



# SUSTAINABLE DEVELOPMENT STRATEGY FOR NORTHERN IRELAND'S INSHORE FISHERIES

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Prepared by AFBI Fisheries and Aquatic Ecosystems Branch for DARD Fisheries and Environment Division

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# **Report Background**

In 2004 the Cabinet Office Strategy Unit published a report on UK fisheries entitled Net Benefits, which highlighted the need for renewed focus on inshore fisheries, describing inshore fisheries as "... a sector of local cultural and tourism value, with the potential to provide high value fishing jobs into the future".

In 2007 a review of inshore fisheries in Northern Ireland was carried out by a stakeholder advisory group (SAG) comprising representatives from the fishing industry, the mariculture and angling sectors, environmental NGOs, local government, scientists and other interested parties. The aim was to advise the Department of Agriculture and Rural Development (DARD) on the future management of inshore fisheries. The report highlighted a number of concerns for the inshore sector:

- As more pressure is placed on the offshore sector, the inshore sector is attracting new entrants which could lead to oversupply and reduced profit as well as unsustainable fishing
- Lack of knowledge on status and exploitation of stocks
- The proposed network of marine protected areas under development
- Offshore renewable energy
- Limited knowledge of the socio-economics of the inshore sector
- Poor enforcement

In 2010 the report of the Northern Ireland Fisheries Forum fully endorsed the SAG vision for the sustainable development of inshore fisheries which is "... *fully aware of, and compliant with, environmental responsibilities* ...".

In response to the SAG report DARD agreed that the development and implementation of a comprehensive strategy was needed to examine the challenges facing the inshore sector and to help ensure sustainable development of Northern Ireland inshore fisheries, with the strategy used to form the basis of future DARD inshore policy development.

This strategy has been produced for consultation purposes. In addition a review of Northern Ireland inshore fisheries is available on the DARD and AFBI websites:

(http://www.dardni.gov.uk/index/consultations/activeconsultations or http://www.afbini.gov.uk/index/services/services-specialist-advice/coastal-science/inshorefisheries.htm).

#### Introduction

The total number of vessels (both inshore and offshore) within the Northern Ireland fleet over the last 10 years has averaged around 340. Following a dip in 2003, the number of fishing vessels has been increasing steadily with the inshore sector seeing considerable growth in recent years. The structure of the fleet has markedly changed since 2000 with smaller vessels now dominating the fleet. Whilst in 2000 52% of the fleet were greater than 10m in length, by 2010 this had dropped to 38% meaning that three in every five Northern Ireland fishing vessels are now less than 10m in length (Figure 1). With this change there has also been a change in the structure of the ports with more fishermen fishing from smaller ports rather than the traditional 3 of Ardglass, Kilkeel and Portavogie, making inshore fisheries economically important to a wider number of communities as a source of employment. The increase in smaller inshore vessels is partly as a consequence of the increased pressures on the offshore fleet which has seen fishermen moving from offshore fisheries to inshore fisheries such as pot fishing and scallop dredging. With the Northern Ireland inshore fishery being worth in excess of £4 million in 2010, the move has been attractive to offshore fishermen who are constrained by tight regulations and reduced fishing opportunities.



Figure 1 Number of vessels greater than 10m and under 10m in the Northern Ireland fishing fleet

Within the inshore sector, few fishermen specialise in any one particular species, with most being able to diversify between species to follow market demand and seasonal fishing patterns. In Northern Ireland, whilst there are fisheries for a wide range of species including whelks, *Palaemon* and pot caught *Nephrops*, the main species targeted by the inshore fleet are listed in Table 1.

Table 1	The first sale	value	(£)	of the	e main	species	targeted	by	the	Northern	Ireland
	inshore fleet										

Species	2008	2009	2010	2011
Brown Crab	682,096	778,137	720,817	878,906
Velvet Crab	343,440	336,989	340,865	293,663
Lobster	541,985	492,639	459,749	624,420
Scallops	852,492	1,141,802	1,289,032	1,481,603
Queen Scallops		361,446	1,262,392	1,385,135

In total, the value of inshore fisheries in 2011 (excluding aquaculture and intertidal harvesting) was worth an estimated £4.8 million. In addition to these commercial species, recreational sea angling (RSA) also contributes to the Northern Ireland economy by bringing in tourists as well as through chartering of boats, buying of equipment etc. The inshore sector must therefore be managed in a way that balances the future development of both commercial and recreational fishing as well as maintaining a healthy marine environment with exploited stocks at sustainable levels.

Whilst not examined in this strategy it is important to note the significant Northern Ireland aquaculture sector. In 2011, the value of the shellfish aquaculture industry in Northern Ireland was around £6 million, employing 49 full-time and 16 part-time employees. The industry supplies high quality shellfish throughout the UK, Ireland and Europe (mainly to Holland and France). The main species cultivated are blue mussels and trestle grown pacific oysters. There is also an important Finfish aquaculture industry in Northern Ireland which was worth £4 million pounds in 2011, employing 41 fulltime and 14 part-time employees. The main species are Atlantic salmon, Brown trout and Rainbow trout supplying both local and international markets.

# Key Northern Ireland Inshore legislation

Under the **Fisheries Act (Northern Ireland) 1966 as amended**, DARD has full responsibility for the management, conservation, protection and improvement of inshore fisheries (out to 12nm) in Northern Ireland.

The **Sea Fish (Conservation) Act 1992** extends the powers of the 1967 Sea Fish (Conservation) Act to Northern Ireland. This includes the entitlement to introduce minimum landing sizes, the issue of penalties for offences and greater enforcement powers to DARD and sea-fishery officers.

The **Conservation (Natural Habitats, etc.) Regulations (Northern Ireland) 1995** gave the Department of Environment the powers to implement the Habitats Directive and thus designate areas for the protection of important species or habitats. Currently there are 6 designated/candidate Special Areas of Conservation (SACs) within the Northern Ireland inshore area:

- Murlough
- Rathlin
- Red Bay
- Strangford Lough
- The Maidens
- The Skerries and Causeway

In 2005 the **Registration of Fish Buyers and Sellers and Designation of fish auction sites regulations (Northern Ireland)** was created. Under these regulations sales notes must be submitted within 48 hours of sale by the registered seller (if fish sold at auction) or the buyer. The sales notes must include the name of the species, its geographical area of origin, price and quality of each species, the vessel landing the species and the port and date landed. Sales notes are not required if the quantity landed is less than 25kg per day and is being sold direct to the public. This has significantly increased the data available to monitor the effort and landings into Northern Ireland.

Currently in development is the **Northern Ireland Marine Bill** which will '*play a key part in ensuring that an integrated, coherent marine plan is in place for Northern Ireland*' (Northern Ireland Marine Bill Consultation document). The draft Marine Bill, which was introduced to the Assembly in February 2012, sets out a new management framework for Northern Ireland's seas based on: a system of marine planning that will balance conservation, energy

and resource needs; improved management for marine nature conservation and the streamlining of marine licensing for some electricity projects.

Through the Marine and Coastal Access Act 2009, the UK-wide Marine Policy Statement was prepared by all the Administrations. This document, which applies to all UK marine waters, came into effect in March 2011. It sets out the key strategic priorities for the UK's marine waters and is a tangible product against which all sustainable licensing decisions will be made until such times as marine plans are in place.

The Northern Ireland inshore is also regulated by a number of EU directives. In 2000 the **Water Framework Directive** (WFD) was adopted into EU legislation. The aim of the WFD is to integrate the way water bodies are managed throughout Europe. In 2003 this was transposed into Northern Ireland legislation through the Water Environment (Water Framework Directive) Regulations (Northern Ireland) 2003, which gave the Department of Environment the powers to manage and enforce the legislation which includes the protection and enhancement of coastal waters out to one mile. In addition, the **Marine Strategy Framework Directive** was introduced by Europe in 2008 and transposed into UK law in 2010. The MSFD requires an assessment of the current state of the UK seas, targets and indicators to achieve Good Environmental Status (GES) and the development of a programme which will help achieve GES (for more details see page 11).

# Inshore Management in Great Britain and Ireland

Great Britain has recently brought more focus onto the inshore and the devolved administrations have overhauled their management of the sector. This began in 2008 when the Welsh Assembly Government launched the Wales Fishery Strategy which aims to 'support the development of viable and sustainable fisheries in Wales as an integral part of coherent policies for safeguarding the environment'. The strategy looks at sustaining fisheries as well as the communities which rely on the sector.

In 2009, under the Marine and Coastal Access Act, the structure of the English inshore fisheries management was reorganised. Under the Act the Marine Management Organisation (MMO) was established. The MMO, a non-departmental public body (NDPB), has the responsibilities of:

- Implementing marine planning
- Implementing a new license regime
- Managing the UK fishing fleet

• Creating and managing a network of Marine Protected Areas (MPA's) alongside Natural England and the Joint Nature Conservation Committee (JNCC).

Alongside the establishment of the MMO, the Marine and Coastal Access Act dissolved the powers of the Sea Fisheries Committees and replaced them with ten Inshore Fisheries and Conservation Authorities (IFCA's). The IFCA's, which are arranged by district (Figure 2), are tasked with the sustainable management of the inshore sector and are funded by local councils and the Department of Environment, Food and Rural Affairs (DEFRA). The principle behind the IFCA's is to "*lead, champion and manage a sustainable marine environment and inshore fisheries by successfully securing the right balance between social, environmental and economic benefits to ensure healthy seas, sustainable fisheries and a viable industry*".

In 2009, Marine Scotland was established as a directorate of the Scottish Government to bring together the responsibilities of the SG Marine Directorate, Fisheries Research Services and the Scottish Fisheries Protection Agency. The mission of Marine Scotland is "to manage Scotland's seas for prosperity and environmental sustainability"; this includes ensuring a "viable and sustainable fishery".

Scotland also created Inshore Fisheries Groups (IFGs) which include members drawn from Fishermen's Associations alongside those from Marine Scotland, Scottish Natural Heritage and other marine stakeholders. Initially it was outlined that there would be 12 IFGs which would follow the boundaries of the planning regions. However, this was changed to 6 IFGs with IFG's being responsible for bigger areas. The main responsibility of these IFGs is the management of inshore fisheries. The IFGs will develop local objectives for their region out to 6 miles, as well as setting up the management plans needed to deliver those objectives. It has been proposed that the first of the IFG's will become operational in 2013.

In 2010 the Irish Central Fisheries Board and 7 Regional Fisheries Boards amalgamated to form Inland Fisheries Ireland (IFI) under the Inland Fisheries Act 2010. IFI covers inland waters and out to the 12 mile limit and protects freshwater species, sea bass and certain mollusc species. The IFI is also in charge of sea angling. In cross border areas the IFI work alongside the Loughs Agency which is an agency of the Foyle, Carlingford and Irish Lights Commission and was established under agreement between the UK and Irish governments. The Loughs Agency has responsibility for the development of fisheries and aquaculture, conservation and protection of inland fisheries and sustainable development of marine tourism in the two cross border Loughs. As well as working alongside the IFI, the Loughs Agency also work with DARD in Northern Ireland.



**Figure 2** Map showing the boundaries of the English Inshore Fisheries and Conservation Authorities (Source: MMO)

## **Challenges facing Northern Ireland Inshore Fisheries**

## 1. Lack of focus on inshore

Unlike in England and Wales where there are dedicated inshore authorities, in Northern Ireland there is no such structure with DARD managing the inshore alongside offshore fisheries and aquaculture. Resources are limited meaning that priority fisheries such as those for whitefish and Nephrops have increasing effort placed on them, removing the focus from other fisheries. In addition DARD is expected to police and enforce all legislation meaning that resources are generally fully utilised and, indeed at times, stretched.

## 2. Obligations to protect marine environment

Northern Ireland is obligated to protect its marine environment under a number of regulations including the Habitats Directive transposed by The Conservation (Natural Habitats, etc) Regulations (Northern Ireland) 1995. Under these regulations Northern Ireland is committed to identify and protect a series of habitats and species through the designation of Special Areas of Conservation (SACs), and birds of European importance through the designation of Special Protection Areas (SPAs). Northern Ireland can also designate an area as a Marine Nature Reserve (MNR) through the Nature Conservation and Amenity Lands (NI) Order 1985. However, MNRs have limited protection powers and only extend out to 3nm. The Northern Ireland Marine Bill will allow the designation of Marine Conservation Zones, which will be more flexible and enforceable, and can extend out to 12nm.

Most recently, the Marine Strategy Framework Directive (MSFD) has highlighted the need to protect the marine environment through "*halting biodiversity loss, ensuring the conservation and sustainable use of marine biodiversity, and on the creation of a global network of marine protected areas by 2012*". The MSFD aims to achieve GES by 2020. There are 11 descriptors of the MSFD

- 1. Biological Diversity
- 2. Non-indigenous species
- 3. Populations of commercial fish and shellfish
- 4. Elements of marine food webs
- 5. Eutrophication
- 6. Sea floor integrity
- 7. Alteration of hydrographical conditions
- 8. Contaminants

- 9. Contaminants in fish and seafood for human consumption
- 10. Marine litter
- 11. Introduction of energy including underwater noise

To achieve GES, commercial fisheries must ensure that commercial stocks are harvested sustainably (in line with descriptor 3) and that fishing impacts are sustainable with minimum impacts to the marine ecosystem (descriptors 1, 4 and 6). Whilst the reform of the Common Fisheries Policy (CFP) should support the achievement of GES, stocks outside of the CFP, such as shellfish, will need to be managed nationally or locally in order to secure GES.

## 3. Lack of data available

Prior to 2006 vessels under 10m in length were not required to submit landings data. The Registration of Fish Buyers and Sellers and Designation of Fish Auction Sites regulations (Northern Ireland) 2005 changed this so that all fish sold (over and above 25kg per day for which sales notes are not required if being sold to the public) must be reported. Whilst this increased the data available on landings, there is still a deficit in the information available in respect of the inshore sector and the species which are exploited. If accurate data is not available on a stock, the stock cannot be sustainably managed. In addition, sustainable development of a sector cannot be managed without first knowing the status of the stock being exploited. This could lead to overfishing and a potential collapse in the stock.

In 2008, the Republic of Ireland produced an atlas of fishing which maps the areas of fishing, by gear used, within its territorial waters. Similarly, in England, "FisherMap" used stakeholder input to map fishing activities around the Devon, Dorset and Somerset coasts. This was then available for use for the determination of proposed Marine Conservation Zones (MCZ's) in south-west England's Finding Sanctuary project. In addition, information collected during "FisherMap" was also utilised by the Irish Sea Conservation Zones project (alongside data from ABP MER, ISCZ Liaison officers, landings data and VMS) to collect evidence on the location of recreational and commercial fishing in the Irish sea (including Northern Ireland inshore waters) prior to the selection of possible MCZ's. Currently, in Wales the Countryside Council for Wales (CCW) is working alongside fishermen to map fishing activity, including the levels of fishing, around Anglesey (on 1<sup>st</sup> April 2013 the CCW powers will be taken over by Natural Resources Wales). The aim of this "FishMap" is to identify areas which are robust to fishing and others which are more vulnerable, allowing for sustainable development of the fishery.

Whilst Northern Ireland has some information available, primarily based on evidence from vessel monitoring systems (VMS), there is limited information on the effort of vessels under 15m in length. Whilst this is currently being addressed in the 12-15m fleet through the introduction of VMS, there is as of yet, no way of addressing the lack of knowledge on where the under 12m vessels fish.

## 4. Spatial pressures

The Northern Ireland inshore area is important to a range of stakeholders for environmental, cultural or economic reasons. Due to an expansion of needs for the inshore region there is now competition for space between fishermen, conservation requirements and the production of renewable energy. This competition leads to a squeeze in the areas available to each interest.

#### a) Protected Areas

Marine protected areas are a way to protect marine habitats and species. Under the Marine Strategy Framework Directive (MSFD) member states must achieve Good Environmental Status (GES) by 2020. Marine protected areas (MPA's) are an important contributor to achieving this goal. There are already a number of protected areas in Northern Ireland, including Strangford Lough and Murlough. Whilst fishing may be allowed to occur in some of the protected areas, in other areas fishing may be reduced/stopped completely.

The UK is also committed to developing a network of protected areas under

- > The World Summit for Sustainable Development
- > The UN Convention on Biological Diversity
- Convention for the Protection of the Marine Environment of the North-East Atlantic (OSPAR Convention)

#### b) Renewable energy

Under the Strategic Energy Framework, Northern Ireland is expected to produce 40% of its electricity through renewable energy by 2020. Currently, onshore wind is the main source of Northern Ireland renewable energy production but this only equates to approximately 10% of production energy. The Department of Enterprise, Trade and Investment (DETI) carried out a study examining the potential for offshore renewable energy around Northern Ireland and in October 2012 three companies were awarded the rights to develop offshore renewable

energy at three sites around the Northern Ireland coast. First Flight Wind Limited have been leased a site along the south east coast of County Down for the potential development of a 600MW offshore wind farm. On the north east coast of County Antrim, Tidal Ventures Limited have been leased an area at Torr Head for a potential 100MW tidal opportunity and DP Marine Energy Limited have been leased a site at Fair Head for a further 100MW tidal opportunity.

These areas leased for renewable energy are also commercially important fishing grounds. The development of renewable energy sites will lead to a loss of available fishing grounds either through a prohibition of fishing around the structures or through hazards to safe fishing/navigation brought about by the structures. This could lead to increased competition for space and increased travelling times for fishermen to get to alternative grounds suitable for fishing. Though the structures will provide new substrates which may act as a habitat for some species, they may alter local hydrography.

Fishermen are also concerned about the direct impacts renewable energy may potentially have on stocks. Initial disturbance and noise during construction may affect the species found in the area around the renewable energy sites whilst, longer term, the presence of electromagnetic fields may cause some species to avoid the surrounding areas.

## 5. Sustainability

Like other fishing sectors, the inshore sector depends on the sustainability of stocks. If stocks are not managed sustainably then they will not be there for future fisheries (commercial or recreational). As previously mentioned, there has been some movement away from the offshore and towards the inshore sector by fishermen. This increased fishing effort on the inshore has the potential to threaten the sustainability of the stocks being targeted.

Whilst the most significant threat is on the sustainability of the stocks, it is also important that inshore fisheries are economically sustainable. With more people fishing for the same resources, there is the potential for the market to become saturated with the product and the price to be reduced. The 2007 inshore review stated that "*future economic success will depend on the inshore sector making the most of the opportunities which currently exist*". Whilst these opportunities may not be increasing fishing effort, the economic value of the inshore sector may still be improved by supplying a high quality, sustainably fished product. The value of the sector may also be increased by diversifying the species which are

exploited provided that the resource is exploited sustainably and there is sufficient market demand for it to be economically viable.

- 1. Do you agree that the challenges listed above are the key challenges for Northern Ireland inshore fisheries?
- 2. Do you believe there are any other significant challenges facing the Northern Ireland inshore sector?

# **The Way Forward**

Based on the challenges which have been highlighted by inshore stakeholders, a number of strategic proposals have been recommended as the way forward which will help to reach the objective for sustainable development of Northern Ireland inshore fisheries.

## Governance

In Northern Ireland, inshore fisheries are governed by the Department of Agriculture and Rural Development (DARD) with their Fisheries and Environment Division having the responsibility of preparing and enforcing all fisheries regulations, both for the offshore and inshore sectors. Whilst previously this did not include the foreshore, the Fisheries (Amendment) Act (Northern Ireland) 2001 gave DARD powers to regulate fisheries up to the high water mark.

The Department of Environment has recently established a new Marine Division. This division will have responsibilities for marine planning, marine conservation, the Marine Strategy Framework Directive, licensing (construction, dredging, disposal, aggregate extraction) and the Marine Bill.

DARD is fully aware of the need for greater focus on the inshore and has recently demonstrated this by allocating additional staffing resources for the management of the sector. Whilst DARD has recently increased its focus on the inshore, there is, as of yet, no dedicated inshore management group that is representative of the entire Northern Ireland inshore fishing sector and which focuses on its management and development.

In terms of which structure would best suit the management of inshore fisheries in Northern Ireland, the systems set up to date around the UK and Ireland are still relatively new and the negatives and positives are not fully apparent as yet. Taking account of the relatively short length of coastline and the spatial extent of the fisheries around the Northern Ireland coast, it is considered that the best way to manage the inshore sector is through the establishment of an Inshore Fisheries Advisory Group (IFAG), with DARD retaining legislative powers over inshore fisheries. The overall aim of the IFAG is to bring greater focus to the inshore and make its management more integrated and efficient. The IFAG would be responsible for identifying and helping to resolve inshore issues, by methods including;

- the development of management plans for sustainable development of the inshore
- the development of voluntary codes of practice
- advising on how to ensure inshore fisheries obligations are met

- advising DARD on legislative issues, including the revision of current legislation
- recommending areas for further scientific research to support management decisions and provide robust inshore data
- examining regional objectives and the use of local management plans to meet these objectives
- investigating the potential for increasing added value to the inshore species

The IFAG should reflect shared responsibility of inshore fisheries, through involvement with fishermen who fully represent the industry. This should include, if possible, involvement from all sectors within inshore fisheries. This would give the group an improved insight into the sector, and allow for a more 'bottom-up' approach, with ideas on management being industry rather than Government led.

During the process of preparing the strategy a number of possible actions were raised by each sector. These are outlined in Appendix 1 and should be examined by the IFAG upon its creation.

Currently in Northern Ireland there are a number of National and Regional fisheries groups operating within the inshore which should be represented on the IFAG. It is recommended that the group include a representative from each of the following organisations:-

- 1. National inshore fishing groups
- 2. Regional inshore fishing groups
- 3. Department of Environment (DOE)
- 4. Relevant NGO
- 5. Council for Nature Conservation and the Countryside (CNCC)
- 6. Agri-Food and Biosciences Institute (AFBI)
- 7. Recreational sea anglers
- 8. Intertidal harvesters
- 9. Processors/buyers who represent inshore sector
- 10. DARD Fisheries Policy (DARD should provide the secretariat for the group)

It is suggested that initially a stakeholder workshop be arranged to determine the full membership of the IFAG. Should new national or regional groups be established the IFAG should consider extending its membership to the new group provided the group remains representative of the inshore sector. As well as the permanent representatives, the group should have the ability to bring in experts to provide greater in depth detail on particular aspects of the inshore. For example, if the issue of renewable energy resources was raised,

DETI could be invited to provide further information/evidence to the group. This ability should lead to stronger collaboration in a range of marine management issues, not only between DARD and the industry but also between the relevant agencies who have functions within the inshore area.

As the IFAG would have representatives from all the inshore fishery interests, it would ensure that, when decisions are being made, no one interest is left out of consultation. Indeed, through the formation of an IFAG all recommendations would require them to be fair, transparent and open.

Stakeholders are concerned at the length of time it takes legislation to be passed in Northern Ireland. Whilst the period from consultation to acceptance by the Executive Minister is timely, DARD have little control on the length of consultation, with the period from the drafting of the legislation until the legislation is accepted by the Executive Minister out of DARD's direct control. However, through discussion with the IFAG prior to the drafting stage, issues that may arise during the consultation process may be identified and therefore addressed in a timelier manner.

- 3. Do you believe that the recent increase in DARD staffing resources for the management of inshore fisheries was required?
- 4. Is a dedicated inshore fisheries management group, representative of the Northern Ireland inshore sector, which will focus on management and development, required?
- 5. Do you believe that a single Northern Ireland Inshore Fisheries Management Group is sufficient?
- 6. If established, do you believe that the Inshore Fisheries Management Group should operate on an advisory capacity with DARD retaining regulatory and enforcement powers, or should such powers be devolved to the management group?
- 7. Do you agree the proposed membership is reflective of all key interests?
- 8. Should membership of the management group be restricted to representatives from established fishing organisations or should non-affiliated members be permitted?

# Use of technology

## 1) Monitoring system

Currently there is a lack of knowledge as to where small boats are fishing and where the effort is being placed. Whilst the MMO, through EU legislation, has set a requirement for vessels greater than 12m in length to have a monitoring system onboard, there is no plan as yet to bring this in for under 12m vessels. However, an inshore monitoring system could be introduced in to Northern Ireland to indicate where fishing is taking place. Unlike VMS where there is a substantial time period between reports (hourly etc), inshore monitoring allows for more frequent reporting of the vessel position and so is an effective tool in monitoring fishing around protected areas. The system can be set up with 'geofenced zones' which cause an alert to be sent to the regulatory authority if the protected area is entered.

From the fisherman's perspective there are a number of benefits of having an inshore monitoring system:

- fishermen have evidence (track record) to state their claim to an area in the face of closure either for environmental or renewable energy purposes
- it can provide evidence that fishing can coexist alongside other marine activities
- it can provide evidence during gear conflict
- an inshore monitoring system has safety benefits as fishermen can get the system to send a message to family/friends to let them know that they have left the harbour. The fisherman can also provide his log on details to friends or family so they can check where they are at all times.
- unlike VMS used on over 15m vessels which rely on satellites and can be expensive, inshore monitoring systems can use mobile phone technology to send the signal of its location making it much cheaper. In areas where there is no network available the system can retain all information and report back as soon as reception is available.
- fishing activity around closed areas can be monitored and policed in an effective way which allows fishing close to the boundaries of a protected area and indeed, have a reduction in size of the protected area as no 'buffer zone' will be required.
- Stakeholders have indicated that enforcement is an issue within the inshore sector. The use of an inshore monitoring system on all licensed fishing vessels would enable DARD to know where each vessel is fishing and provide the evidence for any cases which are brought up by fishermen.

• The system can be geofenced on moorings so that if a vessel breaks away the fisherman is alerted immediately.

#### **Questions for consideration**

- 9. Do you agree that there are benefits for fishermen from an appropriate vessel monitoring system?
- 10. Do you believe an appropriate form of vessel monitoring system is required for under 12m vessels?
- 11. Do you think that an inshore monitoring system based on mobile technology is more appropriate and practical than satellite operated VMS?

#### 2) Log sheets

Current practice sees fishermen completing a paper log sheet which is then input onto the DARD database by a DARD officer. This method of attaining information from fishermen is somewhat flawed with not all log sheets being returned, some not filled in completely or incorrectly and some entered inaccurately into the database. With the DARD databases being the sole source of information for fisheries landings, it is important that the data which they hold is accurate. The process of submitting log sheets should be reviewed by the IFAG. One potential method of increasing the accuracy is that log sheets are completed electronically by the fishermen thus eliminating any errors which can happen when transferring a large volume of information from paper copies to an electronic version. It would also make the data available much more rapidly as the middle step would be removed.

Currently onboard electronic logbooks are operated on over 15m vessels with the aim of rolling this out to over 12m vessels. Whilst there are issues on smaller boats for storage of the electronic logbooks, there is of yet no obligation from Europe that there must be a system held onboard vessels under 12m. Therefore an alternative is that the fishermen can complete an electronic log sheet at home. Some fishermen are concerned that electronic log sheets may take longer to complete, however, programmes can be created to reduce the time it takes to submit landings as items such as Port, gear used, species captured etc can be programmed so that only the amount of landings needs to be entered each time.

In addition, the information collected via the log sheets should be reviewed by the IFAG to ensure that they are fit for the purpose intended, collect as much useful data as possible, but are not protracted and time consuming for fishermen to complete.

#### **Questions for consideration**

- 12. Do you believe the introduction of electronic log sheets would improve the accuracy and timeliness of data collection?
- 13. What more appropriate means of improving the accuracy and timeliness of data than through the introduction of electronic log sheets are available?

# Mapping of existing fisheries

The spatial extent of all existing inshore fisheries should be mapped. Whilst there is some form of fishing everywhere around Northern Ireland, the type of fishing and intensity varies considerably around the inshore. Whilst an inshore monitoring system would provide information on the spatial extent of the fisheries, a supplementary programme of additional mapping is required to collect data on spatial variations in effort, catch etc. Such data is required for local management plans which may be utilised for certain fisheries (for example pot fishing, where there are distinctive patterns in the primary catch from pots around the Northern Ireland coast). Data collected during scientific observation and an inshore monitoring system should be used to develop a suitable effort distribution map. Alongside fishing effort, such an inshore map should also include pressures on the fishing industry such as protected areas, renewable energy, aggregate extraction etc.

#### **Questions for consideration**

14. Do you think that a programme of additional mapping of existing fisheries and pressures is required?

## Improved Enforcement

The perception amongst many inshore fishermen in Northern Ireland is that there is not adequate enforcement of the inshore. Unless there is adequate enforcement there will be no protection for the sector. Whilst the introduction of an inshore monitoring system will provide knowledge of where fishing is taking place, proper policing and a greater onsite presence is required to ensure that technical/conservation measures are being met. DARD should examine their enforcement resources to determine if they are being used to their full potential. If this is not the case, improved enforcement should be a priority for the inshore region. As previously mentioned, the IFAG should review the current legislation available, and provide feedback to the department on possible gaps in the legislation (Appendix 1 highlights possible management options to resolve the challenges facing the inshore. The IFAG could review these recommendations and if suitable advise DARD on legislative changes/new legislation required to meet these recommendations). In certain situations, different departments will need to collaborate for enforcement issues.

#### **Questions for consideration**

- 15. What is your opinion on the present level of enforcement of the inshore sector?
- 16. What additional enforcement measures, if any, would you like to see?

## Economic sustainability

By effective marketing of a product the value may be increased, bringing increased profit into the sector without increasing the effort placed on to the fishery. At a time when fuel prices and bait are increasing in cost, it is important that the maximum profit is captured from the fishery to ensure that it is economically sustainable. Many communities around the coast of Northern Ireland are traditional fishing villages/towns, with fishing being the main source of income for many families. It is important that fishing is managed in a sustainable and profitable way that secures maximum revenue to support such communities. This may mean putting management regulations or voluntary codes on to fisheries which only allows high quality product to be landed. An example of this would be banning the landing of white crab which receives a much lower value per kg and which also suffers high mortalities. Other areas which could be considered by the IFAG to maximise profit include:

- market and transport costs
- introduction of a marketing and promotion campaign
- local providence
- Improved handling and transportation practices to reduce mortality during export

#### **Questions for consideration**

- 17. How could the economic sustainability of the inshore sector be improved?
- 18. Is Northern Ireland's inshore produce being marketed effectively? If not, how could this be improved?
- 19. Do you believe voluntary codes of practice or regulations, focusing on the quality of the catch, are appropriate means of improving economic sustainability?

## Data collection

As mentioned previously, data can be collected on where fishing effort is taking place through the use of inshore monitoring systems, and on what is being landed through the use of logbooks. However, to determine if a fishery is sustainable, fisheries managers require accurate biological data on exploited stocks. Currently, the information is not available to carry out a stock assessment of a majority of the species targeted within the inshore. Scientific studies are needed to fill in the gaps in the knowledge of the sector to allow for appropriate management measures to be implemented. Without having information such as the state of the stocks, the biology of the stocks and the level of fishing effort placed on them, there can never be management of stocks which allows them to be exploited sustainably. However, it will take time to collect all the data required for a stock assessment and this should be accounted for in the management of the fisheries.

In addition, fishing effort and species data should be examined alongside other forms of information such as sea bed maps and environmental parameters to provide a clearer picture for the inshore region.

Recently through funding by the European Fisheries Fund (awarded by DARD), AFBI have begun an enhanced scientific work programme within the inshore region to begin to fill the data gaps for inshore fisheries. This work programme should be developed where

appropriate to provide the scientific evidence needed to support the sustainable management and development of the sector.

#### **Questions for consideration**

- 20. Do you consider there is sufficient information available on the inshore stocks in order to make informed decisions for sustainable management?
- 21. Do you think that it would be an appropriate use of resources to carry out stock assessments of key inshore species?
- 22. Is there any other information or research you feel would benefit the inshore sector?

## Other opportunities

Potential new fisheries should not be ignored. Recent fisheries which have taken place in Northern Ireland are the *Palaemon* fishery in County Down and the pilot cockle fishery in Belfast Lough. New fisheries have the potential to bring a boost to the economy as long as:

- They can be fished sustainably
- There is sufficient market demand for the product

In order to ensure the fishery is potentially viable, prior to the development of a new fishery an assessment should be carried out on the demand for the species to ensure that it will be marketable. In addition, an assessment of the stock should be required to ensure that any new fishery is developed sustainably from the start and that the fishery will cause no negative impacts to the environment.

Other areas where fishermen could become involved, include carrying out environmental schemes such as "Fishing for Litter" which sees fishermen collecting litter that is caught during their normal fishing activities. Whilst this has no direct financial incentive to fishermen, in Scotland where it is estimated that litter costs fishermen in excess of £11 million per year due to damage to nets, contaminated catch etc, over 170 vessels take part in the scheme.

- 23. Is diversification from current fishing practices an option for your operation?
- 24. What potential diversification (for example, new fisheries, tourism, renewable energy) opportunities do you feel may arise in the future for your business?

# Summary

In 2007 an Inshore Review was carried out to advise DARD on the management of Northern Ireland inshore fisheries. A draft strategy has been produced in response to this review. Whilst this summary document has been produced for consultation purposes, a full review highlighting evidence gathered through speaking to inshore stakeholders can be located on the AFBI website (http://www.afbini.gov.uk/index/services/services-specialist-advice/coastal-science/inshore-fisheries.htm).

The inshore is a valuable resource, worth an estimated £4.4 million in 2010. However, it is facing a number of issues which threaten both its development and sustainability. Previously, there has been less focus on inshore fisheries in comparison to offshore fisheries. With significant expansion of the inshore fleet in recent years, it is now imperative that focus is brought on to the inshore. This could be achieved by a number of methods (listed in Table 2). However, the key to the success of the fishery lies in the governance of the sector. Without appropriate management of the sector nothing will change. То accomplish effective management of the inshore it is imperative that those who have an interest in the sector have a say in its governance. The best way of achieving this is by setting up a representative Inshore Fisheries Advisory Group involving those who use the inshore. This will ensure communication across the sector when discussing issues and appropriate management measures. Through the co-operation of Government, commercial fishermen, recreational fishermen, NGO's and scientists the inshore should remain a lucrative fishery for those who use it commercially and recreationally, for environmental, cultural or economic reasons.

 Table 2
 A summary of how the recommendations discussed in the strategy could help overcome the challenges currently faced by the inshore sector.

Recommendation	Governance	Technology	Mapping	Enforcement	Economic	Data	Other
Challenge					sustainability	collection	opportunities
Lack of focus	✓	$\checkmark$	$\checkmark$	✓	$\checkmark$	~	✓
Obligations to protect environment	✓	~	~	×		~	✓
Lack of data	$\checkmark$	$\checkmark$	√	$\checkmark$	$\checkmark$	~	
Spatial pressures	V	V	$\checkmark$	~		√	
Sustainability	✓	✓	✓	$\checkmark$	$\checkmark$	~	$\checkmark$

# **Appendix 1**

Challenge	Resolution	Possible Action
Sustainability	Reduce latent capacity of fleet	Limit vessel size
	Reduce effort placed on fishery	Limit number pots
	Protect reproductive animals	Ban landing berried crab
	Protection of undersized	Regulation on mesh size
	animals	for the <i>Palaemon</i> Fishery
		Increase Minimum
		Landing Sizes
	Protection of animals	Ban landing claws
	Increased value for product	Ban landing soft shelled
		crab/Lobster
Obligations to marine	Protection of undersized and	Escape Gaps
environment	non-target species	
Lack of Data	Improved data collection	Scientific survey

Possible actions for the management of Northern Ireland inshore pot fishing

- 25. What are your views on the resolutions and possible actions for the pot fishing challenges listed?
- 26. Do you feel there are any other relevant challenges facing pot fishing and if so what possible actions could resolve these challenges?

Possible actions for the management of the Northern Ireland inshore scallop fishery

Challenge	Resolution	Possible Action
Sustainability	Reduce latent capacity of fleet	Permit system
	Reduction in effort	Ban on Dredging for Queen
		Scallops
		Limits to Recreational Diving
	Protection of	Nursery grounds
	juveniles/broodstock	
		Closed season for Queen scallop
		fishing grounds during spawning
		season
	Improved fishing effort	Removal of Northern Ireland
	allowance	from UK western waters effort
		regime
Lack of data	Increased fishing data	Activity reports for commercial
		divers
	Increased knowledge of stocks	Scientific surveys
Obligations to marine	Protection of marine habitat	Resources put into trialling new
environment		environmentally more acceptable
		dredges

- 27. What are your views on the resolutions and possible actions for the inshore scallop fishery challenges listed?
- 28. Do you feel there are any other relevant challenges facing the inshore scallop fishery and if so what possible actions could resolve these challenges?

Possible actions for the management of intertidal harvesting in Northern Ireland

Challenge	Resolution	Possible Action
Obligations to marine environment	Regulation of harvesting	A daily catch limit to distinguish between commercial as opposed to personal use
Lack of data	Information on scale of harvesting needed	Activity reports
		Scale of harvesting examined
Sustainability	Protection of stock	Minimum landing size for periwinkles
	Improved dissemination of information	Public education

- 29. What are your views on the resolutions and possible actions for intertidal harvesting challenges listed?
- 30. Do you feel there are any other relevant challenges facing intertidal harvesting and if so what possible actions could resolve these challenges?

Possible actions for the management of recreational sea angling in Northern Ireland

Challenge	Resolution	Possible Action
Obligations to marine	Protection of marine	Development of a
environment	environment	Recreational Sea Angling
		(RSA) Code of Conduct
Spatial pressures/Lack of	Improved knowledge of RSA	Interaction between RSA's,
data		government and scientists
		Socio-economics studied
Sustainability	Protection of stocks	Sea Bass Regulations
		Artificial reefs
	Improved knowledge of	Elasombranchs tagging
	stocks	scheme
	Increased responsibility	Willingness to manage and
		promote Northern Ireland sea
		angling

- 31. What are your views on the resolutions and possible actions for sea angling challenges listed?
- 32. Do you feel there are any other relevant challenges facing sea angling and if so what possible actions could resolve these challenges.