NAFC Marine Centre
University of the Highlands and Islands

Fisheries Innovation Scotland

SCOTLAND'S FISHING INDUSTRY- **GUIDANCE FOR DECISION MAKERS AND DEVELOPERS**

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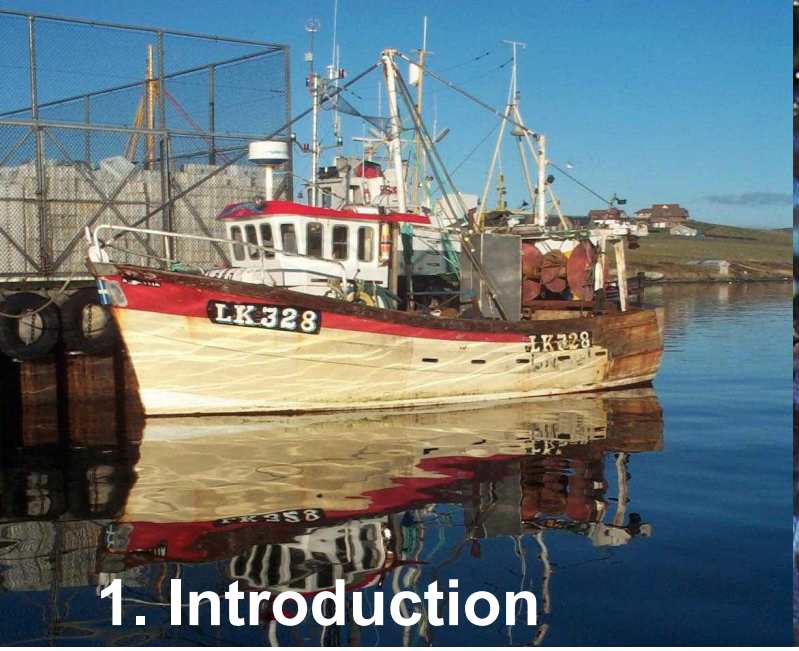


1. Introduction

Fishing is the business of catching fish and shellfish, often referred to as commercial fishing when conducted as a business. The fishing industry in practice extends to include a wide range of activities associated with the catching side of the industry, including handling, processing and transport of catches, and the supply of goods and services to vessels.

The waters around Scotland are some of the most productive in Europe and many vessels from Scotland, the UK, and Europe fish from the northern North Sea to waters west of Scotland. Scotland is the third largest sea fishing country in Europe and Scottish vessels account for roughly two thirds of fish landed into the UK, with an overall value of fish landed by Scottish vessels into Scotland and elsewhere estimated at £437 million in 2015[1].

In many areas around Scotland the fishing industry is a major contributor to the local economy, especially if processing, goods and services for fishing vessels are taken into account. It is also often suggested that fishing is more than just a way of making a living, as there are also deep cultural, historical, and social roots to many of the fisheries around Scotland and in the societies that are connected with fishing[2]. As a consequence this means that sometimes seemingly small issues from another's point of view can produce strong and emotive views from stakeholders in the fishing industry[3,4].

Given its widespread nature, fishing activity has the potential to interact with a number of other sectors that use the marine environment. With the continued expansion of established sectors such as shipping, oil and gas, and aquaculture, in addition to the emergence of newer sectors such as marine renewables, conservation, and recreation and tourism the potential for interaction is ever increasing[4]. There are a number of key emerging issues concerning interactions between the fishing industry and those with other marine interests that should be considered in any proposed marine development, or marine management process.

1 Marine Scotland (2015). Scottish Sea Fisheries Statistics (2015). The Scottish Government, Edinburgh. http://www.gov.scot/Publications/2016/09/5110 [Accessed 07/10/2016]

2 Ross, N. (2013). Exploring concepts of fisheries 'dependency' and 'community' in Scotland. Marine Policy, 37, 55-61.

3 Pita, C., Theodossiou, I., & Pierce, G. J. (2013). The perceptions of Scottish inshore fishers about marine protected areas. Marine Policy, 37, 254-263

4 MMO (2014) Social impacts an interactions between marine sectors, MMO report. UK Government

2. Considering fisheries

Scotland has a National Marine Plan that guides the managment of Scotland's seas. In the future some areas will also have regional marine plans, with Shetland and the Clyde currently developing the first plans of this kind.

2.1 Policies

There are a number of policies in Scotland's National Marine Plan that explicitly protect fisheries in the marine planning and licensing process. These policies outline the importance of fisheries and that fishing opportunities should be safeguarded where possible. Policies extend to include social and economic impacts on fisheries, as well as accounting for the potentially detrimental effect on fish populations by other marine activities. See the National Marine Plan for more details, available online[5].

The following policies are those in the plan that have a direct relevance to fishing activity and the role of the marine developer, planner or decision maker:

2.1.1 Policy -Fisheries 1

"Taking account of the EU's Common Fisheries Policy, Habitats Directive, Birds Directive and Marine Strategy Framework Directive, marine planners and decision makers should aim to ensure:

- Existing fishing opportunities and activities are safeguarded wherever possible.
- An ecosystem-based approach to the management of fishing which ensures sustainable and resilient fish stocks and avoids damage to fragile habitats.
- Protection for vulnerable stocks (in particular for juvenile and spawning stocks through continuation of sea area closures where appropriate).
- Improved protection of the seabed and historical and archaeological remains requiring protection through effective identification of high-risk areas and management measures to mitigate the impacts of fishing, where appropriate.
- That other sectors take into account the need to protect fish stocks and sustain healthy fisheries for both economic and conservation reasons.
- Delivery of Scotland's international commitments in fisheries, including the ban on discards.
- Mechanisms for managing conflicts between fishermen and/or between the fishing sector and other users of the marine environment."

2.1.2 Policy - Fisheries 2

"The following key factors should be taken into account when deciding on uses of the marine environment and the potential impact on fishing:

- The cultural and economic importance of fishing, in particular to vulnerable coastal communities.
- The potential impact (positive and negative) of marine developments on the sustainability of fish and shellfish stocks and resultant fishing opportunities in any given area.
- The environmental impact on fishing grounds (such as nursery, spawning areas), commercially fished species, habitats and species more generally.

5 Marine Scotland (2015) Scotland's national Marine Plan - A Summary of Objectives and Policies, Scottish Government Report. The Scottish Government, Edinburgh

- The potential effect of displacement on: fish stocks; the wider environment; use of fuel; socio-economic costs to fishers and their communities and other marine users."

2.1.3 Policy - Fisheries 3

"Where existing fisheries opportunities or activity cannot be safeguarded, a Fisheries Management and Mitigation Strategy should be prepared by the proposer of the development or use, involving full engagement with local fishing interests (and other interests as appropriate) in the development of the strategy. All efforts should be made to agree the strategy with those interests. Those interests should also undertake to engage with the proposer and provide the transparent and accurate information and data to help complete the strategy. The strategy should be drawn up as part of the discharge of conditions of permissions granted.

The content of the strategy should be relevant to the particular circumstances and could include:

- An assessment of the potential impact of the development or use on the affected fishery or fisheries, both in socio-economic terms and in terms of environmental sustainability.
- A recognition that the disruption to existing fishing opportunities/activity should be minimised as far as possible.
- Reasonable measures to mitigate any constraints which the proposed development or use may place on existing or proposed fishing activity.
- Reasonable measures to mitigate any potential impacts on sustainability of fish stocks (e.g. impacts on spawning grounds or areas of fish or shellfish abundance) and any socio - economic impacts.

Where it does not prove possible to agree the strategy with all interests, the reasons for any divergence of views between the parties should be fully explained in the strategy and dissenting views should be given a platform within the strategy to make their case."

2.1.4 Policy - Fisheries 4

"Port and harbours should seek to engage with fishing and other relevant stakeholders at an early stage to discuss any changes in infrastructure that may affect them. Any port or harbour developments should take into account of the needs of the dependent fishing fleets with a view to avoiding commercial harm where possible. Where a port or harbour has reached a minimum level of infrastructure required to support a viable fishing fleet, there should be a presumption in favour of maintaining this infrastructure, provided there is an ongoing requirement for it to remain in place and that it continues to be fit for purpose."

2.1.5 Policy - Fisheries 5

"Inshore Fisheries Groups (IFGs) (see section 4.3) should work with all local stakeholders with an interest to agree joint fisheries management measures. These measures should inform and reflect the objectives of regional marine plans."

3.1 General structure

Fisheries in the waters around Scotland, as elsewhere in the UK and Europe, are currently managed primarily by the European Union

3. Fisheries management

under the Common Fisheries Policy (CFP). Responsibility for the implementation and enforcement of European fisheries regulations lies with the EU member state. In Scotland, this is devolved to the Scottish Government, which in turn acts through its directorate, Marine Scotland. The principal management measures implemented under the CFP include the licensing of fishing vessels, minimum landing sizes, catch limits (quotas), effort limits (days at sea), and the technical regulation of fishing gear design. In its essence the Common Fisheries Policy has fisheries management measures that apply equally to the areas inside and outside the 12 nm limit. However, in practice Marine Scotland are solely responsible for regulating inshore fisheries in waters within 12nm of the Scottish coast[6]. Another important element of the 12nm limit is that aside from foreign vessels with historic fishing rights only British fishing vessels are licensed to fish in these waters.

3.2 Local management

As mentioned previously, in addition to the regulated access, Marine Scotland are responsible for inshore fisheries and so are able to manage these fisheries through conservation measures, as long as they are not contrary to EU regulations. There are a number of organisations involved with inshore fisheries management around Scotland.

The Inshore Fisheries Management and Conservation Group (IFMAC) is comprised of industry, environmental NGOs, and government representatives[7]. While IFMAC's role is to work through issues and develop policies for the inshore sector it focusses on national, as opposed to local inshore issues and covering inshore sea areas not covered by Regional IFG's (eg 6-12 miles).

In 2013 Inshore Fisheries Groups (IFGs) were set up for the various regions in Scottish waters. These IFGs have developed into the Regional Inshore Fisheries Groups (RIFGs) whose aim is to improve management and give commercial

6 Marine Scotland (2016b) Inshore Fisheries and Communities – Marine Scotland website. The Scottish Government. http://www.gov.scot/Topics/marine/Sea-Fisheries/InshoreFisheries [Accessed 12/10/2016]

7 Marine Scotland (2016c) IFMAC: Inshore Fisheries Management and Conservation group – Marine Scotland website. The Scottish Government. http://www.gov.scot/Topics/marine/Sea-Fisheries/InshoreFisheries/ifmac [Accessed 12/10/2016]

fishers a stronger voice in management decisions[8]. The regions are; North and East Coast RIFG, West Coast RIFG, Outer Hebrides RIFG, Orkney Management Group, and the Shetland Shellfish Management Organisation (see Figure 1).

The Shetland inshore shellfish fisheries (except squid and Nephrops) have a different management set up to others, as fisheries within the 6 nm limit are managed locally by the Shetland Shellfish Management Organisation under the authority of a Regulating Order issued by the Scottish Government in 2000[9].

8 Scottish Regional Inshore Fisheries Groups (RIFGs) (2016). http://ifgs.org.uk/ [Accessed 12/10/2016]
9 Shetland Shellfish Management Organisation (SSMO) (2016). http://www.ssmo.co.uk/ [Accessed 12/10/2016]

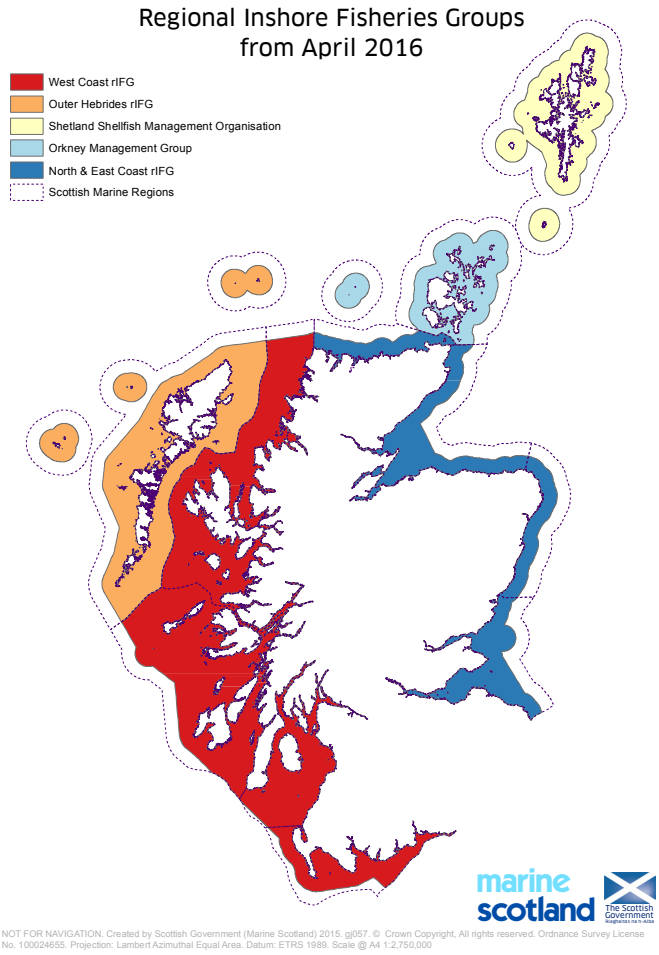


Figure 1. Map of Scotland showing the areas covered by the Regional Inshore Fisheries Management Groups (RIFGs).

4. Scotland's fishing fleet

Fisheries around Scotland can be split into those targeting pelagic fish, demersal fish, and shellfish, although there are overlaps between these fisheries. The fleet can also be split between vessels under ten metres in length (generally small inshore vessels) and those above ten metres in length[10]. The majority of fishing vessels around Scotland are members of associations and also producer organisations (POs), see Section 8 for more information on these organisations and their responsibilities.

Sea fisheries statistics from Marine Scotland state that there were 2 015 active registered vessels in 2015. Over a third of these vessels (1 449) were under 10m in length, with the remaining 566 above 10m (see Figure 2 for further breakdown of the fleet)[10].

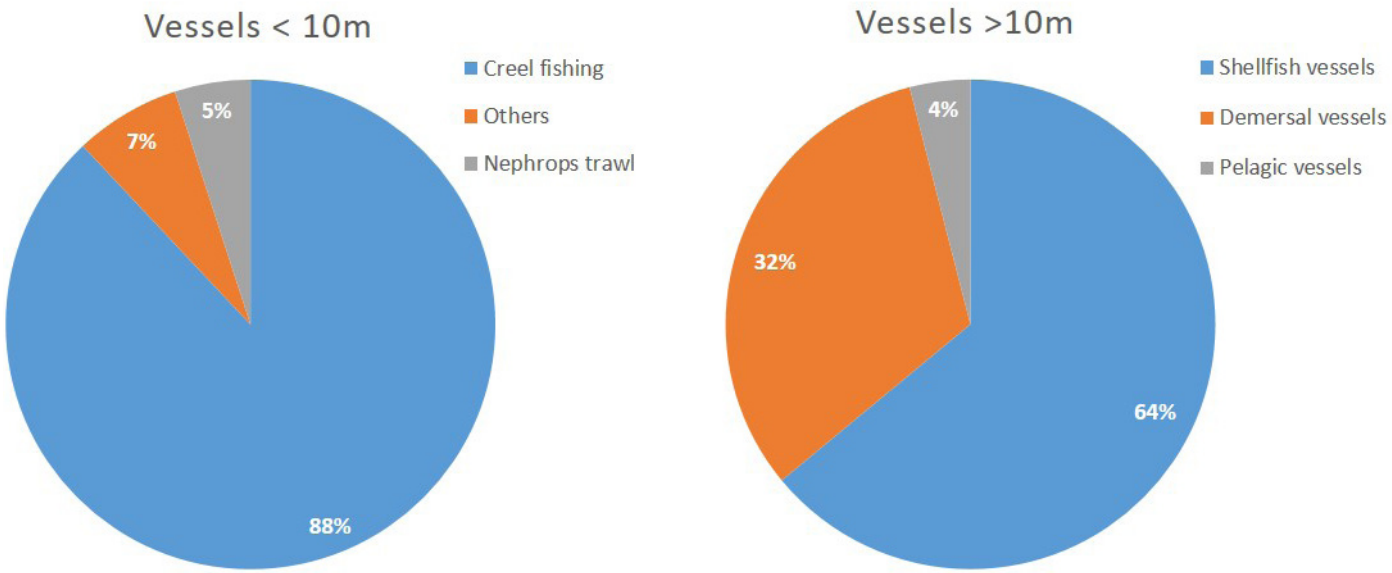
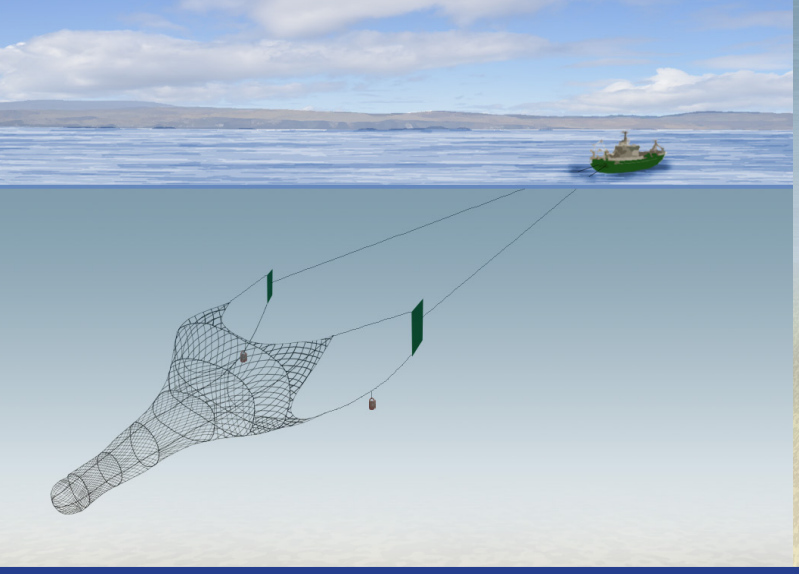
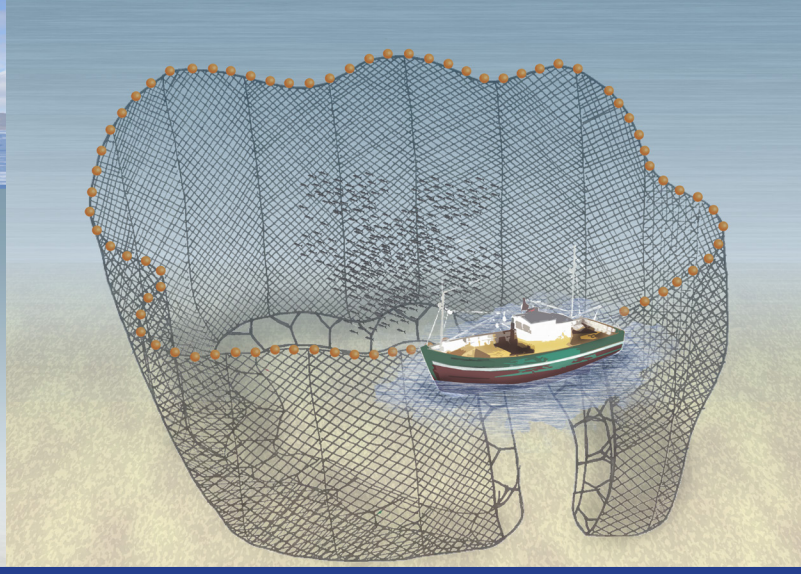


Figure 2. Break down of the Scottish fishing fleet by vessels above and below 10 m in length in 2015[10]

10 Marine Scotland (2015). Scottish Sea Fisheries Statistics (2015). The Scottish Government, Edinburgh. http://www.gov.scot/Publications/2016/09/5110 [Accessed 07/10/2016]



Pelagic trawl

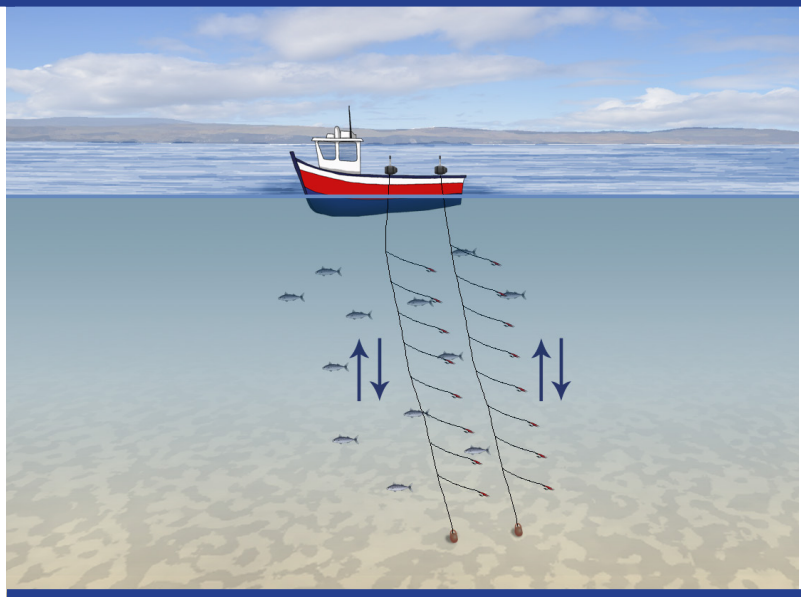


Purse seine

4.1 Pelagic fishery

Pelagic fish are those that are generally found in the water column or in open waters, as opposed to demersal fish that live in association with the seafloor. The main pelagic species for the Scottish fleet is mackerel, followed by herring, and blue whiting. Small landings of other species such as sprat and horse mackerel also occasionally occur throughout the year[11].

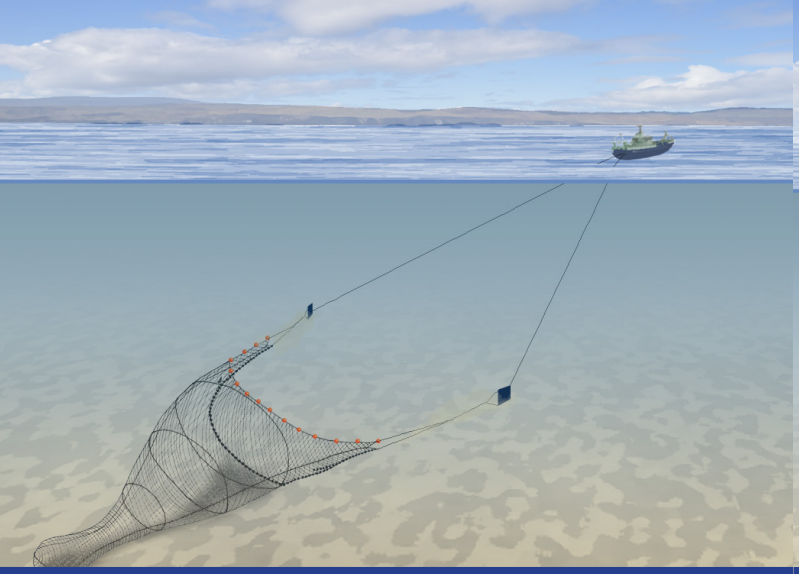
The vast majority of pelagic fish landed by Scottish vessels are caught using pelagic trawls (mid-water trawls). According to statistics for 2015, 18 of the 20 vessels targeting pelagic fish on a large scale were pelagic trawlers, with the other vessels operating purse seines[12]. These vessels tend to be relatively large, operating offshore wherever the migratory species can be found. Due to the large vessel section of the pelagic fleet working on a large spatial scale they are less likely to come into conflict with other marine users. However, there is also a notable fishery by small inshore vessels for mackerel, mainly during late summer, generally using jigging or hand lines in near-shore areas[11]. This fishery is likely to be much more susceptible to impacts from developments due to the size of vessels and their close locality to the coastline.



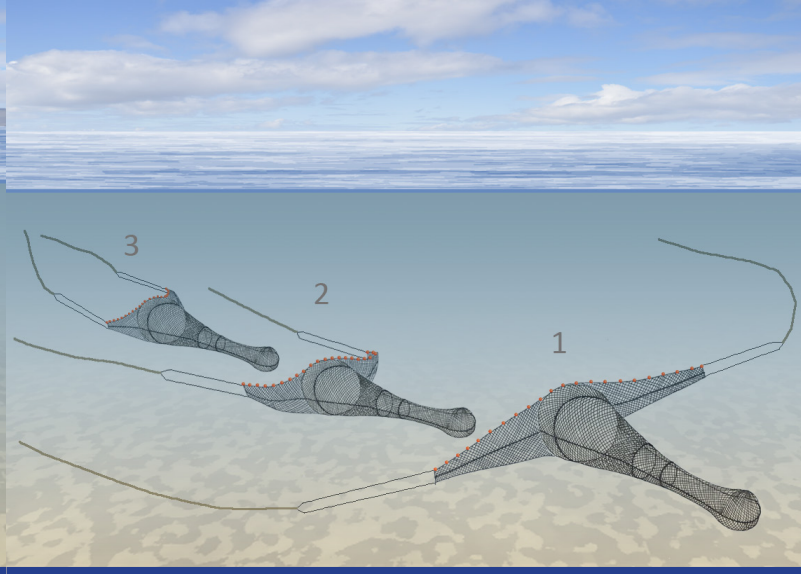
Jigging

11 Royal Society of Edinburgh (2004) Inquiry into the future of the Scottish fishing industry, Royal Society of Edinburgh (RSY). https://www.royalsoced.org.uk/cms/files/advice-papers/inquiry/scottish_fishing_industry.pdf [Accessed 12/10/2016]

12 Marine Scotland (2015). Scottish Sea Fisheries Statistics (2015). The Scottish Government, Edinburgh. http://www.gov.scot/Publications/2016/09/5110 [Accessed 07/10/2016]



Demersal trawl



Scottish seine

4.2 Demersal (whitefish) fishery

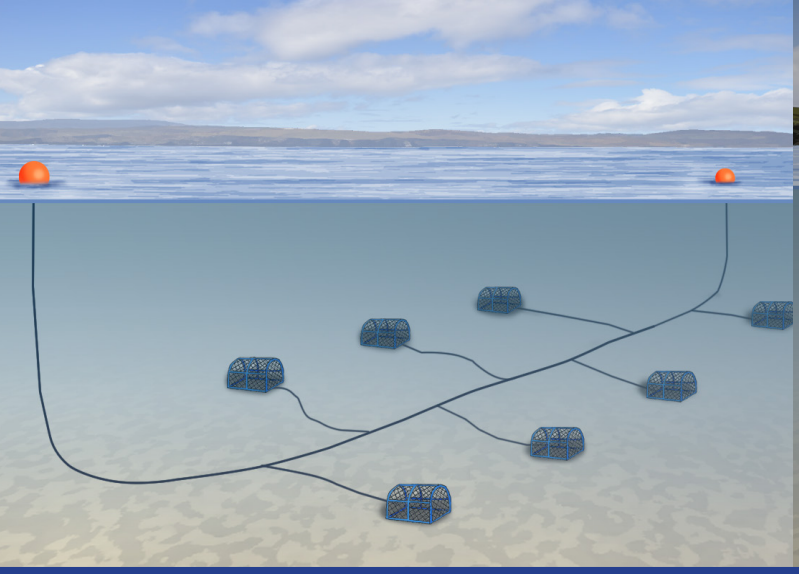
Demersal fish are those that live on or near to the seafloor and a wide variety of demersal or whitefish species are caught by the Scottish fleet. The main demersal species for the Scottish fleet are cod, haddock, whiting, monkfish, plaice, saithe, ling and lemon sole as well many other species that are caught as a bycatch in this generally mixed fishery[13].

Due to the nature of the fish targeted the majority of fishing gear used to catch these fish is bottom trawl or Scottish seine netting, which are both towed whilst in contact with the sea floor. There are other methods also used but to a lesser extent in Scotland such as jigging, gill nets and beam trawl[13]. These gears fish in a wide range of depths, with the location and depth of fishing generally dependent on what particular species the vessel is predominantly targeting.

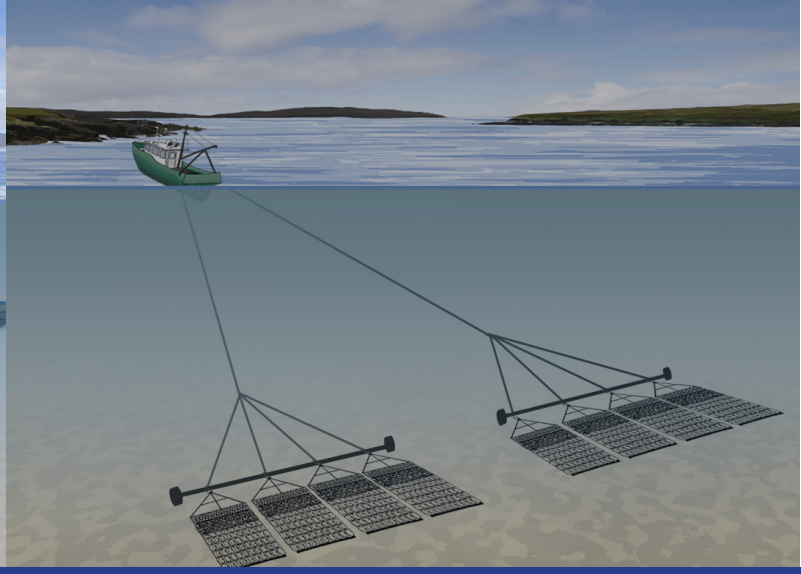
Seabed substrate also plays a part in fishing ground selection as some gears are generally worked on specific bottom types (e.g. Scottish seine netters tend to fish on sandier ground). In 2015 there were 183 vessels that targeted demersal fish in the over 10 metre fleet. The vast majority of these used bottom trawl gear, whether that be single, twin or pair trawl[13]. Fifty four of the under 10m vessels listed demersal gear as their main fishing gear in 2015, with two thirds of these gill netters. In addition to this, many small inshore vessels, whilst not using demersal fishing gear as their main gear, will target demersal fish for some part of the year.

As with the pelagic fleet it is the smaller inshore vessels that are more vulnerable to developments or other marine users due to the smaller spatial scale the fleet works within. This is not to say that larger demersal vessels may not be affected by developments.

13Marine Scotland (2015). Scottish Sea Fisheries Statistics (2015). The Scottish Government, Edinburgh. http://www.gov.scot/Publications/2016/09/5110 [Accessed 07/10/2016]



Creels



Scallop dredge

4.3 Shellfish

There are a wide range of shellfish species caught by the Scottish fleet by various different methods. The main species are brown crabs, king scallops, *Nephrops* (often called prawns), velvet crabs, lobsters, queen scallops and whelks (sometimes known as buckies). Squid is also caught at certain time of year by the inshore fleet, in addition to by-catch landings from vessels targeting demersal fish[14].

These contribute to several distinct shellfish fisheries around Scotland, some of which are targeting high value products such as *Nephrops* and scallops. The majority of *Nephrops* are caught with bottom trawl gear specifically designed to catch them, however there is a certain amount of whitefish by-catch from this fishery as well[14].

Another fishery that uses gear that is towed along the seafloor targets king and queen scallops. This fishery uses scallop dredges to dig into the seafloor, excavating scallops as it is towed along. Scallops are also caught by SCUBA diving for them but only a small percentage (~3%) of scallops landed by Scottish vessels are caught this way[17].

The other main shellfish gear used are creels (crab/ lobster pots), which are static gear that is baited and left on the seafloor. Creels are grouped together in strings or "leaders" which generally comprise of 10 to 25 creels set at intervals on a single line, however these leaders can be made up of up to 100 creels for some of the larger vessels[15]. Depending on the area where the creels are set they can be used to catch various species of crab, lobster and *Nephrops*. Whelks (sometimes known as buckies) are also caught using pots (usually weighted barrels). The creels/ pots are then left for a length of time ranging from one day to a couple of weeks to fish, depending on a number of variables[16]. About 88% of the under 10m Scottish fleet list creel fishing as their main fishing method in 2015, whereas only 20% of the over 10 m fleet used creels as their main fishing method[17].

NB. It should be noted that although this section (4) gives a very brief overview of the fisheries taking place around Scotland it is by no means exhaustive. Aspects of each fishery vary between locations and over time, so it is recommended that relevant organisations and individuals are contacted to obtain a more accurate picture. The Seafish Gear database is a useful source of information on the many types of fishing gear used by vessels[18].

14 Royal Society of Edinburgh (2004) Inquiry into the future of the Scottish fishing industry, Royal Society of Edinburgh (RSY). https://www.royalsoced.org.uk/cms/files/advice-papers/inquiry/scottish_fishing_industry.pdf [Accessed 12/10/2016]

15 Seafish Gear Database (2015). Website: http://www.seafish.org/geardb/ [Accessed 12/10/2016]

16 Royal Society of Edinburgh (2004) Inquiry into the future of the Scottish fishing industry, Royal Society of Edinburgh (RSY). https://www.royalsoced.org.uk/cms/files/advice-papers/inquiry/scottish_fishing_industry.pdf [Accessed 12/10/2016]

17 Marine Scotland (2015). Scottish Sea Fisheries Statistics (2015). The Scottish Government, Edinburgh. http://www.gov.scot/Publications/2016/09/5110 [Accessed 07/10/2016]

18 Seafish Gear Database (2015). Website: http://www.seafish.org/geardb/ [Accessed 12/10/2016]

5. Factors that can affect fishing

NB. This section provides a general overview of some of the main factors that may have an effect on fisheries around Scotland through the development of other marine sectors. This list is not exhaustive and it is recommended that relevant organisations and individuals are always consulted to obtain a better understanding of the potential impacts of any specific developments and how to minimise these impacts.

5.1 General

Any factor that could have an effect on any of the fisheries around Scotland should be viewed in the wider context of the broad range of biological, environmental, social, political, legal, technical, and economic factors that already influence fishing opportunity and viability. An amalgamation of these factors dictate if, when, where, and in what quantities fishers catch fish. Subsquently fishing cannot and does not occur ubiquitously throughout the sea.

5.2 Loss of access

The most obvious factor that can affect fishers if a marine development or management measure (e.g. MPA) is proposed in a fishing ground is that it would result in the direct loss of access to that part of the fishing ground. This essentially restricts fishers from an area where they would normally earn part or all of their living. It should also be remembered that any new restriction may only be one of many already affecting fishing activity within an area, subsequently it may be necessary to consider new restrictions in this context.

It should not be assumed that fishers can just 'go somewhere else' to fish, as fishing grounds can be located in very specific areas. Aside from this vessels, particularly smaller inshore vessels, are often restricted to a limited area that is near their home port. There are also potential hazards of travelling further afield, such as more exposed waters that become dangerous and inaccessible in bad weather. Furthermore, successful fishing depends to a large extent on the fishers' knowledge of an area, so a fisher may be displaced to an area where they may intially lack the local knowledge to safetly and successfully fish.

Access to a fishing ground can be lost through factors that prohibit fishing there (such as safety or exclusion zones), or through factors, whether intentional or not, that prevent fishing there, such as the creation of obstructions or obstacles on the fishing ground or changing the nature of the seabed (see section 6.3). Even a temporary loss of access to a fishing ground can have a significant impact on fishers if it coincides with a period when that ground is particularly important. Some fishing grounds are particularly important at certain times of year or may be the setting for short, seasonal fisheries. Loss of access to such grounds at the 'wrong' time may therefore have a disproportionate impact.

5.3 Obstruction of fishing grounds and damage or loss of gear

Towed fishing gear (trawl, seine, scallop dredge) also require space to tow and anything that alters the nature of fishing ground (e.g. a pipeline through the middle) has the danger of impacting on fishing operations. These obstructions have

the potential to cause impacts to both safety and economic viability, if gear is caught and is damaged or lost. Obstructions can be the obvious placement of structures for the development or they can be changes in seabed or rock beds due to disturbance from developments. Another key point is that obstructions, whilst sometimes relatively small, can often cause much wider ranging restrictions to fishing patterns as fishers cannot risk fishing close to an obstruction. This issue can be further exacerbated by the spreading of boulders or rocks over a wider area than the initial development zone.

5.4 Displacement of effort

Another issue that is likely to arise from loss of access to fishing grounds is that fishing effort will be displaced elsewhere. This is likely to bring displaced fishers in conflict with fishers elsewhere, increasing competition as well as pressure on other fishing grounds. This has the potential to cause a ripple effect throughout a fishing community, with displacement of a single fisher from one small fishing ground affecting a much wider area and range of people. This can particularly be a problem for inshore vessels.

5.5 Hazards to navigation

As mentioned previously, this can be related to fishers having to fish on new grounds and the related hazards to this, whether it be increased exposure to adverse weather and sea conditions or unfamiliar navigational hazards. Increased vessel traffic or poorly illuminated constructions are examples of navigational hazards that could emerge directly through marine development.

Issues can also arise even if displacement is temporary and fishers can return to a fishing ground once a development is complete (e.g. some wind turbine arrays). Fishers may have safety concerns that developers have not considered such as the logistics of rescue should they get into difficulty.

5.6 Maximising access

There may be potential in the design of the development to maximise acesss. For example, spacing wind turbines to allow strings of creels to be set in between.

5.7 Damage by fishing gear

Lastly it is also worth mentioning that fishing gear is often heavy and durable, so consideration should be given that any subsea structures could potentially be damaged by fishing gear. This is unlikely if fishers are fully aware of the extent of the development and where they should avoid. Good communication of the details of the development is therefore beneficial to both parties.

6. Avoiding impacts on fishing opportunities and engaging with fishers

Impacts on the fishing industry from marine developments or management measures vary widely in the scale of the impact and the number of fishers it may affect. Seemingly small impacts can have much wider ranging impacts not only specifically on the fishery but also economically and socially on local communities.

Developers are obliged to adhere to policies set out in both the National Marine Plan and when developed Regional Marine Plans that state that impacts on fishing opportunities, fishers, and fishing communities must be taken into account. Having a good relationship with fishers in an area where a development or management measure is planned is highly recommended and will likely be beneficial to both parties.

6.1 Gathering data

There is a range of data available on the current distribution of fishing activities around the Scottish coastline[19]. However, while this information is a useful baseline to try and avoid or minimise impacts on fishers in the early stages of the planning process, consultation with fishers and their representative organisations will be necessary. Fishing practices are influenced by a range of factors including legislative (see sections 4, 5 and 6), environmental factors (e.g. weather) and existing development or fishing restrictions. Fishing practices may also change over time, and the available data may have become out of date, even if it has been collected relatively recently. In addition data is often displayed at a low resolution, potentially masking the relatively small areas actually being targeted, leading to underestimates of lost fishing grounds.

6.1.1 A question of scale

Developers and decision makers may request data on a finer scale than fishers are comfortable in providing. While fishers feel it is important to protect fishing grounds (from other fishers) there is a risk that during consultation they may identify a wide area that is fished when actually only a few specific areas are fished. Activities might go ahead under the impression that their development or management measure only removes a small percentage of the fishing ground, when in reality it may be located on the main grounds. Thus, a main fishing ground is taken completely away and remuneration for loss could be much less due to calculations based on only a small area of “initial fisher identified fishing ground” being occupied (See Figure 3)

6.2 Consultation

Consultation is the most important tool a developer or decision maker has to reduce conflict and the potential impacts on fishers, subsequently reducing costs, delays and objections to the development or management proposal. It is also by far the best way of gathering information on fisheries in an area and also a good way to begin to build up relationships early on in the development process. Here is a list of important fishers considerations:

1. The process has to be meaningful and start early on in planning/development phase
2. Engagement and consultation needs to be continuous, not just at the start and end of

19 Shelmerdine R.L., Shucksmith R.J., Mouat, B. (2017) Fisheries management in the context of shared seas. Report for Fisheries Innovation Scotland, project FIS014. Pp 54.

Figure 3: Fabricated map showing an example of the impacts of differences in scale in terms of identified fishing grounds and actual fishing grounds

the process.

3. National, regional and local fisheries organisations should be contacted.
4. Consultation may require significant time and resources to be effective, including staff to go to harbours and speak to fishers personally.
5. Not all fishermen are members of a representative organisation (e.g. SFF), so consideration will need to be given on how to engage with these fishers.
6. Fishers prefer, and consequently respond better, if they have contact with the same person each time, this way a relationship can be built up. It is also useful if this individual has a good knowledge of fisheries and companies are encouraged to have a dedicated fisheries liaison for projects.
7. Use the local fishermen's association as well as contacting individuals who will be affected personally.
8. Engagement may be better to be in-house, rather than through a private consultant. The exception is if it is possible to use a consultant that already has a developed relationship with the local fishers and has their trust.
9. Face to face is best in most instances.

10. Multiple opportunities to respond need to be given, in writing or face to face. It is important to understand fishers are busy and practical (i.e. holding a consultation during the day with good fishing weather means there is going to be little or no response!).

6.3 How will things change?

It is important for fishers to be given some indications of how things will change both in the short and long term, during construction, operation and eventual decommissioning. Whether it is a rough size of fishing grounds that will be restricted or a prediction of the increased vessel activity throughout the phases of the development, the more information provided to fishers the better. If there is any chance of extending the development then this also needs to be considered. Providing this kind of information in the early stages can be difficult for developers but fishers appreciate advanced notice and sympathetic planning.

6.4 Reduce or avoid conflict

Effective communication and a willingness to modify plans are key to avoiding and reducing conflict with fishers. Often small changes in the design or location in a development can reduce the impact it will have on local fishers considerably. Examples include moving developments to the edge of the fishing ground and burying pipelines or cables, rather than covering them in boulders for protection.

6.5 Marking of subsea areas to be avoided

It is important that any areas restricted to fishers are clearly marked. Only publishing positions online is not a sufficient means of communicating no go areas and could result in accidental damage. Local fishermen's associations and the local media are useful means of disseminating information, as is visiting the pier side to talk to fishers personally.

6.6 Surveys

Surveys are useful before and after development or implementing a management measure as they can give a better idea of how areas have changed and how this has affected fishing opportunities. For example, a survey could find that after a wind turbine array construction was complete and fishing recommenced in the area that the disturbance during construction may have caused considerable amount of sediment to settle on grounds, thus changing the viability of the areas for fishing. The vice –versa could also occur, with surveys demonstrating that suitable habitat has been created through construction work, boosting the fishing opportunities in the area.

7. Further information and contacts

All information found in this section was up to date as of 12/10/2016

7.1 Fisheries organisations

7.1.1 Fishermen's associations

Scottish Fishermen's Federation (SFF)

Website: www.sff.co.uk/

An umbrella group representing the interests of the various fishing associations around Scotland that are listed below. Represents over 500 vessels ranging from inshore creel boats to large pelagic vessels. The following fishermen's associations are those that are members of the SFF and up-to-date contact details can be found on the SFF website or members own websites. Current members are:

Anglo-Scottish Fishermen's Association

Clyde Fishermen's Association

Website: www.clydefish.com

Fife Fishermen's Association

Fishing Vessel Agents and Owners Association (FVA&OA)

Mallaig and North-West Fishermen's Association (MNWFA)

Website: www.mnwfa.co.uk

Orkney Fisheries Organisation

Website: www.orkneyfisheries.com

Scallop Association

Scottish Pelagic Fishermen's Association (SPFA)

Website: www.scottishpelagic.co.uk/

Scottish Whitefish Producer Association (SWFPA)

Website: www.swfpa.com

Shetland Fishermen's Association (SFA)

Website: www.shetlandfishermen.com/shetland-fishermens-association

It is worth noting that there are other local fishing associations in some areas that are not members of SFF including:.

Western Isles Fishermen's Association

In addition some smaller associations can be found in the following association:

Scottish Creel Fishermen's Association

www.scottishcreelfishermensfederation.co.uk/members.htm

7.1.2 Fish Producer Organisations

There are currently 10 producer organisations recognised by Marine Scotland. Their role, under EC legislation, is to market products for members, as well as help to concentrate supply and stabilise prices. They also manage the majority of quota in Scotland[20]. The Scottish Association of Fish Producer Organisations (SAFPO) is the collective group of Producer Organisations (POs) in Scotland. The group currently comprises:

Aberdeen Fish Producers' Organisation

Website: www.afpo.co.uk

Fife Fish Producers' Organisation

Klondyke Fish Producers' Organisation

Lunar Fish Producers' Organisation

Website: www.lunarfreezing.co.uk

North East of Scotland Fishermen's Organisation

Website: www.nesfo.co.uk

Northern Producers' Organisation

Website: www.northernpo.co.uk

Orkney Fish Producers' Organisation

Scottish Fishermen's Organisation

Website: www.scottishfishermen.co.uk

20 Marine Scotland (2016c) Producer Organisations, Marine Scotland website. http://www.gov.scot/Topics/marine/Sea-Fisheries/management/17681/producerinterbranch [Accessed 12/10/2016]

Shetland Fish Producers' Organisation
Website: www.shetlandfishermen.com/shetland-fish-producers-organisation

West of Scotland Fish Producers' Organisation
Website: www.westofscotlandpo.co.uk

7.1.3 Regional Inshore Fishing Groups (RIFGs)
Website: www.ifgs.org.uk
The Scottish Regional Inshore Fisheries Groups (RIFGs) are non-statutory bodies that aim to improve the management of Scotland's inshore fisheries out to six nautical miles, and to give commercial inshore fishermen a strong voice in wider marine management developments. See section 3.2 for introduction to RIFGs.

North and East Coast RIFG

East Coast RIFG

Outer Hebrides RIFG

Orkney Sustainable Fisheries
Website: www.orkneysustainablefisheries.co.uk

Shetland Shellfish Management Organisation (SSMO)
Website: www.ssmo.co.uk

7.2 Other sources of information
Marine Scotland
Website: www.gov.scot/Topics/marine
A range of information can be found on the Scottish Government website, including informatino on marine planning, licensing, and the Scottish fishing fleet.

Seafish
Website: www.seafish.org
A non- departmental public body that provides support for all aspects of the fishing industry. A good source of information about the sector as a whole as well as a useful database of fishing gear (www.seafish.org/geardb/).

The Fishing Liaison with Offshore Wind and Wet Renewables Group (FLOWW)
Website: www.thecrownestate.co.uk/energy-minerals-and-infrastructure/offshore-wind-energy/working-with-us/floww/
This group was set up in 2002 to improve relations with the fishing industry and offshore renewables sector. They have produced a number of best practice documents for developers.