



Department of the
Environment

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CONSULTATION

2015 REVIEW OF SHELLFISH WATER PROTECTED AREAS

**MARINE DIVISION
March 2016**

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listed in section 2 – Consultation Arrangements.**



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1. PURPOSE

This consultation paper seeks your comments on the findings of the 2015 Review of Shellfish Water Protected Areas. The review was undertaken in accordance with the requirements of the Water Framework Directive (WFD) (2000/60/EC) and agreed policy.

The Shellfish Waters Directive (SWD) (2006/113/EC) was repealed in December 2013 and subsumed into the WFD. Designated shellfish waters are Protected Areas under the WFD, as these are designated for the protection of economically significant aquatic species.

2. CONSULTATION ARRANGEMENTS

Please forward your comments on the review's findings to:

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Responses should reach us by 24 June 2016. Earlier responses would be welcomed.

A summary of the responses received will be issued shortly after closure of this consultation. We will not respond individually to the points you raise as part of your reply nor will we acknowledge receipt of individual responses unless requested.

Additional copies of the consultation paper

Additional copies of this consultation paper are available on written request to the address or email above or by telephoning 02890 (5)69286. It can also be accessed on the Department's website at:

<https://www.doeni.gov.uk/consultations/review-shellfish-waters-protected-areas>

3. CONFIDENTIALITY OF CONSULTATIONS - FREEDOM OF INFORMATION ACT 2000

The Department will publish a paper at the end of the consultation period summarising the responses received. Information provided in your response to this consultation, including personal information, may be published or disclosed in accordance with the Freedom of Information Act 2000 (FOIA). Should you prefer that information to be treated as confidential, please provide the reason, but be aware that under the FOIA we cannot guarantee confidentiality.

Should you reply as an individual, the Department will process your personal data in accordance with the Data Protection Act 1998. This means that should you request confidentiality your personal information will not be disclosed to third parties.

4. REVIEW OF SHELLFISH WATER PROTECTED AREAS

4.1 Introduction

The Shellfish Waters Directive (SWD) (2006/113/EC) was repealed in December 2013 and subsumed into the Water Framework Directive (WFD) (2000/60/EC). Although the SWD has been repealed, at least the same level of protection must be provided under the WFD to existing Shellfish Water Protected Areas - previously known as designated shellfish waters - or to new areas designated as having economically significant aquatic species.

The WFD established a legal framework for the protection, improvement and sustainable use of Europe's water environment. It rationalised the EU's fragmented water legislation by providing a single piece of framework legislation based on a system of river basin management.

This has been taken forward through the introduction of River Basin Management Plans (RBMPs). To achieve the required environmental objectives set out in the RBMPs, a programme of measures has been established for each river basin district and international river basin district. These are reviewed every 6 years.

The Department of the Environment (“the Department”), through its Marine Division, monitors Shellfish Water Protected Areas in accordance with the requirements laid down in the WFD. All previous monitoring requirements from the SWD have been incorporated into WFD programmes.

However, as there are no microbial standards in the WFD, a new guideline microbial standard has been provided for in The Water Framework Directive (Priority Substances and Classification) (Amendment) Regulations (Northern Ireland) 2015.

This new WFD guideline microbial standard is based on *E. coli* rather than on faecal coliforms. It provides an equivalent level of protection to that previously provided for in the SWD, and is consistent with the Bathing Water Directive, which moved from monitoring faecal coliforms to monitoring *E. coli*.

Shellfish Water Protected Areas are assigned an environmental objective under the WFD, through the RBMPs. The Food Standards Agency in Northern Ireland (FSA in NI) classifies each shellfish bed under the EC Hygiene Regulations. In addition, the Department will endeavour to respect the guideline microbial standard as set out in the table below:

| <i>Parameter</i> | <i>Units</i> | <i>Guideline values and comments</i> | <i>Reference methods of analysis</i> | <i>Minimum sampling and measuring frequency</i> |
|--|--------------|--|--------------------------------------|---|
| <i>Escherichia coli</i> (<i>E. coli</i>) | cfu/100ml | ≤230 in the shellfish flesh and intervalvular liquid | ISO16649 part 3 or equivalent | Quarterly |

Northern Ireland has ten Shellfish Water Protected Areas at present, which are defined areas at:

- Lough Foyle, Longfield Bank
- Lough Foyle, Balls Point
- Larne Lough
- Belfast Lough
- Strangford Lough – Paddys Point & Reagh Bay
- Strangford Lough - Skate Rock
- Strangford Lough - Marlfield Bay
- Killough Harbour
- Dundrum Bay

Carlingford Lough

Maps showing these Shellfish Water Protected Areas are attached at Annex A for information.

It is important to note that compliance with the requirements of the WFD alone cannot protect the consumer. It is for this reason that the EU has the complementary EU Hygiene Regulations (EC 852, 853 & 854/2004) to protect public health. These Regulations specify the health conditions for the production and placing on the market of shellfish, and lay down the official controls for shellfish to be implemented by the Competent Authority.

On the basis of the microbiological criteria, and using the faecal indicator bacterium *E.coli*, the FSA in NI is required, as the Competent Authority under EC Regulation 854/2004, to classify shellfish production areas according to the degree of contamination in samples of shellfish.

These areas are classified from Class A to Class C depending on the levels of *E. coli* present. Product from a Class A area may be placed directly on to the market for human consumption; Class B product must be subject to purification or relaying in a Class A relaying area; and Class C product can go on to the market for human consumption only after relaying in a Class A relaying area for at least two months or after heat treatment.

In addition, there is also a Class C (prohibited) classification should a sample be found to have *E. coli* in shellfish flesh exceeding 46,000/100g MPN. This will result in the enforcing authority issuing a closure notice until the harvesting area receives two consecutive results below this limit.

4.2 Timing of reviews

The last review of designated shellfish waters (as they were known then) in Northern Ireland was completed by the Department in 2012/13. The timing of reviews has since been brought into line with those of the RBMPs, which are to be reviewed every 6 years from 2009.

However, as previously agreed criteria for the review of Shellfish Water Protected Areas includes consideration of data for the last 3 years, the Department will continue to review these every 3 years, at the time of the RBMPs' mid-cycle review. Therefore, the next review of Shellfish Water Protected Areas will take place in 2018.

4.3 Designation process

A public authority must have regard to the Marine Policy Statement in taking any decision which relates to the exercise of any function capable of affecting the whole or any part of the UK marine area, but which is not an authorisation or enforcement decision (section 58(3) of the Marine and Coastal Access Act 2009 (c.23) refers); and in so doing shall contribute to the sustainable development of that area.

The Department of Agriculture and Rural Development (DARD) is currently responsible for the granting of fish culture licences, which authorises the culture of shellfish (shellfish aquaculture) in Northern Ireland under the provisions of the Fisheries Act (Northern Ireland) 1966 (as amended).

There are also a number of naturally occurring wild shellfish beds from which shellfish are harvested either by hand gatherers or by fishing vessels. The hand gathering of shellfish is currently not a licensed activity by DARD; and wild shellfish may only be harvested by fishing vessels and sold where an appropriate sea fishing vessel licence, granted by DARD under section 4 of the Sea Fish (Conservation) Act 1967, is held.

Should a shellfish harvester wish to harvest a shellfish area commercially for placing on the market for human consumption, the harvester must apply to have it classified by the FSA in NI. Following a sanitary survey of the area (where required) and flesh sampling, a provisional classification is awarded initially with full classification being awarded after one year's sampling of the shellfish for *E. coli* contamination. Classified shellfish production areas are monitored for a range of other contaminants, including marine biotoxins and chemical contaminants.

Following the issue of a harvesting licence by DARD, and classification of the shellfish bed by the FSA in NI, the Department can then consider designation of the shellfish water in accordance with the agreed criteria.

4.4 Designation criteria

The WFD does not set criteria for the designation (or de-designation) of Shellfish Water Protected Areas. The criteria applied by the Department during this review were consulted on and agreed during the 2012 Review of Shellfish Water Designations.

To ensure the most suitable sites for shellfish production, the criteria used in identifying new sites continues to be based on production data obtained from DARD, and also takes into account technical feasibility and the disproportionate costs of remediation, as outlined in Article 4(5) of the WFD.

The criteria used by the Department for the designation of Shellfish Water Protected Areas are as follows:

- evidence of 3 years' production per site in the last 4 years, which must include year 4, with a minimum Class B awarded by the FSA in NI;
- where there has been no production in year 4, designation can be considered on the receipt of evidence that continued production is planned; and
- where there is evidence that a production area cannot achieve a minimum Class B from the FSA in NI, a designation using the lower objective of Class C can be considered, in consultation with all parties. These discussions will look both at the feasibility of meeting Class B and the cost implications. Designation could also be considered where a grower is able to demonstrate that their business model would include arrangements for heat treatment.

Following repeal of the SWD in December 2013, a key consideration in making new designations will be any potential cost implications for others - for example, Northern Ireland Water and the agriculture industry. This was not a requirement under the SWD. As such, not every water body which has shellfish will be considered appropriate for designation.

4.5 De-designation criterion

The Department will carry out regular de-designation exercises to ensure monitoring and improvement efforts are directed appropriately. The criterion will continue to be based on production data obtained from DARD. The criterion used by the Department for the de-designation of a Shellfish Water Protected Area is as follows:

- 3 years of continuous non production within an entire Shellfish Water Protected Area.

The Department will not de-designate in circumstances where there are multiple shellfish beds in a designated area, with one bed having been non productive for 3 continuous years, provided that the other beds within that designated area are still productive.

Waters will be managed at all times to ensure there is no deterioration in status.

4.6 Waters proposed for designation/de-designation

Production data was obtained from DARD and shellfish classification data from the FSA in NI in order to inform this review. The data is not presented here because of commercial considerations for individual growers.

Following careful consideration of the data, and application of the agreed criteria, the Department proposes no new or revised designations of Shellfish Water Protected Areas at this time.

During the period of this review it was noted that Island Shellfish Clams in Larne Lough and Marlfield Bay, Strangford Lough were declassified by the FSA in NI. The Department proposes not to de-designate Larne Lough as there are other beds within it that are still productive. Similarly, the Department proposes not to de-designate Marlfield Bay, Strangford Lough as the site does not fulfil the de-designation criterion at this point - that is, 3 years of continuous non production.

4.7 Narrow Water, Carlingford Lough

Shellfish Water Protected Areas must be economically significant and have sustainable production. As such, the Department considered the possible designation of the wild shellfishery at Narrow Water in this context. Fishing vessels may harvest and sell wild shellfish where they hold an appropriate sea fishing vessel licence granted by DARD under section 4 of the Sea Fish (Conservation) Act 1967.

A number of factors were assessed when considering whether to designate Narrow Water. These included:

- production data over the three years of the review period – as an indicator of the sustainability of the shellfishery;
- shellfish quality – as an indicator of general water quality at Narrow Water, including microbiological and chemical; and
- technical feasibility and the cost of any remediation required to ensure Narrow Water's suitability as an area for shellfish production.

4.7.1 Production data

The Department considered production data obtained from DARD and from the then Newry and Mourne District Council for the years 2012-2014. Production data was not available for 2015 due to a temporary closure notice issued as a result of a temporary increase in polycyclic aromatic hydrocarbon (PAH) contamination after an accidental oil spill at Warrenpoint Harbour. Production figures are low for this site.

4.7.2 Water quality

4.7.2.1 Microbiological classification

The FSA in NI reviews the classification of shellfish production areas on an annual basis and carries out in-year reviews where necessary.

Based on the official control monitoring carried out by the FSA in NI, the wild shellfishery at Narrow Water appears to be vulnerable to microbiological contamination. The FSA in NI has assigned a seasonal classification to Narrow Water. Between 1st July 2015 and 3rd October 2015 Narrow Water was a Class B (seasonal) production area. Between 1st November 2015 and 30th June 2016 it is a Class C (seasonal) production area. The FSA in NI will review the classification status before 30th June 2016.

4.7.2.2 Chemical contamination

The Department and the FSA in NI operate a joint monitoring programme for a suite of contaminants in shellfish flesh. Monitoring is carried out on an annual basis, usually in February or March. This time of year represents pre-spawning, when the shellfish body burden of contaminants is at its highest. This provides the worst case scenario.

Regulation EC/1881/2006 sets maximum levels for contaminants in certain foodstuffs, including for live bivalve molluscs. However, in 2011 the European Food Standards Agency (EFSA) set a new, more stringent limit for four key PAHs (called the EFSA4) in live bivalve molluscs. Previously, each PAH had an individual limit value of 10µg/kg. These were replaced by a single, new limit of 30µg/kg for the four PAHs combined (EFSA4 comprises Benzo(a)pyrene, Chrysene, Benzo(a)anthracene and Fluoranthene). Since the new limit was set for EFSA4 in 2011, Narrow Water has consistently failed to meet this standard (see Table 1).

| Table 1 EFSA4 exceedences at Narrow Water ($\mu\text{g}/\text{kg}^*$) | |
|---|----------------------|
| Sampling year | Narrow Water Mussels |
| 2011 | 44 |
| 2012 | 55 |
| 2013 | 33 |
| 2014 | 38 |
| 2015 | 33 |
| * EFSA4 standard is 30 $\mu\text{g}/\text{kg}$ | |

The source of PAHs is thought to be contaminated sediments within the Newry Estuary, associated with the historical import of coal at the quays. A temporary increase in PAH concentration was also observed in Narrow Water shellfish during late 2014/early 2015, although this was attributed to an accidental oil spillage. Although this is not a factor in the prevailing environmental conditions at Narrow Water, it does highlight the close proximity of Narrow Water to a major port and its vulnerability to accidental spillages.

4.7.3 Conclusions – Narrow Water

Given the considerations presented in this paper, the Department's view would be that Narrow Water is not suitable for designation as a Shellfish Water Protected Area at the time of this review. This is based on low production figures and an assessment of the technical feasibility and disproportionate costs of remediation as provided for under Article 4(5) of the WFD.

A conservative estimate of costs to remove contaminated sediments from a stretch of Narrow Water is attached at Annex B. This does not include any costs for initial survey work to inform the extent of the necessary work to remove contaminated sediments, nor does it include costs for any subsequent treatment and/or landfill disposal if that was deemed necessary under waste management legislation.

The Department accepts that the lack of production data for 2015 was due to circumstances beyond the control of the shellfishery industry. However, it further highlights the unsuitability of this area as a primary production area for live bivalve molluscs.

4.7.4 Other improvement actions – Narrow Water

Although it is proposed not to designate Narrow Water, a raft of existing and developing protection measures are likely to bring about water quality improvements for the Newry River transitional water and catchment and for Carlingford Lough, including Narrow Water.

In accordance with the Urban Wastewater Treatment Directive (Northern Ireland) 2007, the Department undertook a sensitive area review of Northern Ireland's surface water bodies for the period 2008-2013. Following that review, the Department designated the Newry River transitional water and catchment as a sensitive area (UWWTD) with effect from 31 December 2015.

This designation means that higher levels of wastewater treatment are required to address water quality issues. In addition, the Newry wastewater treatment works was upgraded in 2012.

However, improvements to the sewage works and sewerage network alone may not bring about sufficient improvements to water bodies. Therefore, diffuse pollution from agricultural sources is also being addressed through a number of protection measures – for example, Northern Ireland has adopted a total territory approach under the Nitrates Directive (91/676/EEC).

An action programme has been developed in Northern Ireland in accordance with the Nitrates Action Programme Regulations (Northern Ireland) 2010 (NAP Regulations), which establishes a range of measures, including a closed period for the application of organic and inorganic fertilisers, limits to the volumes of fertilisers permitted per hectare and controls on the management and storage of manures and slurries.

The action programme's aims are in turn supported by other legislation concerning agricultural nutrient management - for example, the Control of Pollution (Silage, Slurry and Agricultural Fuel Oil) Regulations (Northern Ireland) 2003 (SSAFO regulations) and the Phosphorus (Use in Agriculture) Regulations (Northern Ireland) 2006. Other measures include an Environmental Farming Scheme, which is expected to "go live" during summer 2016. This scheme will provide financial incentives to farmers to put in place voluntary measures including those to protect water quality.

The Department recognises the need to improve the status of some water bodies in these economically challenging times. To this end, it should be noted that the Department, working closely with Northern Ireland Water, has applied for INTERREG VA funding, of which approximately €30m would be to improve water quality in transitional waters (Lough Foyle and Carlingford Lough, including their catchments).

4.8 Financial implications

Under the WFD all surface waters, groundwaters and protected areas were required to achieve good status by December 2015. In addition, the Department is required to endeavour to respect the guideline microbial standard in all areas designated as Shellfish Water Protected Areas.

As this 2015 review proposes no new or revised designations or de-designations, there are no additional financial implications deriving from it. However, general improvement actions for the Newry Estuary are outlined above.

4.9 Conclusion

The Department proposes that there should be no new or revised designations or de-designations following the 2015 Review of Shellfish Water Protected Areas.

We welcome your comments on this review, and will produce a summary and analysis of all the responses received.

5. MANDATORY CONSULTATION REQUIREMENTS

5.1 Equality Impact Assessment

A preliminary screening exercise has been undertaken. There is no evidence that the proposals detailed in this consultation paper will have any impact on equality issues. Therefore, the Department does not consider a full Equality Impact Assessment to be necessary.

5.2 Human Rights Act 1998

The Human Rights Act 1998 implements the European Convention on Human Rights. The 1998 Act makes it unlawful for any public authority to act in a way that is incompatible with these rights.

The Department considers that the proposals detailed in this consultation paper are compatible with the Human Rights Act 1998.

5.3 Rural Proofing

Rural proofing is a process to ensure that all relevant Government policies are examined carefully and objectively to determine whether or not they have a different impact in rural areas from that elsewhere, given the particular characteristics of rural areas, and where necessary, what policy adjustments might be made to reflect rural needs to ensure that, as far as is possible, public services are accessible on a fair basis to the rural community.

The designation of a Shellfish Water Protected Area is aimed at affording more security for the shellfish industry, which is often located in rural areas. In addition, the potential for improved water quality may result in greater recreational use and support for tourism, which encourages the use of the coastal countryside and enhances the viability of rural businesses.

5.4 Regulatory Impact Assessment

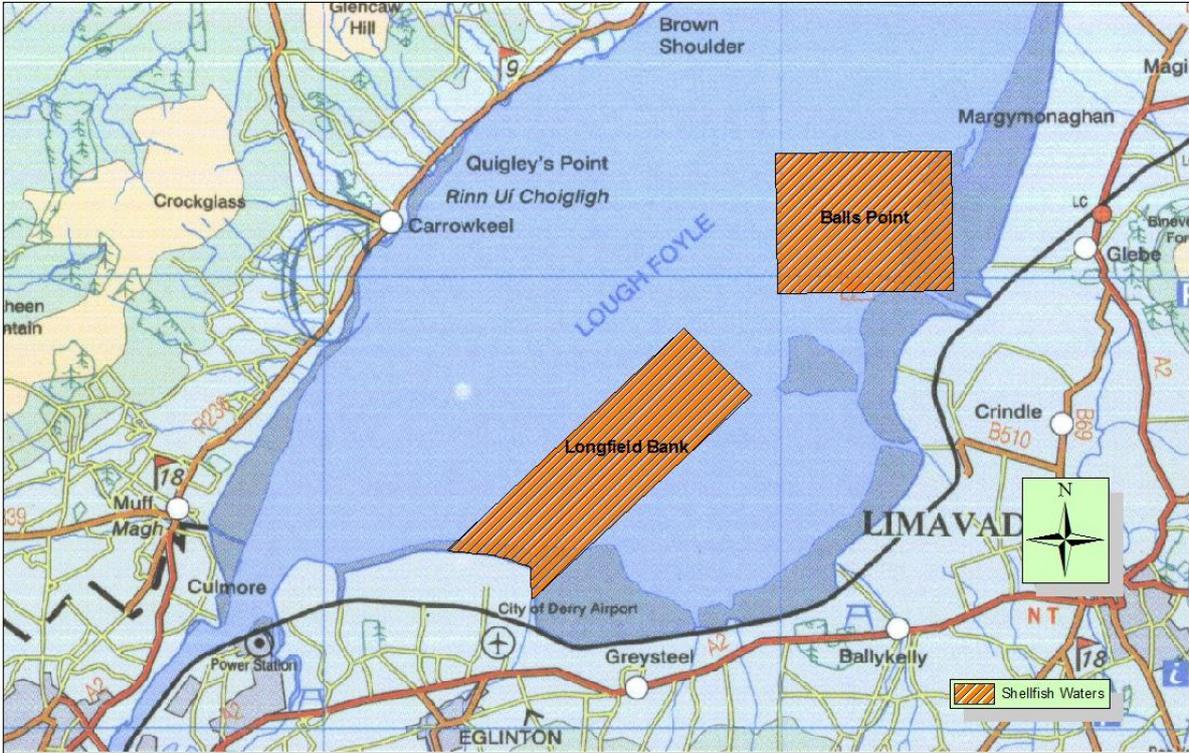
As no new or revised designations or de-designations are being recommended in this 2015 review, there are no additional financial implications to be considered. As such, a Regulatory Impact Assessment is not required.

5.5 Consultees

A list of the principal consultees that the Department has contacted directly for this exercise is attached at Annex C. This list is not exhaustive. We welcome views from all interested parties.

Maps of Shellfish Water Protected Areas

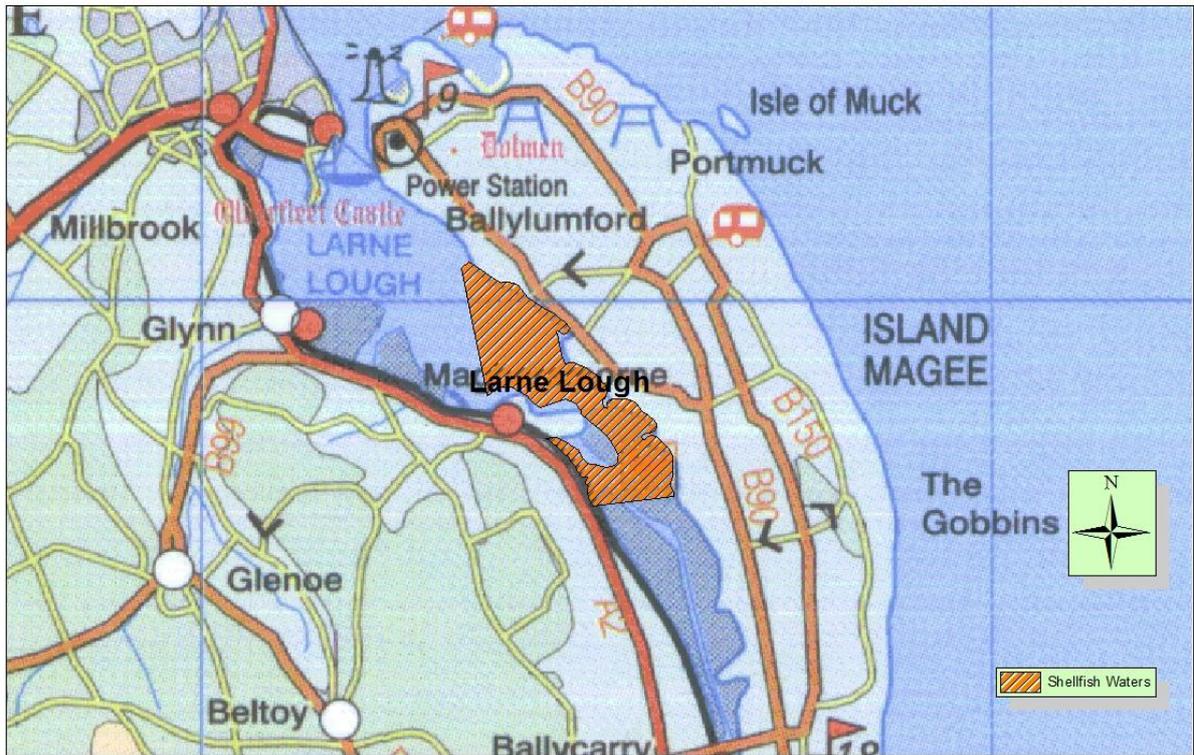
Lough Foyle - Longfield Bank and Balls Point



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0 0.75 1.5 3 4.5 6 Kilometers

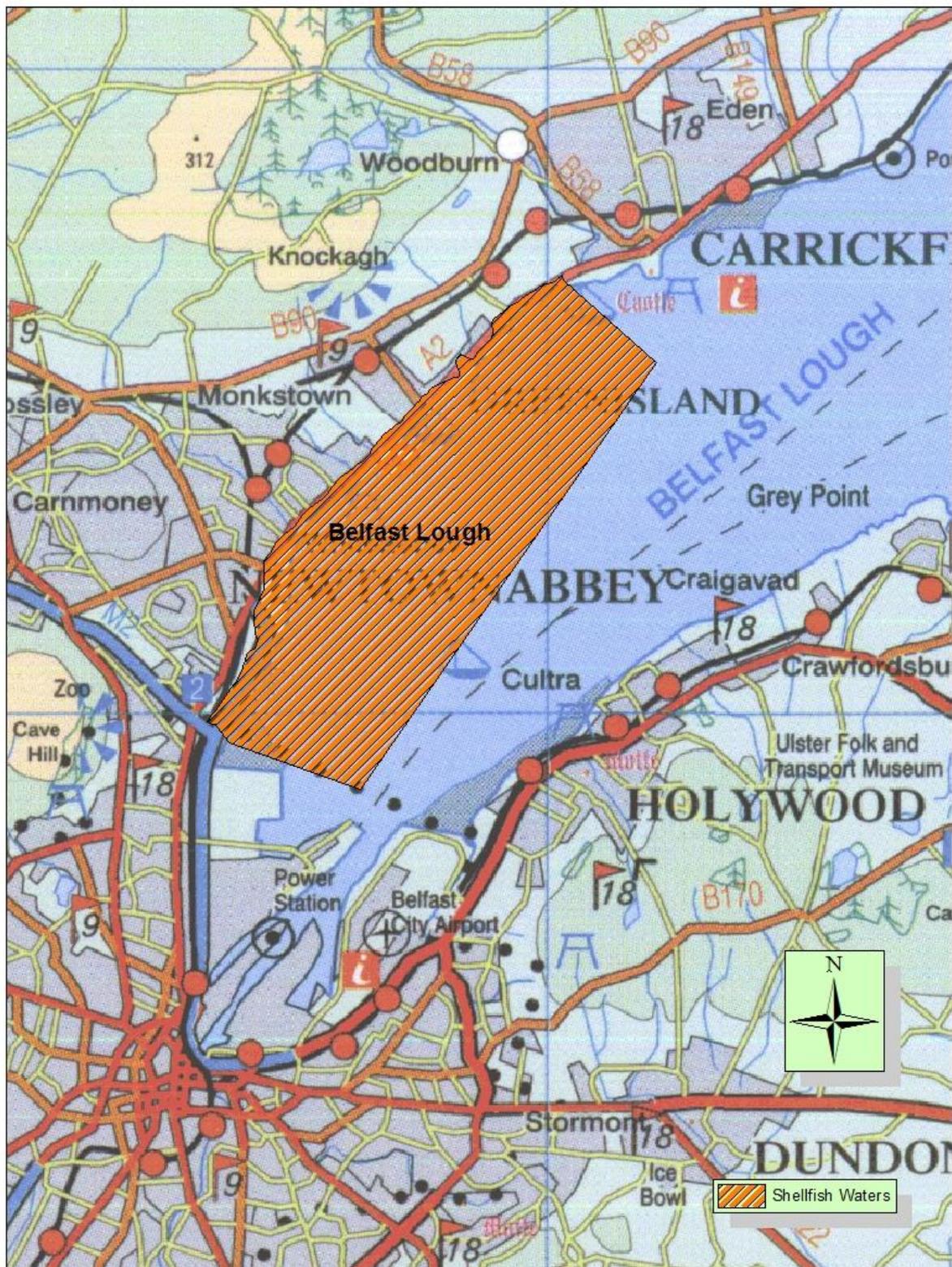
Larne Lough



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0 0.5 1 2 3 4 Kilometers

Belfast Lough

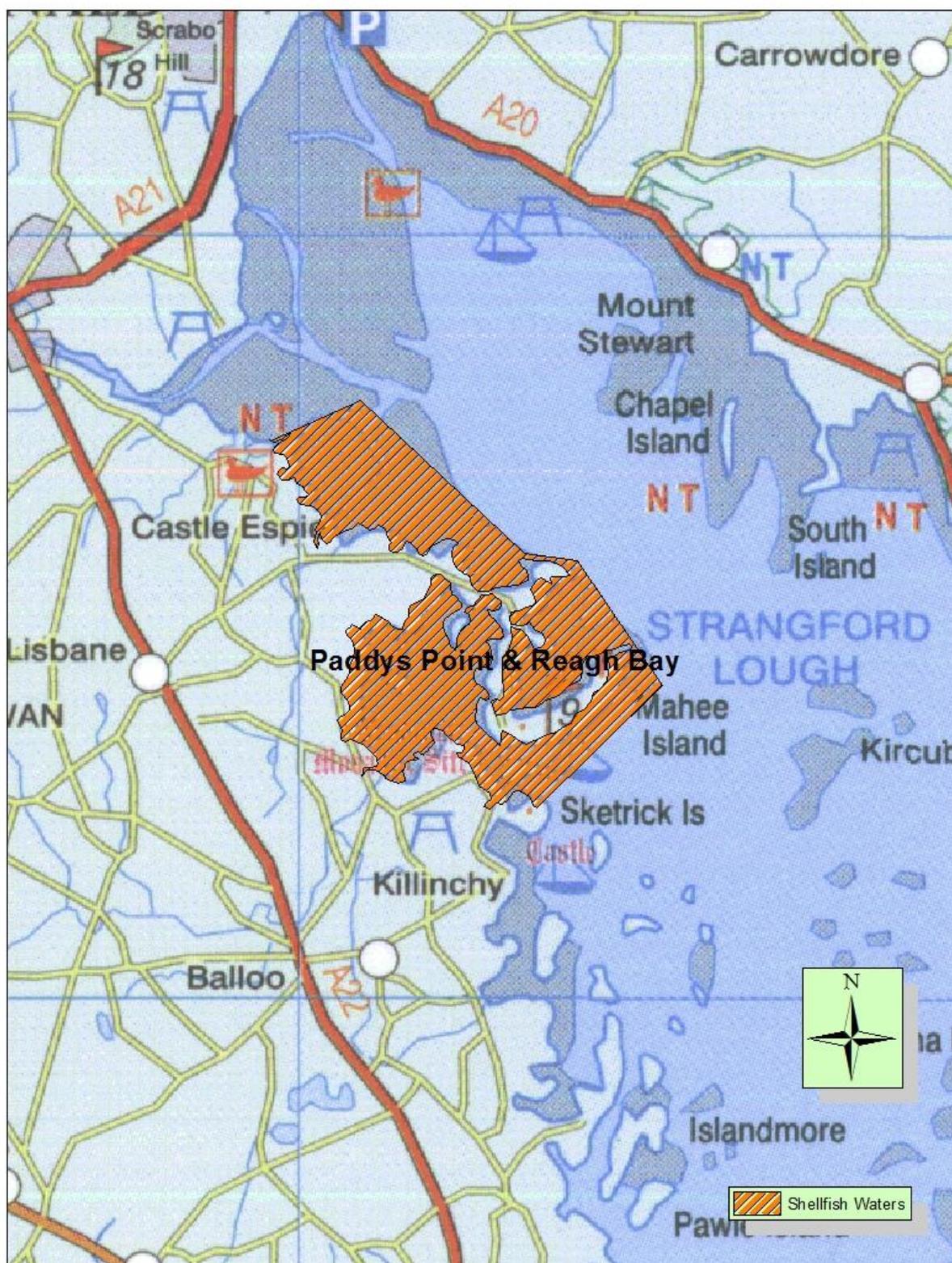


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Strangford Lough - Paddys Point & Reagh Bay

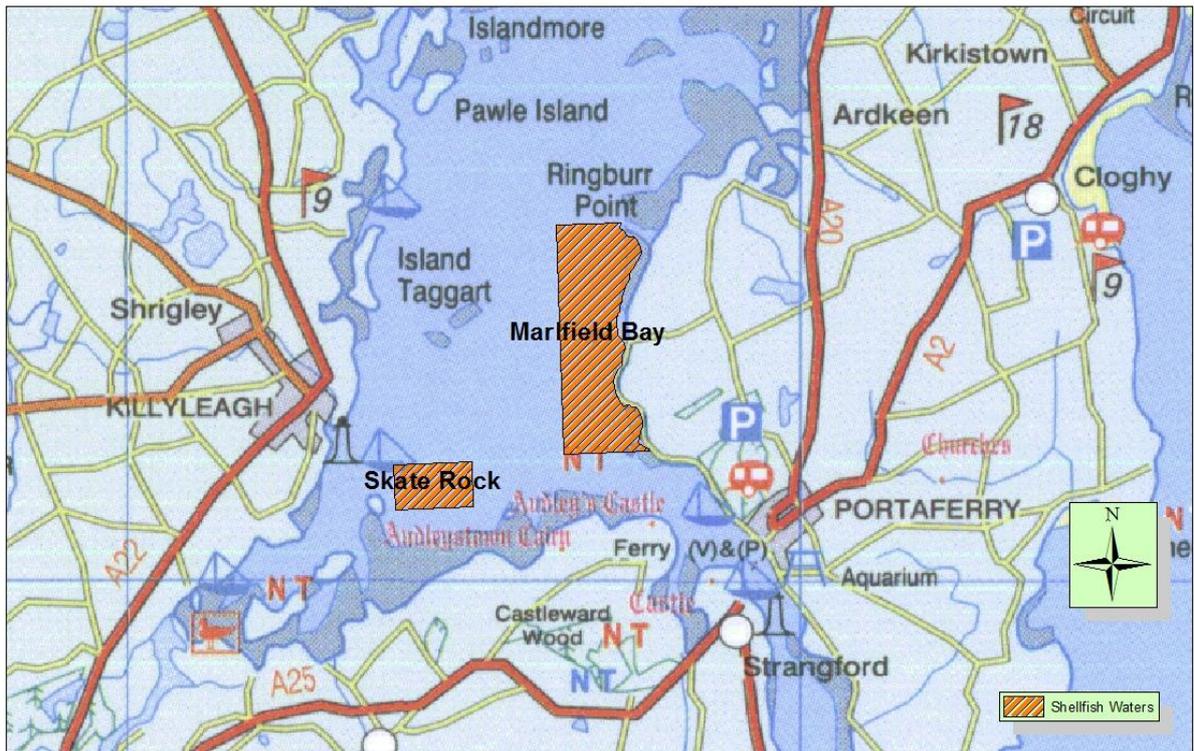


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0 0.5 1 2 3 4 Kilometers

Strangford Lough - Skate Rock and Marfield Bay



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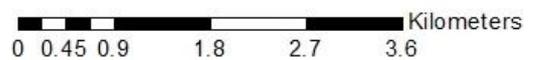
0 0.5 1 2 3 4 Kilometers

Killough Harbour

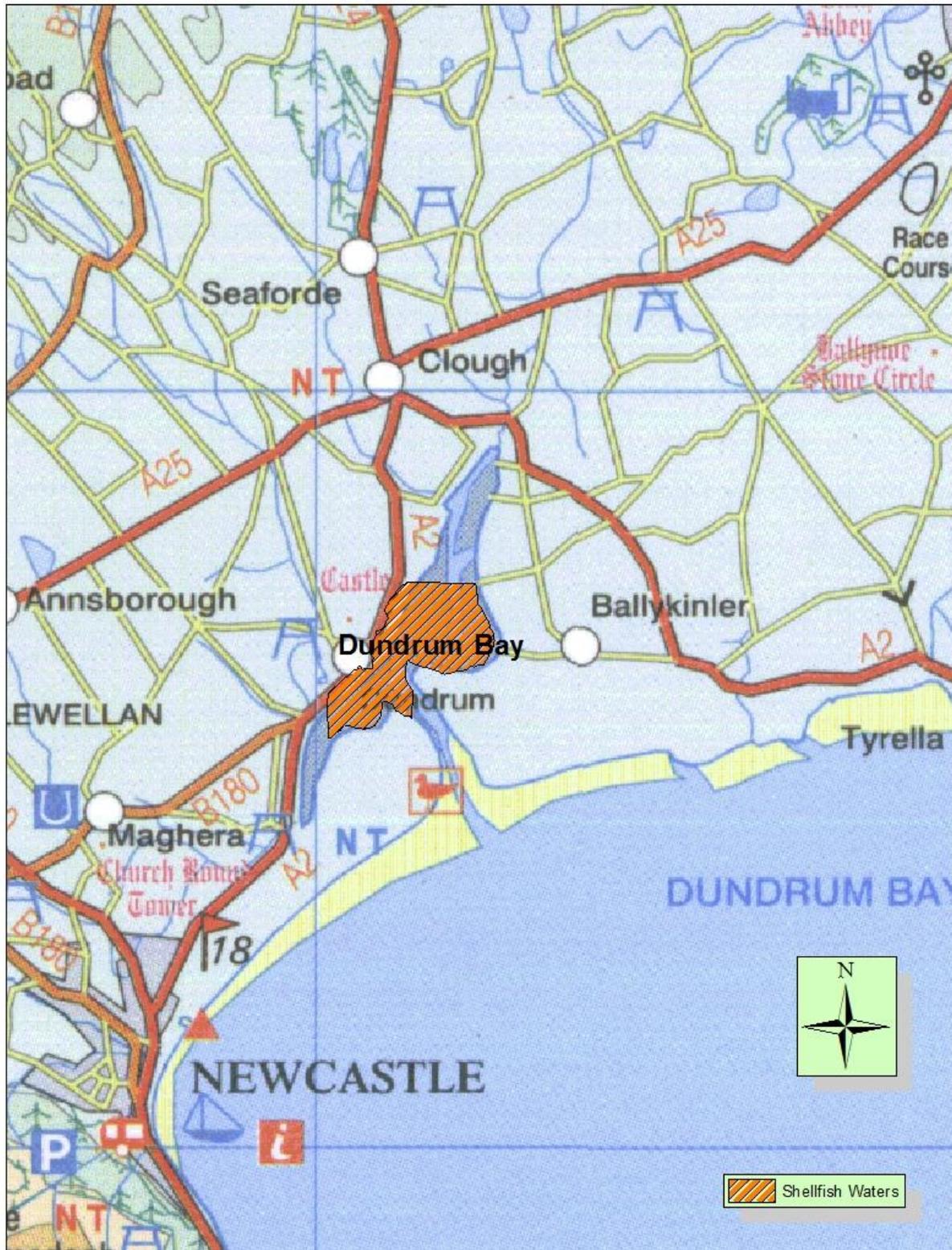


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Dundrum Bay

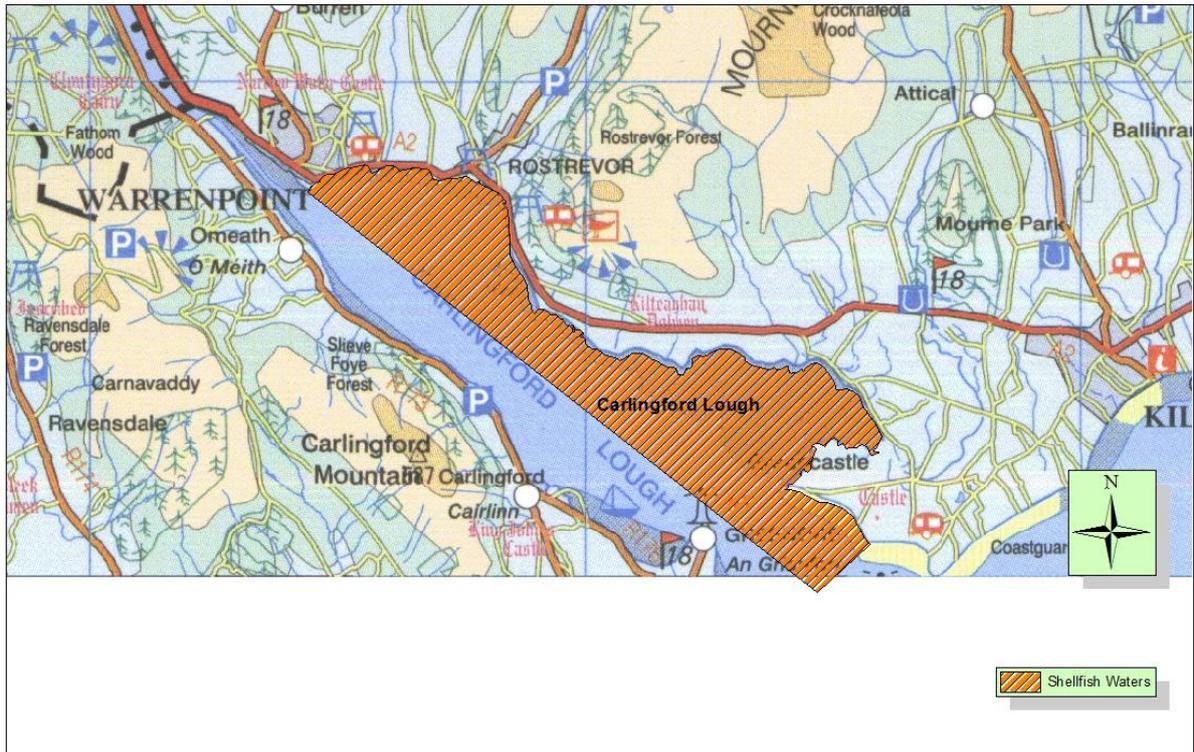


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0 0.5 1 2 3 4 Kilometers

Carlingford Lough



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0 0.75 1.5 3 4.5 6 Kilometers

A conservative example of costs to remove contaminated sediments from a stretch of Narrow Water

DOE and the FSA in NI operate a joint monitoring programme to determine concentrations of key contaminants in shellfish flesh. The monitoring programme contributes to statutory obligations under the Water Framework Directive (Directive 2000/60/EC) and the EU Hygiene Regulations (EC Regulation 854/2004).

In addition, DOE carries out further monitoring of contaminants in water in accordance with Annexes VIII and X of the Water Framework Directive, and also has historical data for contaminants in sediments.

Monitoring has demonstrated that levels of polycyclic aromatic hydrocarbons (PAHs) are at or above the standards set by the European Food Standards Agency (the EFSA⁴ referred to in section 4.7) in shellfish flesh at the wild shellfishery at Narrow Water. PAHs are a group of compounds that can be harmful to humans and the environment, being classed as carcinogenic and mutagenic (cancer causing and causing genetic mutations).

Areas of the Newry River and Carlingford Lough are known to contain levels of PAHs above expected background concentrations in sediments. It is likely that re-suspension of sediments through dredging activities (both for shellfish harvesting and for navigation purposes) would cause elevated levels of contaminants in flesh.

The magnitude and, therefore, the cost of remedial work required to address PAH contamination is unknown without a targeted survey to determine depth, area covered, volume to be removed and treatment and/or disposal costs. In order to remediate the area to ensure its suitability as a shellfish harvesting area, it is likely that all contaminated sediments would need to be removed to avoid future re-suspension of contaminated sediments and further contamination of the shellfish.

Costs are well known from other dredging campaigns, so a conservative example is set out below. This example is based on a dredge 10m wide, 1m deep and stretching from Victoria Lock to the Mound Road roundabout. This stretch is just less than 3km long, therefore the calculation below has assumed 2.5km to maintain conservancy.

$2,500 \times 10 \times 1 = 25,000$ cubic metres sediment \times £30 per cubic metre to remove and dispose of uncontaminated sediment = £750,000.

Depending upon the magnitude of PAH concentrations within the sediments, remediation may be required prior to landfilling of the remediated waste. This would incur additional costs.

List of consultees

Environment Committee of the Northern Ireland Assembly

Antrim and Newtownabbey Borough Council

Ards and North Down Borough Council

Belfast City Council

Causeway Coast and Glens Borough Council

Derry City and Strabane District Council

Mid and East Antrim Borough Council

Newry, Mourne and Down District Council

All Ireland Mussel Dredger Producers Association

Anglo-North Irish Fish Producers' Organisation

Aquaculture Initiative

Belfast Lough Fishermen's Association

C&O Milligan

Carlingford Lough Mussels Ltd

Carlingford Lough Shore & Landowners Association

C-Fresh Mussels

CLAMS

Cloughmore Shellfish Ltd

CNCC

Commissioners of Irish Lights

Deepdock Mussels Ltd

DOMA (NI) Ltd

Dougold Mussels

Down Mussels Ltd

Emerald Mussels Ltd

Fair Green Oysters

Flynn Shellfish

Food Standards Agency in Northern Ireland

Foyle Fresh Seafoods Ltd

Foylemore Oysters

Greencastle Oysters

Greencastle Shellfish Ltd

Henning Bros Fishing Co Ltd

Island Shellfish

Killough Oysters

Killowen Shellfish Ltd

Larne Lough Shellfish Association

Loughs Agency

Millbay Oysters
McLoughlin Mussels
Norfish Ltd
North Coast Lobster Fisherman's Association
North East Lobster Fisherman's Co-operative
Northern Ireland Agricultural Producers' Association
Northern Ireland Fish Producers Organisation
Northern Ireland Water
North West Shell Fish Ltd
Paddy's Point Shellfish Ltd
Royal Society for the Protection of Birds
Royal Yachting Association
Sea Farming Contractor & Surveyor Ltd
Seafish Northern Ireland
Shingle Bay Shellfish
Strangford Lough and Lecale Partnership
The National Trust
Ulster Angling Federation
Ulster Farmers' Union
Ulster Wildlife Trust
Warrenpoint Harbour Authority
Alan & Kenneth Brown
J & C Green
Denis McDonald
Kevin McMillan
Stephen O'Hare
JNS Stephens
Alan Young