essential habitats.

7. Small firms impact test and competition assessment

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

8. Summary of preferred option with implementation plan

Recommended option: Maximum vessel length of 14m and for vessels using trawl nets, dredges or other towed fishing instruments, a total engine power limit of 221 kW (243 kW before derating) throughout the District, with an exemption mechanism for vessels in excess of these requirements currently operating in the District.

This option is recommended because it ensures homogeneous rules for all fishing vessels across the entirety of the KEIFC District, allowing for easier and more effective compliance and enforcement. It also ensures that the regulations within the KEIFC District for vessel length are in line with those of our neighbouring Sussex IFC District and that engine power limits for vessels using towed fishing gear are the same as the KESFC legacy byelaw which is already in place for most of the District.

None of the vessels currently working in the District are likely to be adversely affected by this byelaw, as engine power limitations are the same as current KESFC and EA byelaws which cover the majority of the KEIFC District. In addition, the exemption mechanism will permit any vessels over 14m operating in compliance with the legacy byelaws to continue to do so.

Implementation of this byelaw would result in inshore areas being better managed for smaller vessels while protecting the marine environment, helping to support a long-term sustainable fishery for local communities in future.

9. References

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Annex A: Policy and Planning

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

At present, there is no Marine Plan in place in the IFC District

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, see below

When assessing this byelaw due regard was given to the UK Marine Policy Statement, the byelaws contribute to the following;

- The achievement of sustainable development of marine areas.
- Promote sustainable economic development.
- Ensure a sustainable marine environment which promotes healthy, functioning marine ecosystems and protects marine habitats, species and our heritage assets.
- Contribute to the societal benefits of the marine area, including the sustainable use of marine resources to address local social and economic issues.
- Achieve integration between different objectives.
- Recognise that the demand for use of our seas and the resulting pressures on them will continue to increase.
- Manage competing demands on the marine area, taking an ecosystem-based approach.
- Enable the co-existence of compatible activities wherever possible.