Northern Ireland Environment Agency
Water Management Unit

Department of
Agriculture, Environment and Rural Affairs
www.daera-ni.gov.uk

[redacted]

Our Reference: DAERA/22-248

NIEA Water Management Unit
17 Antrim Road
Lisburn
Co Antrim
BT28 3AL
Tel: 0300 200 7856

Email: emergency-pollution@daera-ni.gov.uk

28 July 2022

Dear [redacted],

Freedom of Information Act 2000

With regard to your request for information received by the Department on 23 June 2022 which sought a copy of the Northern Ireland Coastal Contingency Plan (NICCP).

Apologies for the delay in replying to your request. I can advise that the Department has completed its search and can confirm that it holds the information you requested which is attached.

The supply of information in response to a freedom of information request does not confer an automatic right to re-use the information. Under UK copyright law you can use any information supplied for the purposes of private study and non-commercial research without requiring permission. Similarly, information supplied can also be re-used for the purposes of news reporting. An exception to this is photographs.

If you require any clarification, believe that any part of your request has been overlooked, misunderstood or misinterpreted, please contact me in the first instance to see if it is a matter that can be resolved.

If you are unhappy with the manner in which your request for information has been handled or the decision to release/withhold information, you have the right to request a formal review by the Department. If you wish to do so, please contact The Review Section either by e-mailing daera.informationmanager@daera-ni.gov.uk or by post at The Department of Agriculture, Environment and Rural Affairs, Data Protection & Information Management Branch, Floor 2, Jubliee House, 111 Ballykelly Road, Ballykelly, Limavady BT49 9HP, within two months from the date of this letter.

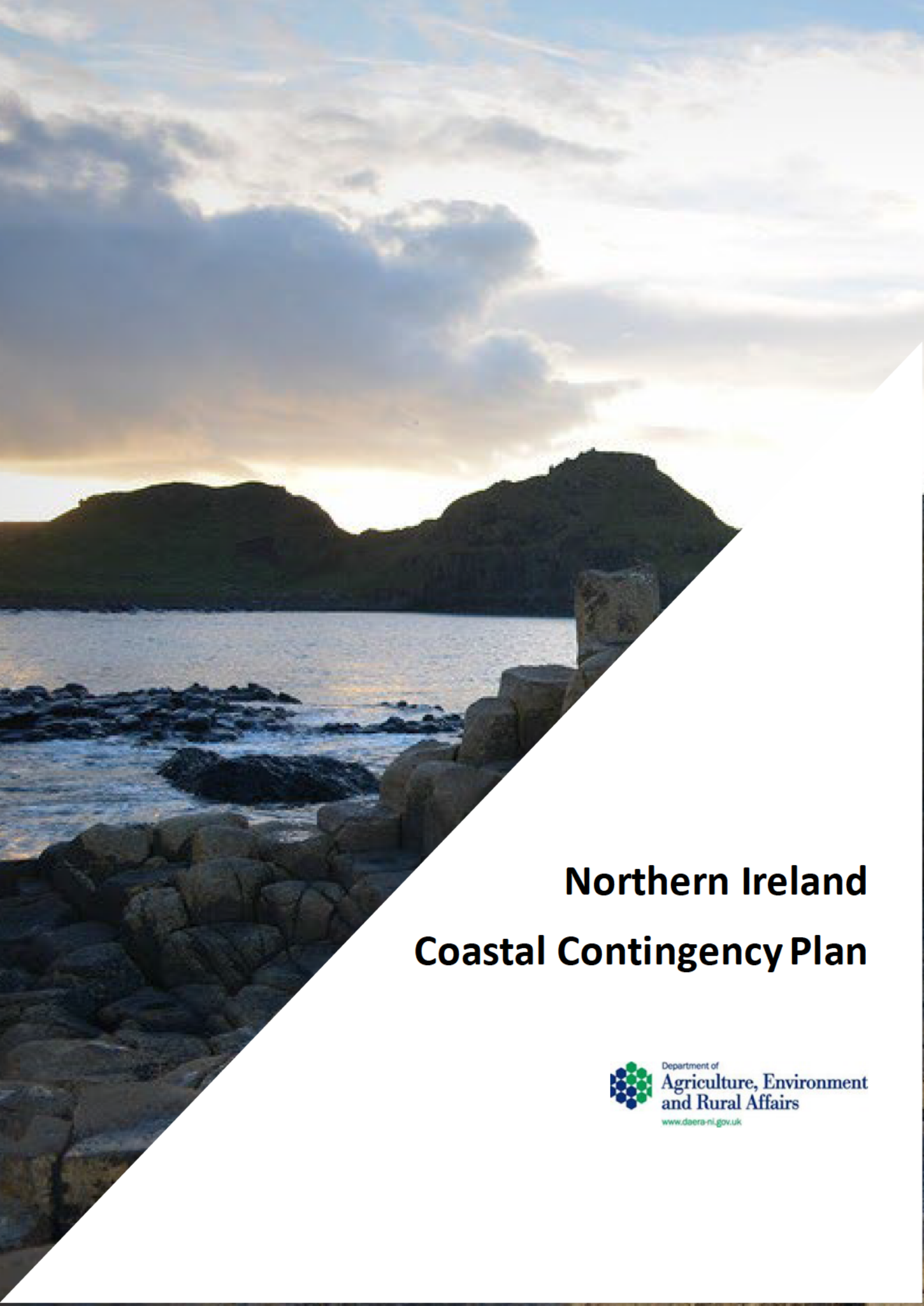
If after such an internal review you are still unhappy with the response, you have the right to appeal to the Information Commissioner at Wycliffe House, Water Lane, Wilmslow, CHESHIRE, SK9 5AF, who will undertake an independent review of the Department's decision.

Yours sincerely,

[redacted]

[redacted] **NIEA Water Management Unit**

Sustainability *at the heart of a living, working, active landscape valued by everyone.*



Northern Ireland Coastal Contingency Plan

Department of Agriculture, Environment and Rural Affairs
www.daera-ni.gov.uk

Document Control

This document is a controlled document, which requires all authorised copyholders to sign for receipt and to accept responsibility for the care of the document. This will ensure that all amendments and future issues are included to maintain the document in a current and valid state.

List of Authorised Copy Holders

Copy No.	Organisation
	North & West River Basin District PSO
	South & East River Basin District PSO
	North & West Duty Officer
	South & East Duty Officer
	Operations Room Duty Officer
	Head of Water Management Unit WMU
	DAERA Marine & Fisheries Division Marine Strategy PSO
	Natural Environment Division Director
	Head of Waste Management Unit
	DAERA Marine & Fisheries Division Fisheries Inspectorate
	Maritime & Coastguard Agency MCA Bangor
	Agri – Food & Biosciences Institute AFBI
	Police Service of Northern Ireland PSNI
	Northern Ireland Fire & Rescue Service NIFRS
	Public Health Agency PHA
	Food Standards Agency FSA
	Belfast Harbour
	Bangor Harbour (Marina)
	Coleraine Harbour (Port of Colerine|) Commissioners
	Larne Harbour (Port of Larne)
	Lisahally Port (Londonderry Port Harbour Commissioners)
	Warrenpoint Harbour Authority

Amendment Procedure

If important details in the Northern Ireland Coastal Contingency Plan change, then appropriate amendments must be made and distributed immediately to all plan holders. In addition to ongoing amendments, the Northern Ireland Coastal Contingency Plan will be reviewed and updated at intervals of no greater than five years.

The Master Copy Holder (North & West River Basin District PSO) as Plan Custodian is responsible for:

- Document control;
- Ensuring the Plan remains valid, up to date and accurate;
- Regularly circulating list of Coastal Contingency Plan contact details to all relevant Agencies for verification; and
- Specifying the distribution list.

All parties to the Coastal Contingency Plan are responsible for:

- Ensuring any changes in contact details for members of the Shoreline Response Centre (SRC) are communicated to the Emergency Pollution Officer during regular checks and
- Ensuring any major changes in operational readiness for oil spill response operations (in terms of both equipment and manpower) are communicated to the Emergency Pollution Officer.

Amendment proposals should be made by submitting the form below to:

North & West River Basin District Manager
Northern Ireland Environment Agency
17 Antrim Road
Tonagh
Lisburn
BT28 3AL

Or

Emailing: emergency-pollution@daera-ni.gov.uk

Amendment Proposal Form

Part I: To be completed by proposer

Title of Content		**Page No:**	

Description of Proposal Amendment:

List of Enclosed Supporting Documentation:

Proposed by:	**Name:**	**Signature:**
		Date:
Approved by: *(Head of Agency)*	**Name:**	**Signature:**
		Date:

Part II: To Be Completed by NIEA

Action Taken By:	
Comment:	
Approval Date:	
New Rev. No:	

Abbreviations

AFBI	Agri-Food and Biosciences Institute
ALARP	As Low As Reasonably Practical
ASSI	Areas of Special Scientific Interest
BCP	Beach Command Post
CBRNe	Business Continuity, Chemical, Biological, Radioactive and Nuclear
CCG(NI)	Civil Contingencies Group (NI)
CET	Central Editorial Team
DAERA	Department of Agriculture Environment and Rural Affairs
DEPO	Duty Emergency Pollution Officer
DfC	Department for Communities
DVI	Disaster Victim Identification
EEZ	Exclusive Economic Zone
EG	Environment Group
EMFG	Environment, Marine and Fisheries Group
EPD	Environmental Policy Division
FCC	Forward Command Centre
FCILC	Foyle, Carlingford and Irish Lights Commission
FSA	Food Standards Agency
GIS	Geographic Information System
HNS	Hazardous Noxious Substance
IMO	International Maritime Organisation
IOPC	International Oil Pollution Compensation
IPIECA	International Petroleum Industry Environmental Conservation Association
IPW	Incident potential worst-case
LGD	Lead Government Department
LRF	Local Resilience Forum
MCA	Maritime and Coastguard Agency
MCZ	Marine Conservation Zones
MERP	Major Emergency Response Plan
MFD	Marine & Fisheries Division
MPA	Marine Protected Area
MRC	Marine Response Centre
NICCMA	Northern Ireland Central Crisis Management Arrangements
NICCP	Northern Ireland Coastal Contingency Plan
NCP	National Contingency Plan
NDPB	Non-Departmental Public Body
NIEA	Northern Ireland Environment Agency
NIFRS	Northern Ireland Fire and Rescue Service
OCU	Operations Control Unit
OPRC	Oil Pollution Preparedness Response and Co-operation
OWR	Oiled Wildlife Response
PNMLT	Press News Media Liaison Team
PPE	Personal Protective Equipment
PPS	Public Prosecution Service
PSNI	Police Service Northern Ireland
RNRPD	Regulatory and Natural Resources Policy Division
RSPB	Royal Society for the Protection of Birds
SAC	Special Area of Conservation
SCG	Strategic Coordination Group

SCU	Salvage Control Unit
SDS	Safety Data Sheet
SIMA	Spill Impact Mitigation Assessment
SOPEP	Shipboard Oil Pollution Emergency Plans
SPA	Marine Special Protection Areas
SRC	Shoreline Response Centre
STOp	Scientific, Technical and Operational
USPCA	Ulster Society for the Protection of Cruelty to Animals

Contents

1 Introduction

1.1 Purpose and Scope

This document, the Northern Ireland Coastal Contingency Plan (NICCP), has been developed to mitigate the environmental and socio-economic impacts of an oil or Hazardous Noxious Substance (HNS) spill incident affecting Northern Ireland's shoreline environment.

In Northern Ireland, the Water (Northern Ireland) Order 1999, gives the Department of Agriculture Environment and Rural Affairs (DAERA) powers to undertake pollution clean-up work through the Northern Ireland Environment Agency (NIEA)[1].

The NICCP is designed to provide NIEA's pollution response teams and relevant stakeholders with sufficient information and procedures to effectively and efficiently respond to a shoreline pollution incident of any magnitude.

This document should be activated when shoreline pollution is likely to or has already occurred.

This document has been produced in accordance with the guidance provided by the Maritime and Coastguard Agency (MCA) guidelines on Scientific, Technical and Operational (STOp) Advice Notes:

- STOp 4/09 (Guidelines),
- STOp 1/2009 & STOp 3/16 (Waste Management),
- STOp 1/16 (Response and Recovery to a Maritime Pollution Incident Impacting the UK Shoreline),
- STOp 2/16 Marine Pollution Response in the UK: The Environment Group
- UK SCAT Manual
- Contingency Planning for Marine Pollution Preparedness and Response Guidelines for Ports

This Plan has been drawn up to operate within the framework of the MCA's National Contingency Plan (NCP) and recognises the fundamental role of NCP in maritime counter-pollution operations.

Whilst producing this document additional guidance has been provided by industry publications produced by, ITOPF, the International Petroleum Industry Environmental Conservation Association (IPIECA), the International Maritime Organisation (IMO), and Oil & Gas UK.

1.2 Policy

This plan was developed with the purpose of mitigating the impact of marine pollution on the shoreline and minimising the impacts to vulnerable resources and receptors through prompt and effective shoreline response measures.

The safety of personnel will always have priority and the primary principle in NIEA's overarching response principles (Section 1.4).

[1] MCA OPRC Guidelines for Ports: 2014

1.3 Geographic Area

The geographic area covered in this NICCP includes the entire Northern Ireland Coastline from Lough Foyle to Carlingford Lough as shown in Figure 1.1. The coastal areas covered within this plan include land exposed by falling tide and other structures[2].

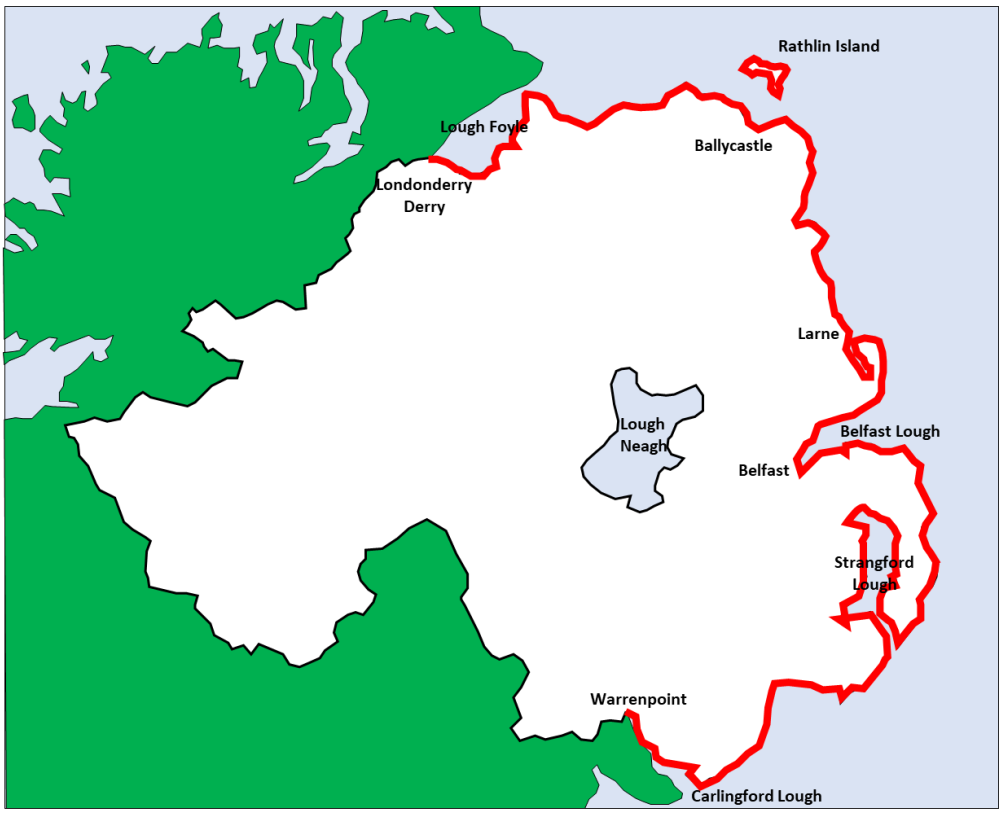


Figure 1.1 Geographic Coverage of the Northern Ireland Coastal Contingency Plan

1.4 Response Priorities

Throughout a response to a shoreline pollution incident the NIEA will undertake response tactics and plan response strategies based on the P.E.A.R principle. The number one priority is people no matter what the incident or magnitude.

- **P**eople: Protect human health and safety.
- **E**nvironment: Mitigate the impacts and remediate to as near as practicable to the original state.
- **A**ssets: Protect key assets.
- **R**eputation: Minimise impact on reputation.

[2] MCA National Oil Spill Contingency Plan, Pg 36, 2014

1.5 Tiered Response Concept

For the purpose of planning and response the NIEA follows the three tiered response concept in the United Kingdom National Contingency Plan (NCP)[3].

Figure 1.2. The tiered approach identifies response capability in terms of expertise and resources for incidents of different magnitudes and complexity.

Tier 1	Small operational type spills that may occur within a location as a result of daily activities. The level at which a response operation could be carried out successfully using individual resources and without assistance from others.
Tier 2	A medium sized spill where immediate resources are insufficient to cope with the incident and further resources may be called upon on a mutual aid basis. A Tier 2 incident will involve DAERA.
Tier 3	A large spill where substantial further resources are required and support from a national (Tier 3) or international co-operative stockpile may be necessary. A Tier 3 incident is beyond the capability of both local and regional resources. This is an incident that requires national assistance through the implementation of the National Contingency Plan and still be subject to government controls.

Figure 1.2 Tiered Response Concept

1.6 Interfacing Plans

The NICCP interfaces with several other plans that can be activated because of a pollution incident within, or offshore Northern Ireland which could result in shoreline pollution occurring. This plan has been produced taking into consideration the plans specified in Figure 1.3 and this Section.

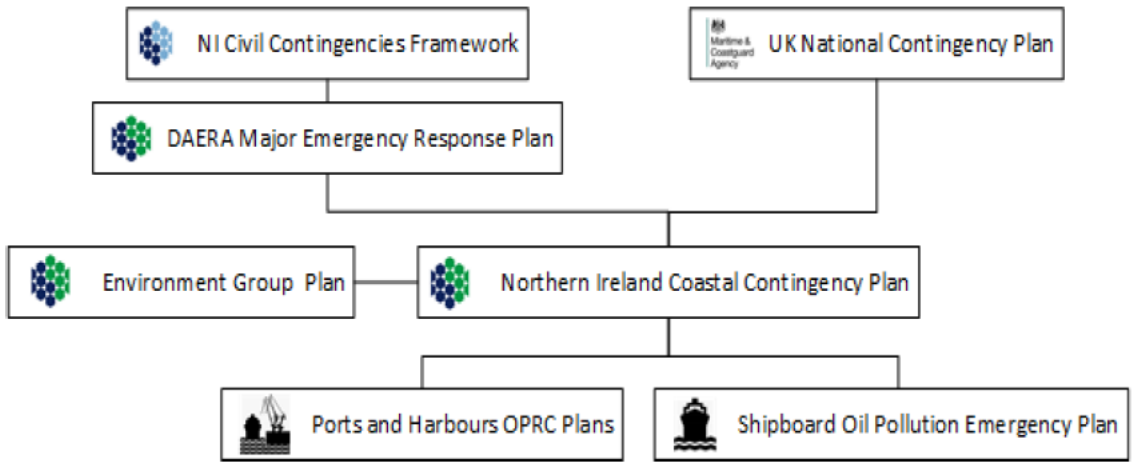


Figure 1.3 Interfacing Incident Management and Oil Spill Response Plans

[3] MCA National Oil Spill Contingency Plan, Pg 15, 2014

1.6.1 The National Contingency Plan

As a party to the UN Convention on the Law of the Sea, the UK has an obligation to protect and preserve the marine environment. The National Contingency Plan - A Strategic Overview for Responses to Marine Pollution from Shipping and Offshore Installations (NCP), is one of the measures in place to meet this obligation and is designed for dealing with major oil spill incidents in the UK and surrounding territorial waters including the Exclusive Economic Zone (EEZ).

The NCP also outlines mutual support arrangements should the NIEA's resources become exhausted or overwhelmed due to the size of the incident. In the event of a major Tier 3 pollution incident the MCA may agree to implement the NCP.

1.6.2 Northern Ireland Civil Contingencies Framework

The Northern Ireland Civil Contingencies Framework consolidates the existing policy on the civil protection in the public sector with developments arising from, among other things, the Civil Contingency Act 2004[4]. This consists of ten high level statements on how public service organisations shall behave in relation to their civil contingency responsibilities. Public service organisations within Northern Ireland are the NI Departments, Agencies, Boards, Trusts, Councils and Non-Departmental Public Bodies (NDPBs).

The aim of the Framework is to ensure that the people of Northern Ireland receive a level of protection and emergency response which is consistent with that elsewhere in the United Kingdom.

1.6.3 DAERA Major Emergency Response Plan

The purpose of the Major Emergency Response Plan (MERP) is to set out the general response of the Department of Agriculture, Environment and Rural Affairs (DAERA) in the form of a practical guide, to a range of possible major emergencies, which may be faced by the Department.

The Plan will enable DAERA to provide a co-ordinated response to major emergency situations in the wider community. It clarifies roles, responsibilities and actions under the broader remit of civil contingencies.

1.6.4 Shipboard Oil Pollution Emergency Plans

Shipboard Oil Pollution Emergency Plans (SOPEP) are required to be held by all tankers over 150 gross tonnes and all other ships over 400 gross tonnes by Regulation 26 of MARPOL 73/78 Convention.

Regulation 16 of Annex II of MARPOL 73/78 makes similar stipulations for all ships of 150 tons gross tonnage and above carrying noxious liquid substances in bulk.

In the event of pollution originating from a ship located within a Port the ship's oil pollution plan should be implemented and on-board oil pollution control measures activated.

[4] The Northern Ireland Civil Contingencies Framework Pg1, 2011.

1.6.5 Ports and Harbours OPRC

The Merchant Shipping (Oil Pollution Preparedness, Response and Co-operation Convention) Regulations 1998 requires every harbour authority of a harbour to which those regulations apply to have Oil Pollution Contingency Plans. Ports OPRC plans should be written to interface with the NICCP.

Copies of each of the OPRC plans are held by the WMU Operations Room, Lisburn. OPRC Port Limits are clearly defined in the Coastal GIS mapping held by the WMU Operations Room, Lisburn. A list of OPRC compliant ports is shown in Table 1.1.

Table 1.1 OPRC Compliant Ports in Northern Ireland

OPRC Compliant Ports	
Belfast Harbour	Larne
Bangor	Londonderry
Ballylumford	Warrenpoint Harbour
Coleraine	Kilkeel
Cloughan Point Terminal	Portavogie
Kilroot Power Station	Ardglass
Strangford	Portaferry

1.7 Responsibility for Clean-up Operations

Table 1.2 shows the responsibilities for pollution clean-up within Northern Ireland.

Table 1.2 Responsibility for Clean-up Operations

Location of Pollution	Responsibility for Ensuring Clean-up
On the water, jetties, wharves, structures, beach or shoreline owned by the harbour authority within the port/harbour area.	Harbour Authority
Shoreline (including land exposed by falling tide)	Northern Ireland Environment Agency
Jetties, wharves, structures, beach or shoreline which is privately owned.	Owner of the property / land
All other areas at sea (inside the EEZ/UK Pollution Control Zone and the UK Continental Shelf)	MCA

2 Roles and Responsibilities

Organisation	Description
Department of Agriculture, Environment and Rural Affairs (DAERA)	DAERA has responsibility for food, farming, environmental, fisheries, forestry and sustainability policy and the development of the rural sector in Northern Ireland.
Environment, Marine and Fisheries Group (EMFG)	The Environment, Marine and Fisheries group consists of an Executive Agency of Northern Ireland Environment Agency (NIEA) and 3 core divisions Environmental Policy Division (EPD), Regulatory and Natural Resources Policy Division (RNRPD) and Marine & Fisheries Division (MFD).
Marine & Fisheries Division (MFD)	Marine and Fisheries Division carries out licensing and enforcement functions in Northern Ireland territorial waters, under the Marine and Coastal Access Act 2009 (MCAA) Part 4.
Northern Ireland Environment Agency (NIEA)	The strategic objective of the Agency is to create prosperity and wellbeing through effective environment and heritage management and regulation. The Agency's key objectives are: • a full compliant regulated industry; • freshwater and marine environment at "good status"; • a compliant crime free waste sector; • good habitat and landscape quality with species abundance and diversity; • promote environmentally sustainable development and infrastructure.
Maritime and Coastguard Agency (MCA)	The Maritime and Coastguard Agency (MCA) is an executive agency of the Department for Transport. The MCA is the competent national authority designated to oversee all matters relating to the OPRC convention. In the event of a marine pollution incident, which calls for a Tier 3 response, the National Contingency Plan (NCP) may be activated.
Local Councils	NIEA would look to local authorities to assist with responding to a major pollution incident which impacts on the shoreline. This assistance could be in the form of advice, provision of equipment and human resources along with the provision of council premises for Forward Control Centres.
Department of Communities- Historic Environment Division	The Historic Environment Division of Northern Ireland's Department for Communities (DfC) is responsible for the protection of the historic environment including monuments and

	buildings. Marine and Fisheries Division works with the Historic Environment Division for the management of the historic environment, and other key partners, to ensure significant marine archaeological sites are managed and protected.
Agri-food and Biosciences Institute (AFBI)	The primary role of AFBI is to provide research and development, along with specialist advice in agriculture and environmental aspects. AFBI research aims to provide a scientific basis for the national conservation and management of commercial sea fisheries resources and understanding of their relationships to the environment.
Food Standards Agency (FSA)	The Food Standards Agency is an independent non-Ministerial Government department set up to protect the public's health and consumer interests in relation to food. During incidents and emergencies, the FSA is responsible for providing advice on all food safety and standard issues.
Department of Health	The Department of Health administers the business of both public health and public safety. The public health remit encompasses responsibility for policy and legislation to promote and protect the health and well-being of the population of Northern Ireland. The public safety remit encompasses responsibility for the policy and legislation for the Fire Authority, food safety and emergency planning.
Police Service Northern Ireland (PSNI)	The Police Service of Northern Ireland (PSNI) is committed to training, equipping and exercising officers and staff to respond effectively and safely at strategic, tactical and operational levels in the areas of civil contingencies including Business Continuity, Chemical, Biological, Radioactive and Nuclear (CBRNe) incidents, Disaster Victim Identification (DVI) and Mutual Aid Mobilisation.
Northern Ireland Fire and Rescue Service (NIFRS)	In the event of a fire or chemical spillage, the Fire and Rescue Service would normally be the lead emergency service, controlling access to the immediate site and taking decisions on how the incident should be handled, in liaison with the Police Service and other sources of expertise. The Fire and Rescue Service will not necessarily respond to an incident where a fire or threat to life is not present or where there is no one trapped and where no chemicals are involved in the incident. The Fire and Rescue Service has limited resources and they always need to be available for situations where lives are at risk.
Harbour Authorities	Harbour Authorities are committed to the prevention of pollution and minimising the impact on the environment of its operations and those of port users and tenants. They have a specific duty to prepare for, and to respond, to marine oil pollution incidents within their jurisdiction. If they cannot contain the incident using their own resources, they may rely on

	additional resources available through mutual support agreements with other harbour authorities, oil companies and regulators, or through formal agreements with oil spill contracting companies as set out in their oil spill response contingency plans.
Loughs Agency	Loughs Agency is an agency of the Foyle, Carlingford and Irish Lights Commission (FCILC), established under the 1998 Agreement between the Government of the United Kingdom of Great Britain and Northern Ireland and the Government of Ireland. Loughs Agency aims to provide sustainable social, economic and environmental benefits through the effective conservation management, promotion and development of the fisheries and marine resources of the Foyle and Carlingford areas.
National Trust	The National Trust owns around 108 (freehold & leasehold) miles of the Northern Ireland coastline and protects other stretches of the coast. Its staff can be a valuable source of local expertise and knowledge. Areas of interest to the Trust in Northern Ireland include Strangford Lough, Ballymacormick Point, Orlock Point, Kearny, Portstewart Strand, Whitepark Bay, Fairhead and Rathlin Island.
ITOPF	ITOPF is a non-profit making association whose members comprise most of the world's tanker owners. It has a staff of technical experts to respond to ship sourced spills anywhere in the world. Its principal role is to provide technical advice on clean up techniques and the mitigation of damage. This service is normally performed at the request of ship owners, their P&I insurers and the IOPC Fund. ITOPF provides guidance on what counter-pollution operations are likely to be considered reasonable, bearing in mind the provisions of the relevant treaties and the IOPC Fund's claims admissibility guidelines.
Royal Society for the Protection of Birds (RSPB)	The RSPB is a voluntary organisation with specialist knowledge on the conservation of biodiversity especially habitat of birds in the wild. The RSPB is not an animal welfare organisation and do not have the facilities to deal with sick or injured birds. In the event of an oil spill incident the RSPB will: • conduct surveys along threatened coastal areas; • protect the habitats of birds. Not handle live birds; • co-ordinate 'beached bird surveys'; • advise on how the oil should be cleaned up with least risk to birds;

	• coordinate volunteers assisting the animal welfare organisations in the rehabilitation of oiled birds.
Ulster Society for the Protection of Cruelty to Animals (USPCA)	USPCA can assist with information to the public and provide volunteers to undertake bird clean-up. When alerted by the relevant statutory conservation agency during a marine pollution incident the USPCA will: • agree the procedures for the recovery of live birds and other wildlife casualties with the relevant nature conservation agency; • where appropriate, supply equipment to assist with the recovery of live casualties; • co-ordinate the treatment and rehabilitation of casualties; • provide the relevant nature conservation agency with details of the recovery, treatment and rehabilitation of live wildlife casualties; • agree a protocol with the nature conservation agency for marking and releasing of cleaned wildlife.

3 Resources at Risk

This section of the NICCP should be used in conjunction with the Northern Ireland Coastal GIS which contains information on the location of various environmental sensitivities, as well as economic activities (e.g. fish farms, power station intakes, amenity areas, etc) and the Environmental Sensitivities Index (ESI) Layer on Marine Map Viewer (see Section 3.1).

The coast of Northern Ireland supports an exceptional diversity of marine wildlife and their habitats. The coast includes highly productive and biologically diverse ecosystems, with features which serve as critical natural defences against storms, floods and erosion.

3.1 ESI Layer

There is an ESI layer on Marine Map Viewer which was developed concurrently with this plan. The Environmental Sensitivity Index (ESI) is a widely accepted method which provides a concise summary of coastal resources at risk of shoreline oiling. The ranking scale is from 1 to 10, with 1 being the least vulnerable to the prolonged impact of hydrocarbon contamination, and 10 being the most vulnerable.

The ESI ranking system (shown in Table 3.1) integrates the following considerations:

- Shoreline type and susceptibility to vertical and lateral oil migration within the substrate and possibility of burial on the shore;
- Exposure to wave (and tidal energy) which determines the natural persistence time of the oil on the shoreline; and
- General biological productivity, ecosystem vulnerability and sensitivity.

Table 3.1 Environmental Sensitivity Index (Gil-Agudelo et al, 2015)

Ranking	Description	Ranking	Description
1A	Exposed rocky shore	8A	Sheltered scarps in bedrock, mud or clay and sheltered rocky shore
1B	Exposed, solid man-made structures	8B	Sheltered, solid man-made structures
1C	Exposed rocky cliffs with boulder talus base	8C	Sheltered riprap
2A	Exposed wave-cut platforms in bedrock, mud, or clay	8D	Sheltered rocky rubble shores
2B	Exposed scarps and steep in clay	8E	Peat Shorelines
3A	Fine to medium-grained sand beaches	9A	Sheltered tidal flats
3B	Scarps and steep slopes in sand	9B	Vegetated low banks
4	Coarse-grained sand beaches	9C	Hypersaline tidal flats
5	Mixed sand and gravel beaches	10A	Salt and brackish water marshes
6A	Gravel beaches (granules and pebbles)	10B	Freshwater marshes
6B	Riprap structures and gravel beaches (cobbles and boulders)	10C	Swamps
7	Exposed tidal flats		

3.2 Protective Legislation and Designation

A number of species and habitats are recognised as internationally important and more than 75% of Northern Ireland's coastline is protected with some form of conservation designation, reflecting the quality of this delicate asset.

The coastline also includes many areas representing the highest degree of national nature conservation value.

These areas may be protected as recognised legal designations such Areas of Special Scientific Interest (ASSI), for features such as a nationally significant habitat, the wide range of species present or a significant geological feature.

The Northern Ireland legislation that currently provides environmental protection to particular species of flora and fauna and important areas (significant habitat, wide range of species or other significant features) include the Wildlife (Northern Ireland) Order 1985, (Amendment) 1995, Nature Conservation and Amenity Lands (Northern Ireland) Order 1985, The Environment (Northern Ireland) Order 2002, Wildlife and Natural Environment (Northern Ireland) Act 2011, The Conservation (Habitats &c.) Regulations (Northern Ireland) 1995 (as amended), Marine and Coastal Access Act 2009 (Amendment) Regulations 2011, and the Marine Act (Northern Ireland) 2013.

The designation of Marine Protected Areas (MPAs) include Marine Conservation Zones (MCZ), Marine Special Protection Areas (SPA), Marine Special Area of Conservation (SAC), Marine Areas of Special Scientific Interest (ASSI) and Marine Ramsar sites.

Several Special Protection Areas (Natura 2000 sites) are present in Northern Ireland, designated for their internationally important bird populations. These include Rathlin Island, Lough Foyle, Larne Lough, Belfast Lough, Strangford Lough, Outer Ards Coast, Killough Bay and Carlingford Lough, East Coast (NI) pSPA.

Murlough, Strangford Lough, North Channel, the Maidens, Red Bay and the North Antrim coast, Rathlin Island, Skerries and Causeway, the Bann Estuary and Magilligan have been designated as Special Areas of Conservation (Natura 2000 sites) in recognition of their nature conservation importance within Europe.

Marine Areas of Special Scientific Interest (ASSI) include Lough Foyle, Fair Head and Murlough Bay, Galboly and Cloghastucan, the Gobbins, the Copeland Islands, Killough Bay and Strand Lough and Kilkeel Steps.

Marine Ramsar Sites include Carlingford Lough, Killough Bay, Strangford Lough, Outer Ards, Belfast Lough, Larne Lough and Lough Foyle.

The Giant's Causeway and Causeway Coast have received international recognition through UNESCO as a World Heritage Site.

Coastal areas are typically rich in biodiversity. Those in Northern Ireland are particularly rich because of the wide range of habitats that occurs within a relatively small area. This is the result of the interaction of weather and water movement, working together to shape the rocks and sediments and produce a range of niches in which plants and animals can live. Coastal processes continue to modify the coast.

Sand dunes contain a range of habitats related to their age and their calcium levels. Most dune systems are old and have no new sand supply to continue their growth. The youngest systems occur

at the mouth of the Bann estuary and at Magilligan where there are also well-developed dune wetland habitats. The ancient Murlough dunes in Dundrum Bay contain extensive dune heaths. All dune systems in Northern Ireland have been impacted by direct habitat loss or by alterations to the active geomorphological processes that shape them.

Saltmarshes are not extensive in Northern Ireland and are generally lightly grazed. The largest areas are generally associated with mudflats in the major estuaries and sea loughs such as at Mill Bay in Carlingford Lough, the Comber Estuary in Strangford Lough, Ballycarry in Larne Lough, and at the Roe Estuary in Lough Foyle.

Saltmarshes in Northern Ireland provide habitat for bird species such as Bar-tailed Godwit Limosa lapponica, Great Cormorant Phalacrocorax carbo, Curlew Numenius arquata, Dunlin Calidris alpina, Eider Somateria mollissima, Golden Plover Pluvialis apricaria, Great Crested Grebe Podiceps cristatus, Greylag Goose Anser anser, Knot Calidris canutus, Lapwing Vanellus vanellus, Light-bellied Brent Goose Branta bernicla, Mallard Anas platyrhynchos, Oystercatcher Haematopus ostralegus, Red-breasted Merganser Mergus serrator, Redshank Tringa totanus, Shelduck Tadorna tadorna, and Teal Anas crecca. The species principally use saltmarsh for roosting at high tide and mostly obtain their food from adjacent mud flats and creeks.

Vegetated shingle banks occur at the upper end of the shore where conditions are favourable. They occupy long strips but very little area in total and are important for several species that are scarce in Northern Ireland. The best sites are scattered around the coast, with the Mournes Coast and Rathlin Island being particularly notable.

Rocky cliff plant and animal communities are influenced by climate exposure and geology. Cliffs can vary from almost sheer drops, like the rugged cliffs of the north coast, especially along the Causeway Coast and on Rathlin Island, to those with gentler slopes, e.g. in Lecale. As with many of the other coastal habitats, there are significant regional variations in plants.

Cliffs are particularly important for colonies of nesting seabirds, such as Guillemot Uria aalge , Razorbill Alca torda, Kittiwake Rissa tridactyla and Puffin Fratercula artica. Some of these species nest on the inaccessible ledges, where they and their young are safe from ground predators. Puffins generally nest in burrows on broad ledges where soil has accumulated as well as at the top of cliffs.

Some Northern Ireland cliffs have very significant populations of such species, particularly around the Coast of Rathlin Island.

3.3 Marine Habitats

The marine life in the seas surrounding Northern Ireland is extremely rich and varied. It can be subdivided into intertidal and sub-tidal habitats and the open sea. The plant and animal communities occurring are influenced by a number of physical and chemical factors, the most important of which are:

- Substrate which includes rock (including bedrock, boulders, mixed cobbles and pebbles) and sediments (muds, sands and mixed sediments)
- Height above or below low water mark
- Exposure to wave action
- Tidal currents
- Salinity (i.e. salt content)

3.3.1 Intertidal Habitats

Intertidal muds are restricted to the most sheltered coasts and sea loughs. A wide variety of invertebrate species occur within the sediments which are characterised by Lugworm *Arenicola marina*, Ragworm *Hediste diversicolor*, oligochaete worms, and molluscs such as *Macoma balthica* and, on the mud surface, the snail, *Hydrobia ulvae*. These invertebrates often occur in very high densities and are an important food source for large numbers of wintering waders.

Mudflats are often covered by extensive growths of eelgrass, which are particularly important for wintering wildfowl such as the pale-bellied Brent goose *Branta bernicla.* In other places extensive mussel beds occur, e.g. Lough Foyle and Belfast Lough.

Sandy, shingle and gravel shores occur on more exposed shores and may appear barren. However, a range of specialist burrowing amphipods and polychaete worms are characteristic of more sheltered sandy shores.

Rocky shores occurring all around the coast are very diverse habitats with characteristic communities associated with different heights on the same shore.

Exposed rocky shores are often characterised by communities dominated by mussels and barnacles.

Moderately exposed rocky shores have a mixture of communities dominated by barnacles, mussels, wrack and kelp. These are found on the Ards Peninsula, Lecale and the Mournes Coast. These areas are particularly important for wintering waders such as the Turnstone *Arenaria interpres* and the Purple Sandpiper *Calidris maritima*. Other species of note occurring in mixed moderately exposed shores include Sabellaria Honeycomb worm reefs such as Tyrella Bay and Glassdruman.

Sheltered rocky shores are often characterised by an abundance of the knotted wrack *Ascophyllum nodosum*. Associated seaweeds include Serrated Wrack *Fucus serratus* and on the lowest part of the shore the kelp *Laminaria saccharina*. Sheltered shores are limited to sea loughs with Strangford Lough being an example that has habitats characteristic of extreme shelter where the free-floating form of knotted wrack (*Ascophyllum nodosum mackii*) has been recorded.

3.3.2 Sub-tidal Habitats

Sub-tidal mud sediments occur mainly in sheltered areas of sea loughs. Locally associated with this sub-tidal mud are extensive mussel beds e.g. Lough Foyle (which is also notable for the presence of native oyster beds *Ostrea edulis*). In Strangford Lough, extensive horse mussel beds occur. Other communities occurring in fine mud in deeper water in Strangford Lough are dominated by the Dublin Bay Prawn *Nephrops norvegicus*. This species forms the basis of an important fishery in the Irish Sea all along the County Down coast and beyond. In Carlingford Lough, a community dominated by the Sea Pen *Virgularia mirabilis* and the opistobranch, *Philine aperata* is abundant on fine very stable mud.

Sub-tidal sand is a habitat generally found adjacent to intertidal sand in Lough Foyle, along Magilligan and the Causeway Coast (where much more extensive areas of relatively barren sand occur further offshore) and Dundrum Bay. Typical species include the sand eel *Ammodytes marinus*, the burrowing Brittle Star, *Amphipura brachiata*, the Lugworm, *Arenicola marina* and the sea potato *Echinocardium cordatum.*

Sub-tidal gravel and cobbles are often typified by extensive beds of the Brittle Star, Ophiothrix fragilis. These are mainly found in Strangford Lough and the Ards Peninsula, Lecale and the Mourne Coast. In some areas, such as at the mouth of Belfast Lough, the Brittle Star, *Ophiocomina nigra*, is abundant in

muddy gravel. In areas of coarse, clean, shelly gravel the burrowing Sea Cucumber, *Neopentadactyla mixta* is often a characteristic species.

Maerl beds, consisting of free-living Calcareous Algae *Phymatolithon calcareum* occur at Garron Point and Ballygalley Head on the North-east Coast.

Rocky sub-tidal habitats include both bedrock and boulders. Algal communities dominate the shallow or infralittoral rock habitats. These algal communities are mostly dominated by one or more species of kelp.

Where rocky habitats occur at greater depth and where tidal currents are stronger, animal groups such as bryozoans, hydroids and sponges dominate. Kelp beds are best developed around Rathlin Island where the kelp *Laminaria hyperborea* is dominant to a depth of 20-30 m and the beds are very species-rich. In contrast, kelp beds in the more turbid waters of the Mourne Coast extend only to 5m and are species poor. *Laminaria saccharina* is the dominant kelp in the sea loughs where beds extend to a depth of less than 10m.

Below the depth of algal growth, sponges, anemones, bryozoans and hydroids assume a greater importance. A particularly diverse range of communities and species is associated with the basalt and limestone terraced bedrock and caves and fissures on the north coast of Rathlin Island.

Saline lagoons are mainly associated with sea loughs in Northern Ireland and are mostly man-made. Dominant plant species include Tassel Weeds *Ruppia maritima* and Fennel-leaved Pondweed *Potamogeton pectinatus*. Several species of invertebrates are mainly found in this habitat including water beetles *Haliplus apicalis*, corixids *Sigara stagnalis* and molluscs *Hydrobia ventricosa*.

3.3.3 Open Sea

A large number of species live in the open sea around Northern Ireland. Most of these are microscopic algae (phytoplankton) and grazing animals (zooplankton). In addition, many of the benthic species have free-floating stages.

There are over 100 species of fish which occur in the coastal waters. These include several commercial species and the second largest fish in the world, the basking shark Cetorhinus maximus, a priority species which occurs throughout the area and is sometimes found in large shoals associated with the oceanic front between the County of Down coast and the Isle of Man. Little is known about the biology of this species around our coast.

A number of mammals occur in Northern Ireland waters. These include both common seals *Phoca vitulina* and Grey Seals *Halichoerus grypus* which are both widespread around the coast and six species of cetacean (whales, dolphins and porpoises) which either inhabit the area or visit it annually. The Harbour Porpoise *Phocoena phocoena* and the Bottlenose Dolphin *Tursiops trucatus* are both UK priority species. The waters off the County Down Coast, and Skerries and Causeway SAC are designated as a Special Area of Conservation (SAC) for Harbour Porpoise as well as the Skerries and Causeway SAC on the North Coast.

The open sea also provides feeding areas for many internationally important seabird populations such as terns in Strangford Lough, Carlingford Lough and Larne Lough (which include the roseate tern Sterna dougallii, a UK priority species) and auks and kittiwakes Rissa tridactyla on Rathlin Island.

3.4 Environmental and Socio-Economic Sensitivities and Impacts

3.4.1 Fisheries

In 2016, there were 327 Northern Ireland registered fishing vessels which employed 700 full-time workers and 175 part-time workers. The Northern Ireland fleet landed fish worth approximately £42 million into UK ports and abroad, representing 4.4% of the total value of fish landed by UK vessels. The 14 businesses which make up Northern Ireland's fish processing sector employ a further 371 full-time workers and had a turnover of £84 million in 2014 (Seafish - FSH0011).

The vast majority of landings by UK vessels into Northern Ireland occur in three County Down fishing villages; Ardglass, Kilkeel and Portavogie, which feature in the UK's top 20 ports by value of fish landed. In recent years, Nephrops (known colloquially as Dublin Bay prawn) have been the main catch for the Northern Ireland fleet with 72 vessels dedicated exclusively to this fish species and a further 30 vessels targeting Nephrops alongside other species. In 2016, Nephrops accounted for 48% of the total value of fish caught by the NI fleet, herring and mackerel made up 17.5% and white fish species, haddock and cod, only 6.5%. These fish species are subject to catch limits set by the EU. Shellfish species (excluding Nephrops), which are not subject to EU catch limits, are also financially significant to the Northern Ireland industry. In 2016, scallops and crabs represented 21% of the total value of fish landed by the NI fleet (Seafish - FSH0011).

Mussels are dredged in Lough Foyle, Belfast Lough and Carlingford Lough, and in areas such Dundrum Inner Bay they are hand gathered on a small scale for sale and home consumption. There is a dredge fishery for native oysters in Lough Foyle. Scallops and Queen Scallops are dredged from beds off the coast, and edible crabs *Cancer pagurus*, lobsters *Homarus gammarus*, Velvet Crabs *Necora puber* and whelks are fished using pots. Periwinkles are increasingly being gathered by hand from rocky areas. Atlantic Salmon *Salmo salar* and Sea Trout *Salmo trutta* are fished using rod and line and net methods, and the eel *Anguilla fishery* is important especially in inland areas such as Lough Neagh. Pacific Oysters are farmed in Strangford Lough, Larne Lough, Lough Foyle Killough and Carlingford Lough

The aquaculture industry in Northern Ireland continues to develop. At present there are 78 licenced fish farms (covering 86 sites), of which 46 are licensed for the cultivation of shellfish (45 marine and 1 land-based) and 32 for the cultivation of finfish (30 inland and 2 marine).

The main finfish species cultivated are Salmon *Salmo salar*, Rainbow Trout *Oncorhyncus mykiss* and Brown Trout *Salmo trutta*.

There is one marine salmon farm at Glenarm Bay off the Antrim coast, producing approximately 300 tonnes of saleable fish per annum.

The main shellfish species cultivated are mussels *Mytilus edulis* and Pacific Oysters *Magallana gigas* although a small quantity of Native Oysters *Ostrea edulis* are also grown.

In 2016 the aquaculture sector produced 3,438 tonnes of shellfish valued at £4.3 million and 1069 tonnes of finfish valued at £4.16 million. In total the aquaculture sector directly employs 91 full time and 78 part time employees (DAERA).

4 Pollution Risk Assessment

The Northern Ireland Environment Agency commissioned Anatec UK Ltd, to analyse ship movements off Northern Ireland's coastline and identify the risk of shoreline pollution from shipping incidents.

The risk assessment reviewed historic shipping incidents within the United Kingdom Exclusive Economic Zone, international incidents, prevailing Metocean conditions which are likely to increase the risk of shipping incidents, differing vessels, and sailing routes around the Northern Ireland Coastline.

The study utilised COLLRISK software to determine the frequency, and likely geographical locations, at which either a ship collision, fire explosion, foundering, powered grounding, or drift grounding incident may occur. The results predicted a frequency of one serious shipping incident every five years.

The data from the incident frequency out-put was then utilised to determine the frequency of a pollution incident occurring from the scenarios. The pollution frequency analysed both cargo and bunker spills. The output predicted an average return period of one accidental shipping pollution event every twenty-three years.

An oil spill trajectory model was then run to determine the most likely shoreline locations to be impacted if a shipping incident were to occur. The study specified three high risk areas; Belfast lough, the shoreline from Donaghadee to Portavogie, and Rathlin Island. These three areas also corresponded to the areas predicted to have a higher likelihood of a shipping incident occurring.

A summary of the results of the report are found within this section of the document, for a detailed review of the risk assessment the document can be found on the NIEA Server.

4.1 Accident Frequency

The annual predicted shipping accident frequencies is shown in Table 4.1. The results predict one serious shipping incident every five years off the coast of Northern Ireland. Powered grounding is the most likely incident to occur (44% of total), followed by fire/explosion (32%).

Figure 4.1 presents the detailed results of the accident frequency modelling on a geographical basis.

Table 4.1: Predicted Annual Shipping Accident Frequencies

Accident Type	Annual Frequency	Return Period (years)
Ship Collision	0.018	55
Fire / Explosion	0.064	16
Foundering	0.027	37
Powered Grounding	0.087	12
Drifting Grounding	0.001	672
All Accidents	0.20	5

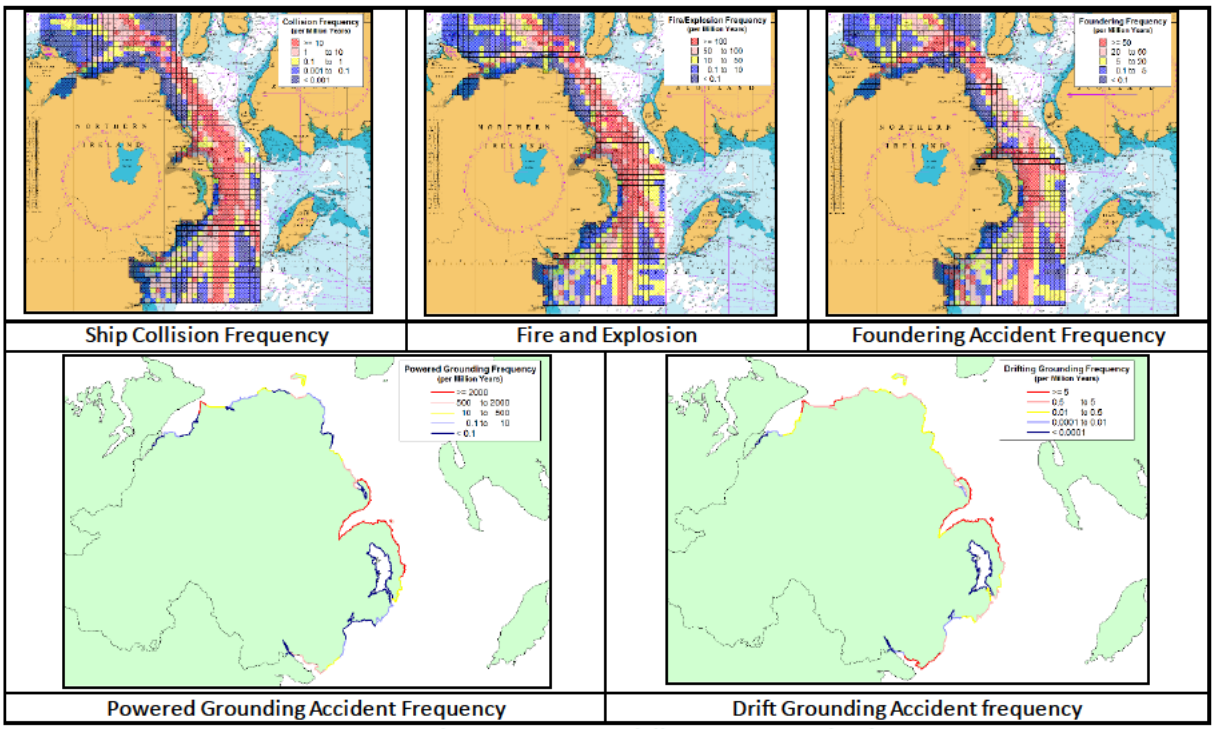


Figure 4.1 Accident Frequency Modelling on a Geographical Basis

4.2 Spill Probability

The spill probability assessment identified that all ships are capable of spilling oil from bunkers and that there is an additional risk from vessels transporting bulk liquids (oil and chemical). The report reviews the probability of both bunker and cargo spills.

4.2.1 Bunker Spills

The predicted probability of a fuel (bunker) spill from each incident scenario addressed in the risk assessment is shown in Table 4.2. Foundering has a probability of 1 as it is thought every sunken vessel will release some volume of fuel. After foundering, collisions and groundings are the most likely incidents to result in a bunker spill.

Table 4.2 Bunker Spill Probability

Accident Type	Bunker Spill Probability	Probability
Ship collision	0.128	1 in 8
Fire and Explosion	0.017	1 in 59
Foundering	1.000	1 in 1
Grounding (Powered + Drifting)	0.120	1 in 8

4.2.2 Cargo Spill Probability

The predicted probability of a cargo spill from each incident scenario addressed in the study is shown in Table 4.2. The results are derived from data on international chemical and oil tanker incidents.

Foundering has a probability of 1 as it is thought every sunken vessel will release some volume of liquid cargo. After foundering, collisions and groundings are the most likely incidents to result in a release of cargo.

Table 4.3 Spill Probability per Accident for Tankers

Ship Size (DWT)	Cargo Spill Probability (Spills per Accident)						
	Ship Collision		Fire/Explosion		Foundering	Grounding	
0-1,500	0.51	1 in 2	0.02	1 in 50	1.00	0.19	1 in 5
1,500-5,000	0.56	1 in 2	0.06	1 in 17	1.00	0.19	1 in 5
5,000-15,000	0.24	1 in 4	0.11	1 in 9	1.00	0.35	1 in 3
15,000-40,000	0.24	1 in 4	0.11	1 in 9	1.00	0.35	1 in 3
≥ 40,000	0.31	1 in 3	0.12	1 in 9	1.00	0.39	1 in 3
All	0.39	1 in 3	0.10	1 in 10	1.00	0.30	1 in 3

4.3 Spill Results

The annual estimated spill frequencies per accident type and pollutant released (oil and chemical) are presented in Table 4.4. The results predicted an accidental pollution incident, from shipping incidents, occurring once every 23 years.

Fuel oil was predicted to be the most likely to be released at 91% followed by cargo oil (6%) and chemicals (3%).

Table 4.4 Annual Average Spill Frequency

Accident Type	Annual Spill Frequency							
	Fuel Oil		Cargo Oil		Chemical		All	
Ship Collision	1.8E-03		1.3E-03		4.6E-04		3.7E-03	
Drifting Grounding	1.7E-04		2.7E-05		9.0E-09		1.9E-04	
Powered Grounding	1.0E-02		5.6E-04		3.3E-04		1.1E-02	
Fire / Explosion	1.0E-03		4.4E-04		2.2E-04		1.7E-03	
Foundering	2.6E-02		4.0E-04		1.5E-04		2.7E-02	
All Accidents	4.0E-02	1 in 25	2.8E-03	1 in 400	1.2E-03	1 in 833	4.3E-02	1 in 23

4.4 Shoreline Pollution

The risk assessment used a simplified drift model to estimate the extent and location of pollutants reaching the Northern Ireland coastline. The results of the model are shown in Figure 4.2. The model predicted Rathlin Island, Belfast Lough and the Donaghadee to Portavogie coast to have the highest risk of shoreline pollution occurring.

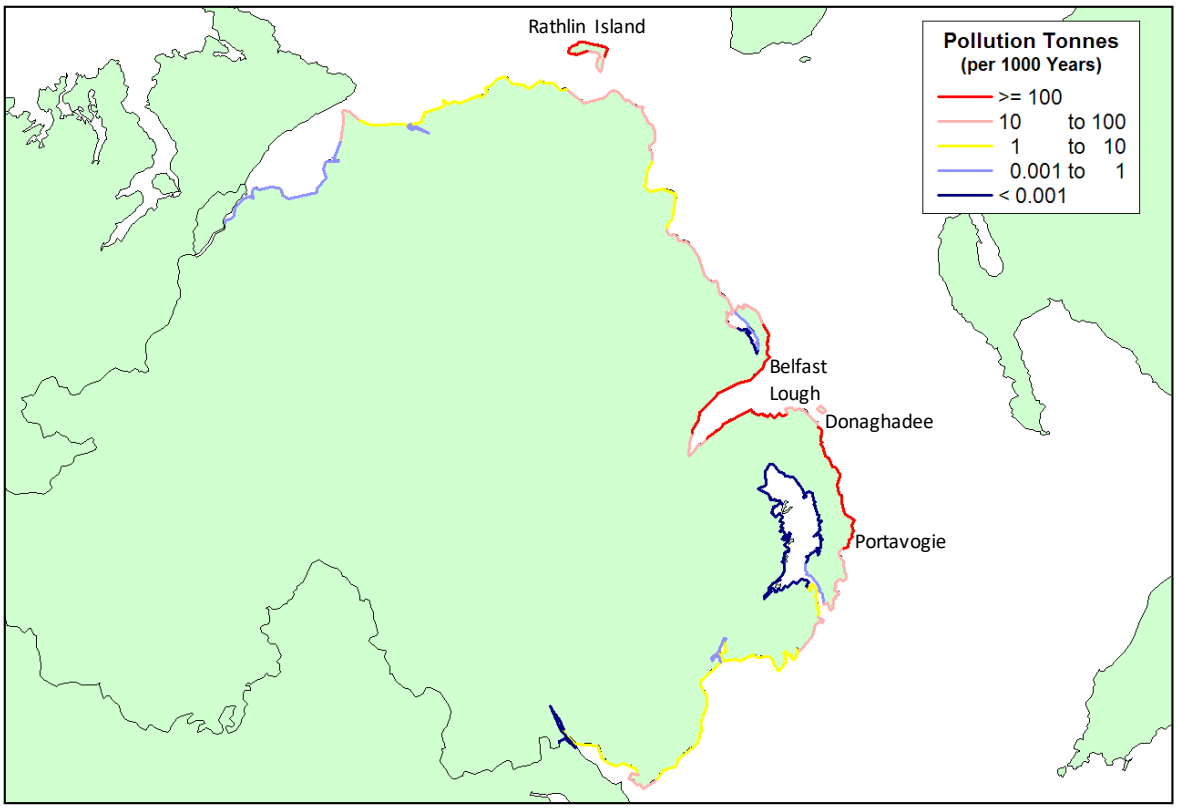


Figure 4.2 Pollutants Reaching Northern Ireland Coastline

5 Notification

This section of the NICCP details the notification procedures which must be followed when a pollution event has, or is likely, to impact Northern Ireland's shoreline. The notification process of collecting and reiterating incident critical information is paramount to an effective, efficient and well-coordinated response.

All notifications will be received by the NIEA's Duty Emergency Pollution Officer (DEPO). Upon receiving notification of a shoreline pollution incident this plan is activated. The DEPO will use the flow chart and matrix and guidance given in this Section of the NICCP to evaluate the incident, identify the incident potential worst-case (IPW) impact, and mobilise a Local Area On-Call Officer to the scene to undertake a visual assessment.

Once the incident is confirmed by the Local Area On-Call Officer the DEPO will undertake actions appropriate to the incidents determined tier level and potential worst-case impact. The DEPO will mobilise the Shoreline Response Centre (SRC) accordingly as shown in Figure 5.1.

On notification of a Tier 2/3 incident the DEPO can activate, or put on standby, the SRC. Undertaking this action could greatly reduce the response time. The SRC can start developing incident response objectives, strategies and tactics whilst awaiting the reports from the visual assessment.

The NIEA understand that notification is a two-stage process being an initial internal notification and then an external notification. The external notification is undertaken by the Environment Group once all incident information has been received, confirmed and clarified.

5.1 Internal Initial Notification

Northern Ireland's coastline could be impacted from several sources either offshore, nearshore or inland; therefore, the NIEA could receive notification of an incident from several sources.

The flowchart in Figure 5.1 should be followed by the DEPO during the initial stages of the response.

It is important that the following information is received and shared with the SRC. The information received will also assist in completing the Tiered Response Classification Matrix in Section 5.2. There is a checklist in Section 5.3 to assist the DEPO.

- **Incident Location,**
- **Type of pollutant spilt,**
- **Volume of pollutant released,**
- **Has source been mitigated,**
- **Have any response actions been undertaken,**
- **What are the prevailing Metocean conditions at the shoreline,**
- **Has a spill trajectory model been undertaken and identified any potential impact areas,**
- **Are the results of the spill model available?**

NIEA Initial Notification

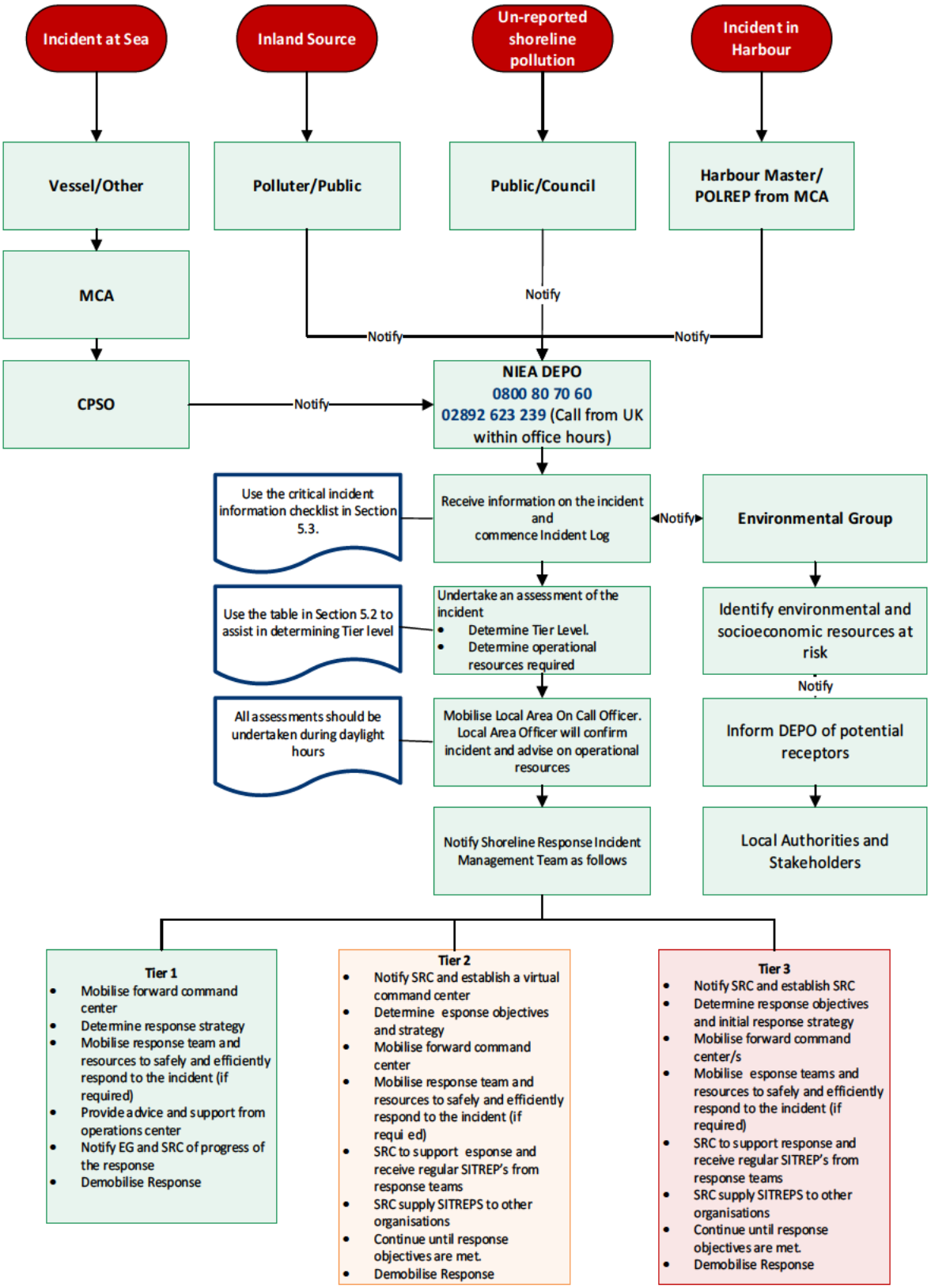


Figure 5.1 NIEA Initial Notification Procedure

5.2 Tier Response Classification Matrix

A pollution incident is continually changing and therefore can be reclassified at any point depending on the severity, or likelihood to impact environmental and socio-economic sensitivities and the requirement for additional resources.

The Tier Classification Matrix shown in Table 5.1 should be consulted when determining the appropriate Tier level of the response.

Table 5.1 Tier Classification Matrix

TICK ALL BOXES THAT APPLY: ☑ IF YOU ARE UNSURE, ASSUME WORST CASE	
Tier 1	• Small oil spills, or those which can be quickly and easily cleaned up using on-site resources or local contractors
☐ Oil is contained within the dock area / localised area on shoreline ☐ Able to respond to the spill immediately ☐ Have adequate resources to respond to the incident	☐ Light oil ☐ Small volume of black oil ☐ Little to no impact to environmental and socioeconomic receptors ☐ Oil is moving away from the shoreline
Tier 2	• Oil spills which pose a threat of significant pollution resulting in the activation of the local authorities' emergency response plans, and the mobilisation of external oil spill response resources.
☐ Concentrated oil accumulating on the shoreline in a localised area ☐ Continuous release and oil trajectory towards shoreline ☐ Port/harbour require additional resources ☐ NIEA Resources required to respond to incident ☐ Regional media attention	☐ Black oil or crude oil ☐ High volumes of light oil ☐ Additional off-site resources might be required to clean up the spill ☐ Oil predicted to impact environmental and socioeconomic receptors (e.g. water intakes, fisheries, tourist areas, statutory designations)
Tier 3	• Covers catastrophic spills, which require the mobilisation of international support.
☐ Actual or potentially serious threat to life, property, industry ☐ High volumes of black or crude oil spilt and predicted to impact shoreline ☐ Large area of shoreline contaminated	☐ National Contingency Plan activated ☐ International media attention ☐ Oil predicted to cross international boundary ☐ Additional response resources required

5.3 Critical Information Checklist

Table 5.2 provides a list of critical information required to begin planning a response to a pollution incident.

Table 5.2 Critical Information Checklist

Critical Information	Check Box
Location of the spill	☐
Type of pollutant	☐
Volume spilt	☐
Is the spill continuous	☐
Potential worse case	☐
Has a response been deployed	☐
What clean up actions have been undertaken	☐
Immediate resources at risk	☐
Current weather and sea conditions at location	☐

5.4 External Notification

The extent of notifying and reporting to external organisations and authorities will be determined by the initial classification of the incident and resources at risk.

It is the responsibility of the Environment Group to notify external organisations and stakeholders in close liaison with the NIEA DEPO.

6 Shoreline Management

DAERA NIEA is the lead agency in responding to a shoreline pollution event. As shown in Figure 6.1 the mobilisation of DAERA NIEA personnel and involvement of other organisations is highly dependent on the scale of the incident and resources required to effectively and efficiently mitigate the impact of the incident.

Table 6.1 provides a description of each response group shown in Figure 6.1 as stated in MCA STOp 1/16 and National Oil Spill Contingency.

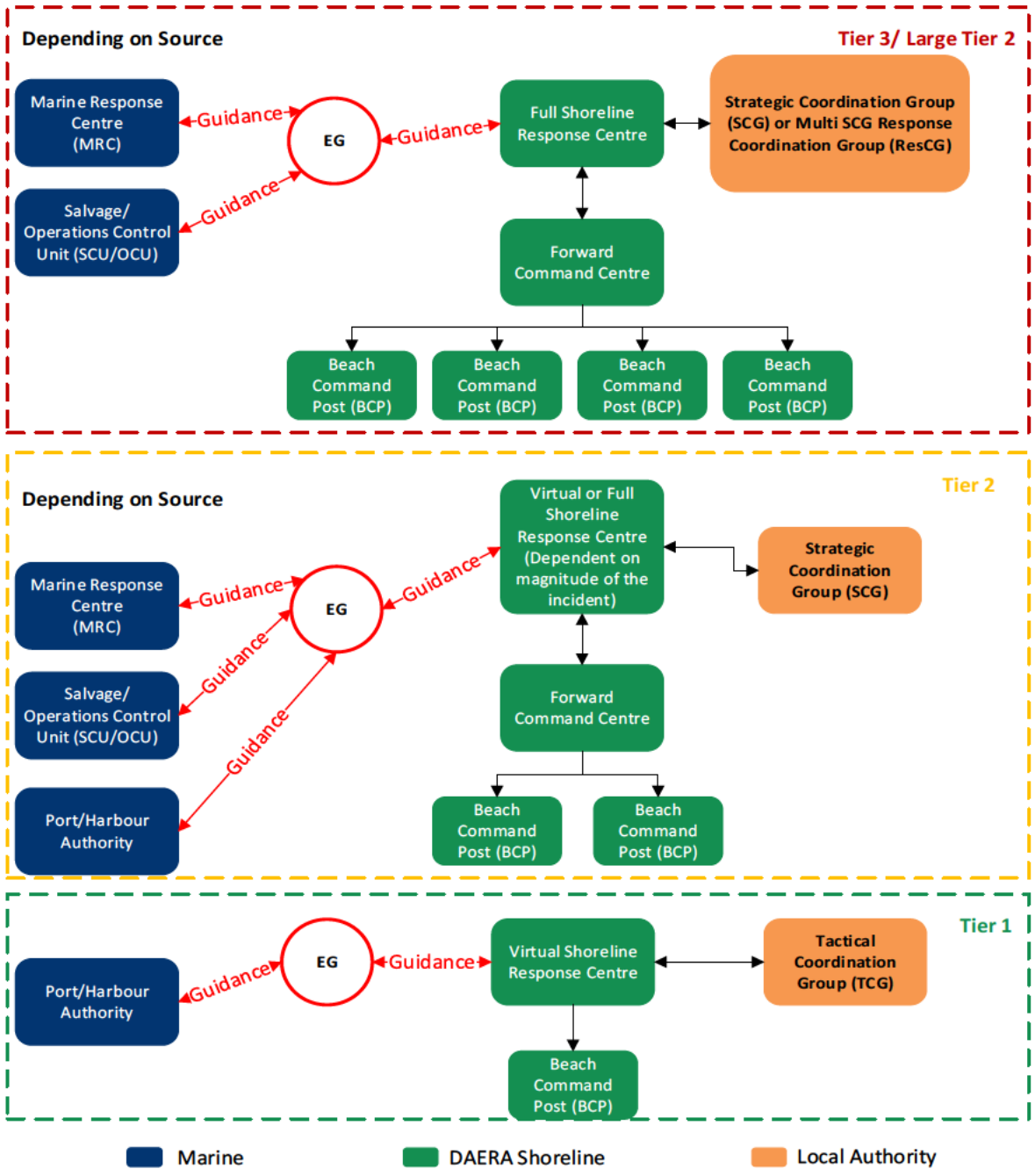


Figure 6.1 Tier Level Response Groups Mobilisation and Interaction

Table 6.1 Response Groups as per Maritime Coastguard Agency STOp 1/16 Response and Recovery to A maritime Pollution Incident Impacting the UK Shoreline and National Contingency Plan

Group	Description	Tier Level
Port/Harbour Authority	The Port/Harbour authority have the responsibility to respond to pollution incidents within its area of jurisdiction (on water and any land owned by the port/harbour authority – OPRC Plans).	T1 – T2
Salvage Control Unit (SCU)	During a shipping incident the primary role of the salvage Control Unit is to monitor salvage operations and actions that are being taken and/or proposed relating to salvage activity and ensure that such actions do not have an adverse effect on safety and the environment. The SOSREP determines the requirement for a Salvage Control Unit. The SCU generally operates close to the incident site.	T1 – T3
Marine Response Centre (MRC)	The Marine Response Centre considers and implements the most appropriate means to contain, disperse and remove potential pollutants from the scene. The MCA establishes a Marine Response Centre at the most appropriate location.	T3
Environment Group (EG)	The Environment Group provides environmental and public health advice to response cells/groups. The group provides advice and guidance on how to reduce the environmental impact of clean-up operations and how to mitigate against possible impacts on protected areas and species.	T1- T3
Shoreline Response Centre (SRC)	To provide strategic coordination for the management of the shoreline response. The SRC provides strategic direction and decision making and determines the longer-term and wider impacts and risks of the pollution. Establishes response objectives and assigns priorities based on threat to environmental and socio-economic receptors.	T2 – T3
Virtual Shoreline Response Centre	To coordinate and provide tactical decision making for a shoreline response.	T1 – T2
Forward Command Centre	Located at a regional NIEA office to oversee and support the deployment of tactical decisions. Provide local knowledge and resources to support the response. Provide information to SRC.	T2 – T3
Beach Command Post (BCP)	It is set up at the affected shoreline to provide a single point of contact and control operations on the shoreline as directed by SRC/FCC. A Beach Supervisors will be assigned to each Beach Command Post with the responsibilities to undertake shoreline surveys, implements 'clean-up' strategies and logs waste and resources.	T1 – T3
Tactical Coordinating Group (TCG)	Is activated and co-ordinated by the local authority to support the shoreline response with subject matter experts (fire service), security (police service), or medical (ambulance service).	T2 – T3
Strategic Coordinating Group (SCG)	Is activated by local authority, or central government (depending on the magnitude of the incident), to co-ordinate the deployment of strategic resources and assist in the management of the shoreline response.	T1 – T2
Multi-SCG Response Coordinating Group (ResCG)	Is activated when more than one local authority is impacted by a shoreline pollution event. This is to ensure a unified shoreline response between impacted local authorities.	T3

6.1 Initial Response

The initial response to a pollution incident is known as the reactive phase were the key activities are focused on notification, developing tactics for mitigating the impacts of the spill and deploying resources. This forms the primary stage of an incident action plan (Section 6.8).

During a Tier 1 spill these may be the only key activities undertaken by DAERA as there may be no requirement to activate the full or virtual Shoreline Response Centre.

6.2 Tier 1 Incident Management Structure

During the response to a Tier 1 incident the DEPO will assume the role of the Incident Commander and support the tactical response to a shoreline pollution incident. The Local Area Officer will undertake the role of the On-scene Commander/Beach Supervisor and oversee the implementation of the tactical response relaying situation update reports to the Incident Commander. If required, the DEPO may mobilise to the scene to oversee the deployment of the tactical response.

Depending on the severity of the Tier 1 incident the Incident Commander may mobilise members of DAERA to form a 'Virtual' SRC to assist in developing an incident action plan and support the tactical deployment of resources.

6.3 'Virtual' Shoreline Response Centre

During the response to a Tier 1 incident or a small Tier 2 incident the DEPO may decide to activate a 'virtual' Shoreline Response Centre (SRC).

The virtual SRC undertakes the same roles and responsibilities as a fully activated SRC (Figure 6.2 and Insert Appendix A), but from their normal place of business.

Like a fully activated SRC personnel will be assigned roles and responsibilities (Section 6.5) to complete key response activities, to develop an incident action plan, and support the tactical response.

Meetings will be scheduled and held via conference calls and all incident related forms will be completed digitally and shared via email.

6.4 Shoreline Response Centre Team Structure

The structure of DAERA NIEA's SRC incident management structure is shown in Figure 6.2. It is modular and scalable so that it can change with regard to the number of required positions, personnel and expertise as determined necessary by the Incident Commander and Functional Group Chairs.

Each group within the shoreline management structure has set key activities and responsibilities to effectively and efficiently manage a shoreline response. Throughout the duration of the incident the Management Team functional group will meet and assign actions to be undertaken by each functional group to ensure the timely completion of an Incident Action Plan and support the tactical response.

Table 6.2 provides a description of each functional group within the SRC and provides guidance on the key activities.

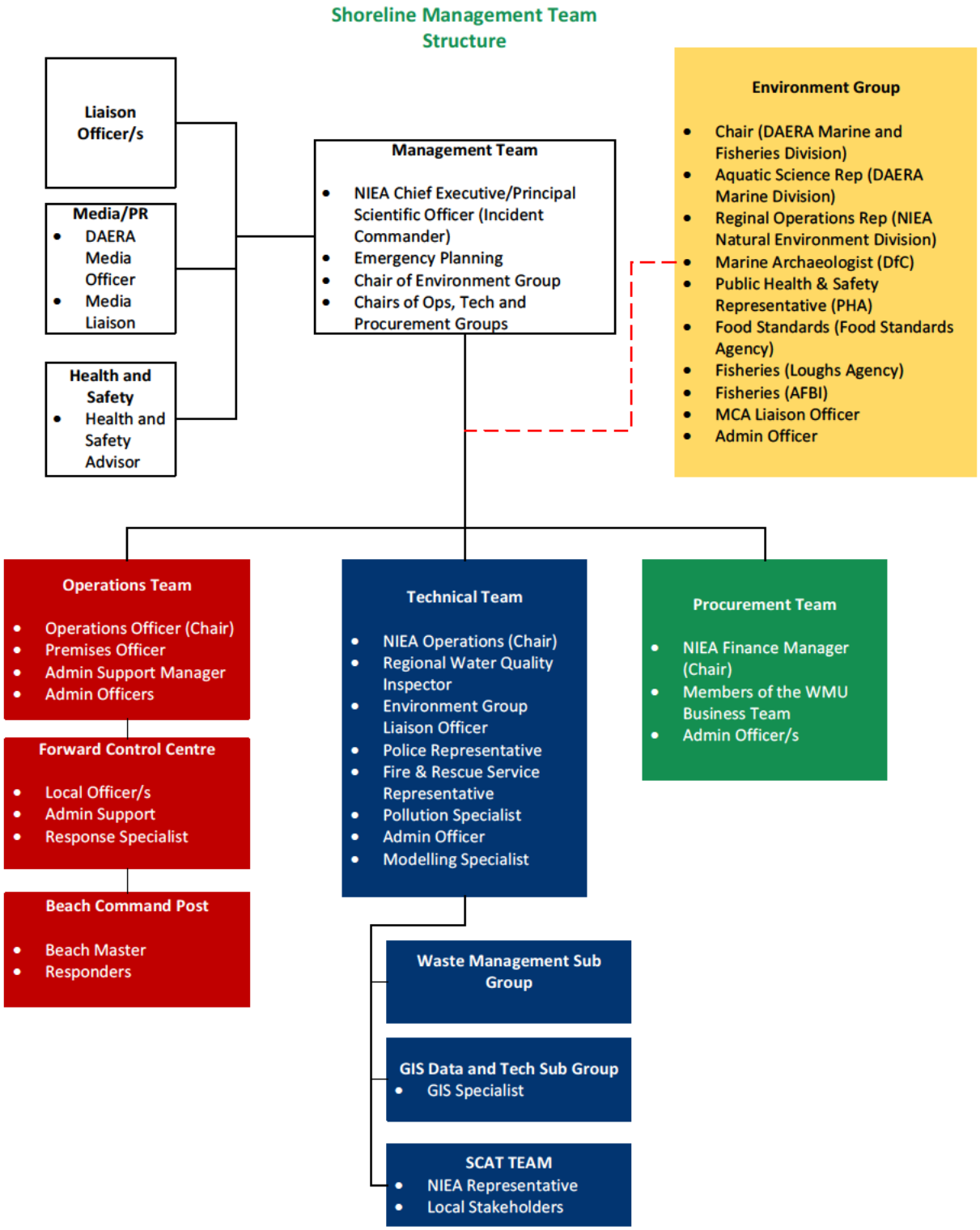


Figure 6.2 DAERA's Shoreline Response Centre Incident Management Structure

Table 6.2 Description of Shoreline Management Team Functional Groups

Group	Description
Management Team	The Management Team is responsible for managing the complete shoreline 'clean-up' operation, establishing response objectives, strategies, priorities, sign off incident action plans for the clean-up, and ensure Situation Update reports are submitted to all stakeholders. The chair of the group will act as the overall Incident Commander for the shoreline response and will rely on the information and guidance provided by other members of the Management Team. The key activities for the group are: - Determine response objectives, strategies and priorities - Ensure an incident action plan is developed - Assign actions to each group to ensure the incident action plan is developed and executed - Monitor the progress of the response and ensure the development of incident action plans for the next operational period - Interact closely with stakeholders - Inform the HEAD of DAERA and central government of the incident progress. - Ensure all response measures are undertaken safely
Operations Team	The operations team is responsible for establishing response tactics for the incident action plan, directing all resources and conducts operations to achieve the incident objectives. The operations team will provide support and guidance to the field teams undertaking the response. Throughout the response the operations team will seek specialist guidance from the technical team when required. As the direct line of communication with the field teams the operations team will disseminate information received to the technical group to be shared with the wider SRC. The key activities are: - Facilitate set-up of the SRC (DEPO), - Assist in the development of the Incident Action Plan providing guidance on response tactics, available resources, and current response strategies deployed, - Ensure that the incident action plan is deployed, and response teams are appropriately briefed, - Request resources as required to undertake the response (liaise with procurement), - Support the shoreline response teams, - Ensure situation update reports are received from Beach Supervisors/Forward command centres and shared with the wider SRC through the Technical Group, - Allocate resources/contractors as agreed in the incident action plan, - Monitor the progress of the response and share with Management Team.
Technical Team	The technical group supports the incident action planning process by tracking resources, arranging meetings, collecting/analysing information, organising SCAT surveys, updating situation display boards, and maintaining documentation. The technical group also entails subject matter specialists to provide guidance on the development of the incident action plan. The key activities for this group are: - Arrange first SRC and following meetings, - Obtain weather forecast, - Obtain critical information and populate SRC situation display boards, - Ensure SRC situation display boards remain current with accurate information, - Segregate the shoreline into manageable areas for response and SCAT Teams, - Arrange SCAT surveys and process information received, - Provide specific environmental advice to the Management Team, - Provide technical guidance on oil spill response strategies to the Management Team, - Undertake oil spill trajectory model (receive and analyse any oil spill trajectory models), - Liaise with sub groups to ensure the development of specific elements of the Incident Action Plan.

Group	Description
Waste Management Sub-group	The Waste Management Group is responsible for developing the waste management strategy for the response which forms an integral element of the incident action plan. The key activities for this group are: - Determine which meetings the Chair should attend, - Familiarise with the SRC layout, - Obtain details on the product spilt, shorelines to be impacted, waste streams to be generated, - Determine what waste management resources are required, - Decide on any temporary intermediate waste holding areas and their final treatment areas, - Arrange for waste management resources to be located to response sites and intermediate temporary waste storage areas (liaise with operations and procurement), - Ensure that measures are undertaken to minimise the volume of waste generated, - Ensure waste management strategy is in line with all relevant legislations,
GIS Data and Tech Sub Group	The GIS data and Tech Group is responsible for managing digital data sets in relation to the response, generating incident specific maps/charts, and ensuring the availability of the data communications network. The key activities for this group are: **GIS Specialists** - Ensure MarineMap viewer is operational, - Liaise with the technical team to ensure all necessary layers are added to marine map, - Ascertain information on the incident and generate incident specific maps as requested from the technical team (SCAT, Response Sites, Access routes etc.). **Tech Specialists** - Ensure that PC's are networked, and internet access is available to all key members of the SRC, - Ensure the availability of data communications network within the SRC, - Set-up incident specific emails as required, - Develop email address if required.
Procurement Team	The procurement team is responsible for the procurement of all resources required to implement the incident action plan. The team will liaise with all functional groups to assist in the procurement of resources as requested by functional group chairs. All resource requests from the functional groups should be noted and tracked. It will be the responsibility of the Procurement Team to track the total expenditure of the shoreline response. The key activities for this group are: - Procuring resources as requested by functional groups, - Monitoring expenditure, - Ensure finance and contracts are available to implement the decisions of the functional chairs, - Collating invoices with expenditure support claims for compensation, - Receive documentation from functional groups and record and store accordingly.
PR Media	The PR Media team is responsible for acting as the focal point for media and public interests working closely with the Management Team. The key activities for this group are: - Preparing press briefings from the SRC in consultation with the Management Team, - Developing and submitting press statements, - Monitoring media activity regarding the response operation, - Liaising with other organisations media representatives, - Arranging press interviews, - Handling all press enquires.

Group	Description
Liaison Officers	Liaison Officers are responsible for sharing and receiving information from other response organisations to ensure a combined response effort. The number of liaison officers appointed will be dependent on the response and activated organisations. The Liaison Officers will communicate directly with the Management Team. The key activities for this group are: - Attend SRC meetings when required, - Establish communication with other organisations, - Mobilise to other organisations incident command rooms if required, - Share information with other organisations (once agreed by management team), - Receive information from other organisations and share it with the Management Team.
Environment Group	The Environment Group during a pollution incident will provide advice and guidance on a range of environmental and public health issues, arising from a maritime pollution incident. They will provide timely guidance throughout an incident to all response units involved in proportionate prevention, monitoring and remediation measures, based on the risk of impact. Throughout the response to a pollution incident the SRC will be in close liaison with the Environment Group to ensure the overall impact to the environment and public health is minimised.

6.5 Action Cards and Roles and Responsibilities

The available action cards and roles and responsibilities for the key members of the SRC are shown in Table 6.3, and can be viewed in full in Appendix A – Action Cards. The Action Cards should be referred to when responding to a shoreline pollution incident.

Table 6.3 Action Cards and Roles and Responsibilities for Key SRC Members in Appendix A

No.	Role within The Shoreline Management Team
1	Management Team Chair (Incident Commander)
2	Operations Team Chair (DEPO)
3	Technical Team Chair
4	Situation Leader (member of Technical Team)
5	Finance Team Chair
6	Waste Management Group Chair
7	GIS and Tech Group Chair
8	Liaison Officer
9	Media/PR
10	Health and Safety
11	Forward Control Centre (Local Officer)
12	Beach Supervisor

6.6 Response Prioritisation of Clean-up Effort

The basic strategy to be followed when a major pollution incident occurs is to consider the protection of ecologically sensitive areas and to clean amenity beaches nominated by NIEA. The remainder of the coastline will be considered at a later stage. Prioritisation of clean-up effort is grouped into four main areas as shown in Table 6.4

Table 6.4 Response Clean-up Prioritisation Guide

Priority	Description
1	Ecologically Sensitive areas. Where possible protect those sites at risk as a matter of high priority. Clean if this is viable and beneficial.
2	Major amenity beaches. Clean as soon as possible.
3	Minor amenity beaches and rocky areas. No immediate action. Consider again when resources permit.
4	Non-amenity rocky areas and estuarial mud areas which are generally best left to recover naturally.

6.7 Shoreline Response Incident Management Guidance

Most pollution incidents follow two distinct stages, a reactive phase and a proactive phase. It is the aim of the SRC to transgress from the reactive phase to the proactive phase as quickly and efficiently as possible. A method of doing this through the development and implementation of an incident action plan.

6.8 Incident Action Plan

An incident action plan is a formal and approved document that sets out clear objectives, provides information on the overall response strategy, summarises events undertaken during the current operational period and those deployed during the next operational period as shown in Figure 6.3.

Each spill requires a specific incident action plan tailored to the incident and the operational period. The incident action plan development requires collaboration, participation and expertise among all functional group chairs and their staff.

The completed incident action plan is presented to the incident commander for approval. Once approved it is the role of the Operations Team to ensure it is implemented accordingly.

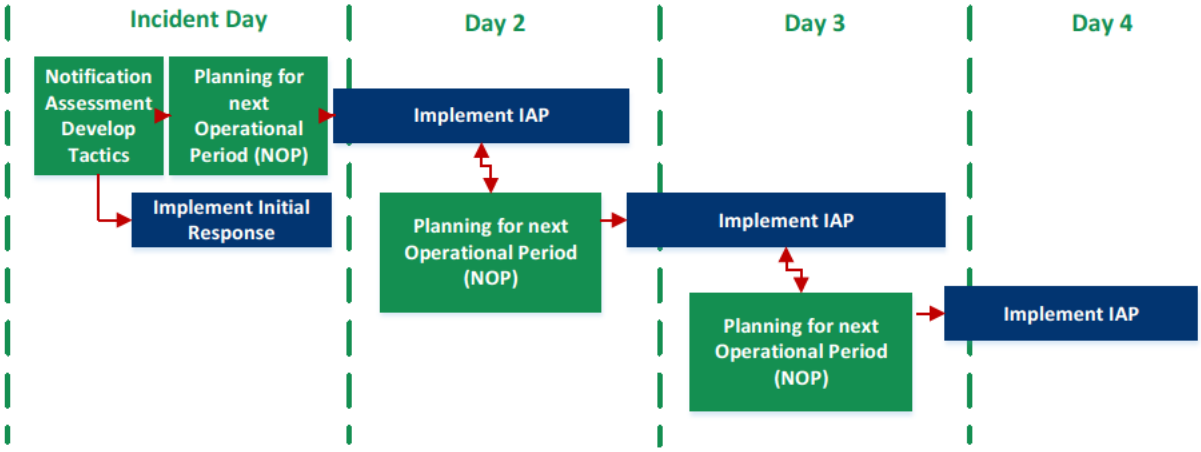


Figure 6.3 Incident Action Plan Development and Implementation

6.9 Span of Control

Throughout the response to a shoreline incident it is advisable to have a manageable span of control, which ensures communication pathways do not become blocked and incident critical information is shared in a timely manner.

As shown in Figure 6.4 the recommended span of control is 1 person to 5.

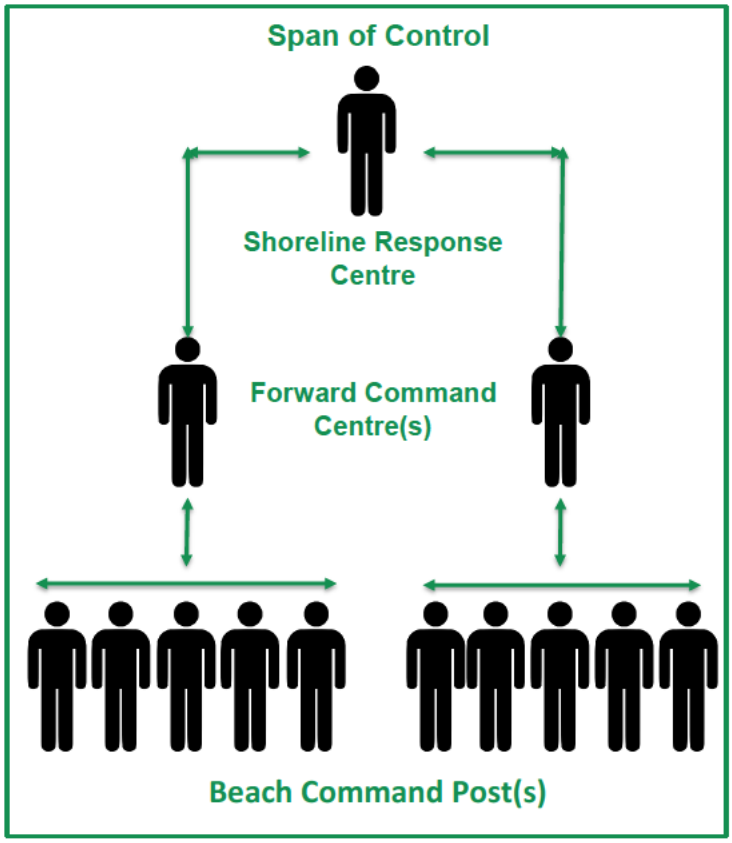


Figure 6.4 Span of Control

6.10 SRC Typical Daily Time Table

Figure 6.5 outlines a typical daily timetable of events once the initial tactical response has been deployed. All functional groups are to be aware of the standard timetable to ensure timescales and staffing requirements are met.

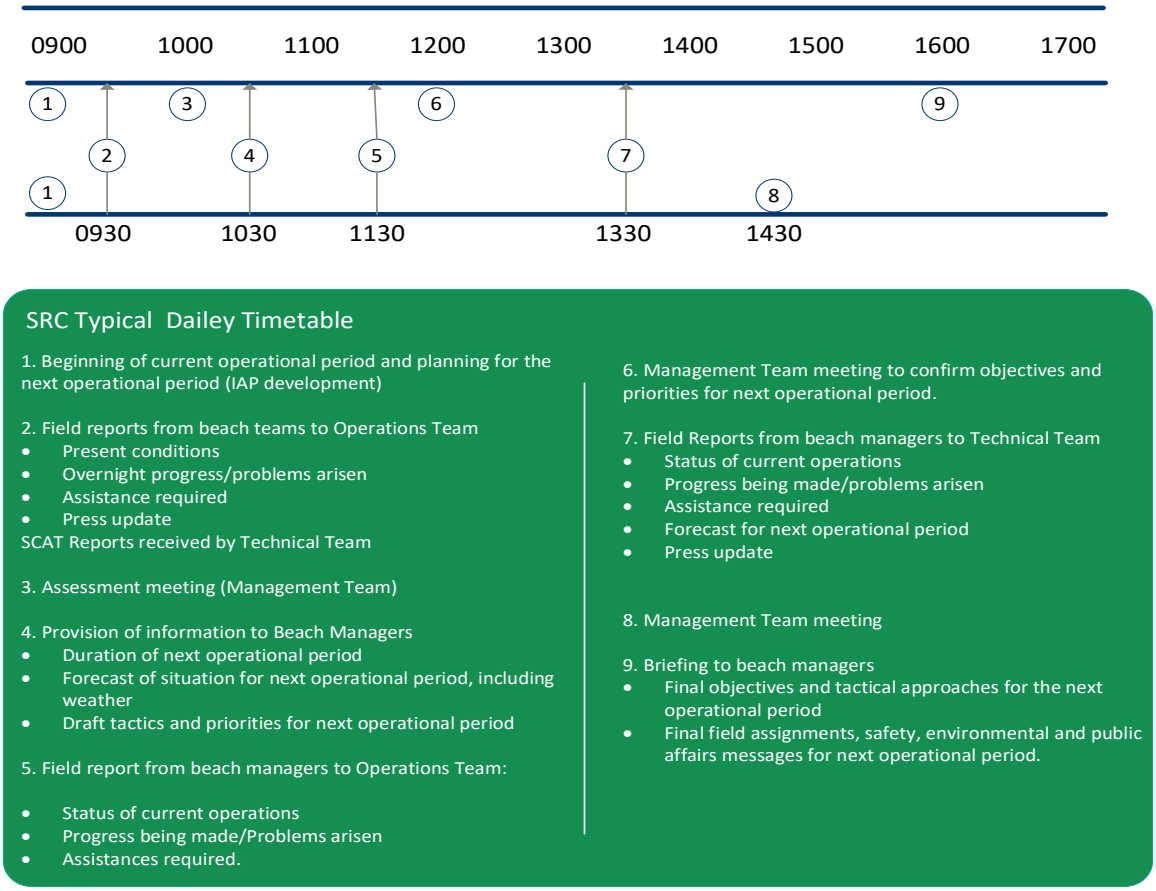


Figure 6.5 SRC Typical Daily Timetable

6.11 SRC Setup

6.11.1 Situation Display Boards

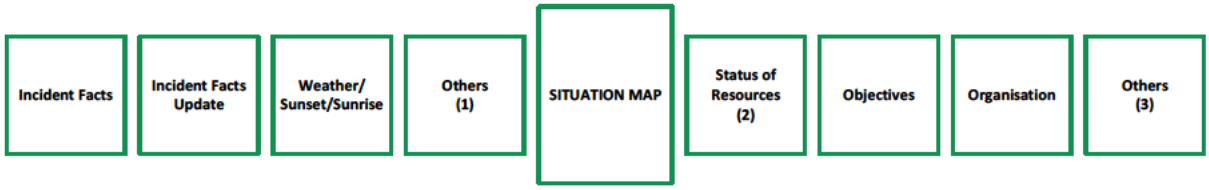
The situation displays boards shown in Figure 6.6 should be placed on available wall space of the SRC. The situation display boards are critical in sharing incident information and ensuring situation awareness.

It is the responsibility of the Technical Team to ensure that the situation boards obtain accurate up to date information on the incident. The person within the technical team who has the responsibility to maintain the situation boards is the Situation Leader and they should periodically record the information on the boards to ensure the information is captured and recorded.

The situation boards on the left of the situation map present information on the incident. The Status Boards on the right of the Situation Map present information on the status of shoreline response operations.

A digital copy of the situation boards is available on the DAERA system and Large A0 posters are available in the SRC.

Figure 6.6 Example Situation Board Layout



(1) Safety and Health Considerations, Mass Balance, Sensitive Areas etc.
(2) En Route, Assigned, Available and Out of Service
(3) Operational Period, Schedule of Meetings

Where possible the Marine Map should be displayed on the walls, or a screen, within the SRC.

6.11.2 SRC Layout

A standard room layout of the SRC is shown in Figure 6.7. A room adjacent to the SRC should be made available for Management Team meetings. Signage should be erected on each functional group's desk so they can be clearly identified to new arrivals to the SRC.

An inventory of the SRC equipment can be found in Appendix B SRC Tool Kit

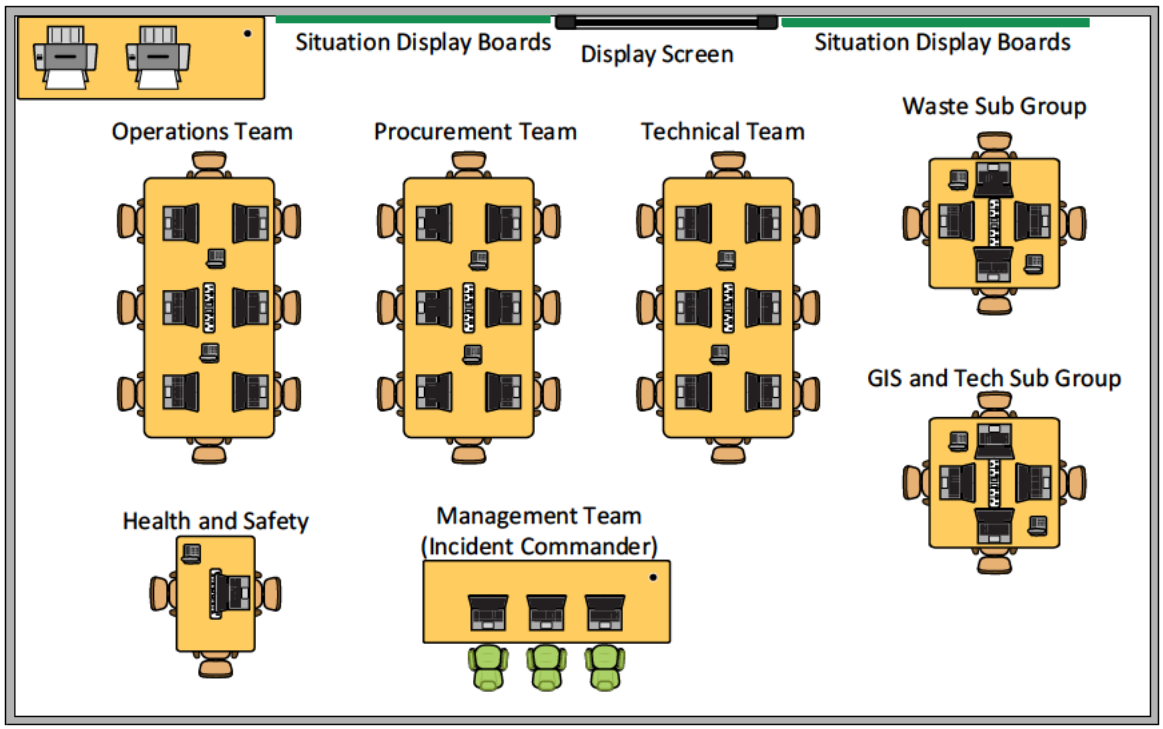


Figure 6.7 SRC layout template

7 Communications

Northern Ireland's arrangements for strategic contingency management within government are covered by the existing Northern Ireland Central Crisis Management Arrangements (NICCMA). This covers the standing arrangements for the strategic coordination of any response to and or recovery from civil contingencies impacting on NI. In such circumstances the Civil Contingencies Group (NI) (CCG(NI)) is responsible for setting the overarching strategy for the NI response, directing and co-ordinating the response and committing resources across the NI Civil Service.

When a major incident is declared it may involve the first responders such as HMCG, NIFRS or the PSNI along with other government departments such as DAERA, Transport NI and the emergency support services such as the local authorities.

However, it is likely that the Department of Agriculture, Environment and Rural Affairs (DEARA) will be the Lead Government Department (LGD) and will co-ordinate the response and recovery for any maritime pollution incident at sea that is likely to impact the shoreline.

The following communication plan will be in operation when DAERA is the LGD.

Communications systems must be rapidly put into place and activated to facilitate the efficient flow of information on all aspects of an incident. In a marine pollution incident the main communication links are likely to be:

- Internally between the functional groups within the SRC,
- Externally between the SRC and Forward Command Centre(s) (FCC),
- Externally between the FCC and Beach Command Posts (BCP)(Beach Managers/Masters, booming teams, consultants and contractors),
- Externally between the SRC and the other response units under the National Contingency Plan (MCA, SCU, MRC, Port/Harbour Authority),
- Externally between SRC team members and their 'parent organisations' to ensure there is common understanding and consensus between the SRC/SRC members and their respective organisations which they represent.

This Section of the plan should be read concurrently with Section 6 Shoreline Management

7.1 Overall Flow of Information

Figure 7.1 shows the communication and overall flow of information within the SRC and between different functional groups. Time-outs, forms, conference calls, management meetings, and functional group meetings throughout a response will assist in the sharing of information between members of the SRC.

A Situation Leader should be appointed within the Technical Group with the responsibility to gain information from each functional group, update the situation display board within the SRC, and provide an overview of the response during Management Team Meetings (Appendix C: Management Team Meeting Agenda and Meeting Room Layout).

Section 7.3 provides information on each meeting that should be held when undertaking a response to a shoreline incident.

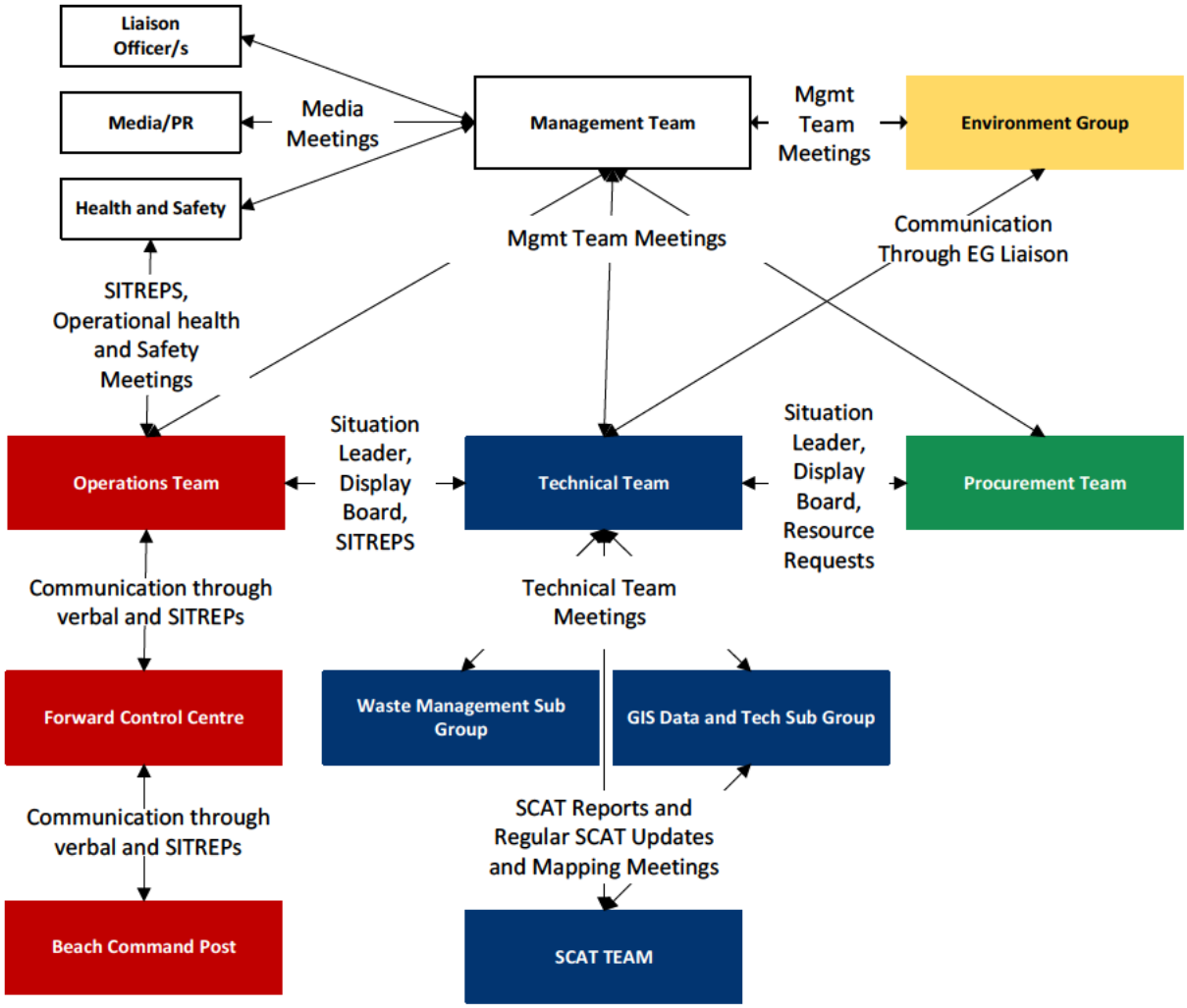


Figure 7.1 SRC Communication and Information Flow

7.2 Virtual SRC

Depending on the severity of a Tier 1 incident the Incident Commander may mobilise members of DAERA to form a virtual SRC to assist in developing an incident action plan and to support the tactical deployment of resources.

The virtual SRC will undertake the same roles and responsibilities (Section 6.5) of a fully mobilised SRC but use emails and conference calls as opposed to attending physical briefs and meetings. All shoreline response forms (Section 7.6) should be completed electronically and shared with the virtually mobilised SRC.

The Operations Team will be responsible for communicating all field reports to the virtual SRC. The Technical Team will be responsible for co-ordinating all conference calls regarding the incident, and ensure timely updates are received from the tactical response. The conference calls should follow the Management Team Meeting Agenda (Appendix C: Management Team Meeting Agenda and Meeting Room Layout).

The number of personnel mobilised to the virtual SRC will be dependent on the scale of the incident and the requirement for key response activities to be completed. This decision will be initially undertaken by the DEPO and then the Incident Commander.

7.3 Meeting Schedule

During the reactive phase of an incident there will be a requirement for regular management meetings, functional group meetings, and time-outs to ensure information is shared as it is received.

The Incident Commander, in consultation with the Management Team, should determine and schedule the perceived number of Management Team meetings required. The requirement will be dependent on the magnitude of the incident.

Functional team leaders will be responsible for scheduling regular functional group meetings to share work assignments and receive progress updates on work assignments.

If possible, Functional Team Leaders should organise Functional Group Meetings 20 minutes before and directly after each Management Team Meeting

Meeting	Description	Occurrence
Management Team Meeting	The management meetings are held to update the incident commander on the progress of the response and situation of the incident, to allow functional group chairs to share information, develop the incident action plan and request additional resources (See Appendix C: Management Team Meeting Agenda and Meeting Room Layout).	**Reactive Phase:** Once every 1 – 2 hours, dependant on scale of the incident. **Proactive Phase:** 2 times a day.
Functional Group Meetings	Functional group meetings should be short and brief and allow the functional group chairs to receive a progress update on key work assignments or allocate new work assignments. It also allows the functional group chairs to receive an update on the incident. These should be held before and after each management meeting. The functional group chair can appoint a member of the team to facilitate the meeting. Topics addressed should be: - Current progress of work assignments, - Requirement for additional resources, - Issues encountered, - Any new work assignments.	**Reactive Phase:** Once every 1 – 2 hours, dependant on scheduled Management Team Meetings. **Proactive Phase:** Once every 2 – 4 hours. dependent on scheduled Management Team Meetings.
Time - Outs	Time-outs can prove beneficial for the Incident Commander, or functional group chairs to share short injects of information to the SRC. Generally delivered when incident critical information is received and has to be shared with the whole SRC or functional group.	**Reactive Phase:** As required **Proactive Phase:** As required
Operations Team Briefing	The Operations Team briefing should be undertaken once the incident action plan is finalised and agreed by the Incident Commander. This briefing allows the Operations	**Reactive Phase:** End of COP **Proactive Phase:**

	Team to brief the response teams on the planned response during the next operational period.	End of COP
Liaison Officer Meetings	The Incident Commander may decide to either include Liaison Officers in the Management Team meetings, or schedule Liaison Officer Meetings and invite the appropriate functional group chair. The meetings provide an opportunity for the Liaison Officer to provide information on the objectives and actions being undertaken by other organisations participating in the response.	**Reactive Phase:** At least 2 throughout COP **Proactive Phase**: At least 1 throughout COP.
Transboundary Operations Meeting	The Transboundary Operations Meeting is a virtual meeting between key shoreline response agencies and should be held daily as a minimum. The SRC Irish County Council Liaison Officer will be responsible for arranging the meeting and ensuring all participants have the correct communications details. See Section 8.	**Reactive Phase:** At least 2 throughout COP **Proactive Phase**: At least 1 throughout COP.

7.3.1 Work Briefing Sequence

The most efficient way to impart incident information and assign actions to functional groups is through presentations at regular Management Team meetings and Time outs. Time outs can prove beneficial for the Incident Commander, or Functional Group Chairs to share short injects of information to the SRC.

An example of the SRC work briefing sequence within is shown in Figure 7.2.

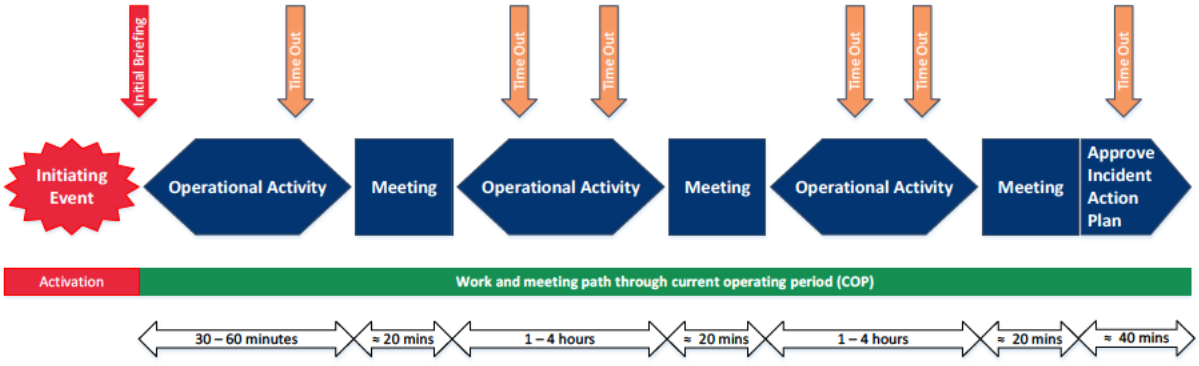


Figure 7.2 Example SRC Work Briefing Sequence

7.4 SRC Modes of Communications

The SRC will have the following modes of communication available:

- Breakout room for Management Team Meetings
- Laptops and desktop computers with internet access
- Projectors to display GIS maps
- Situation display boards

- Landline telephones
- Mobile telephones
- Functional group specific email addresses
- Conference call capability in the breakout room
- Local Resilience Forum for sharing documents and incident critical information.
- Electronic forms (See Section 7.6)

7.5 External Communications with Forward Command Centres /Beach Command Posts

Communications between the Forward Command Centres (FCC) and Beach Command Posts (BCPs) will need to be established and maintained throughout a response. Communications will be in the form of verbal communication via telephone, written communication via Email, and where possible handing in completed forms.

The FCC is responsible for supporting and liaising with each BCP ensuring there is an adequate flow of information to the Operations Team located in the SRC. Members of the FCC will as a minimum:

- Receive the contact details of all Beach Supervisors and establish contact and reporting schedule,
- Receive regular updates on the changing conditions at the response site/s from the Beach Supervisors
- Ensure Beach Supervisors have all necessary forms and are completing them on a timely manner
- Receive hard copies of the completed forms and send them to the Operations Team within the SRC
- Provide technical support to Beach Supervisors
- Undertake site assessments as and when required.

Beachmasters will be responsible for the supply of the following information to the FCC;

- Complete all necessary forms (Operational Site Survey, Safety Brief, Risk Assessment etc.),
- Assess the requirement for additional resources and report to the FCC,
- Liaise with the FCC and determine update schedule (verbal and written),
- Record number of people on site, equipment deployed, waste recovered,
- Report any safety concerns,
- Report progress,
- Provide guidance on situation change at site and the requirement for a new clean-up strategy,
- Submit all forms and photographs to the FCC as required.

Section 7.6 Provides information on the forms available to Forward Command and Beach Command Posts

7.5.1 Forward Command Centres and Beach Command Posts Modes of Communication

The modes of communication for the Forward Command Centres and Beach Command Posts are as follows:

Forward Command Centres:

- Desk Top Computer/Laptops with Wi-Fi
- Email
- Land Line Phones (Conference Call Capability)
- VHF Radios
- Forms

Beach Command Posts:

- Mobile Telephones (Signal Dependent)
- Email (Signal Dependent)
- VHF Radio
- Forms

7.6 Forms

The forms for the SRC teams are shown in Table 7.1 and can be found in Appendix F Forms

Table 7.1 Forms to be completed by the SRC and Response Teams

Forms	Descriptions	Responsibility
Incident Management Forms		
Notification	Notification forms are completed to ensure that all necessary incident information is collected and recorded. The completed forms can be submitted to members of the SRC, or other response organisations as required.	DEPO
Incident Action Plan	The incident action plan is a formal and approved document that sets out clear objectives, provides information on the overall response strategy, summarises events undertaken during the current operational period, and deployed during the next operational period. Each functional group will be required to complete certain aspects of the form. The Technical Team is responsible for ensuring the IAP is completed in a timely manner. Work assignments regarding the incident action plan are generated during the Management Team Meetings.	Technical Team
SITREP	The Situation Report (SITREP) is a form of status reporting that provides decision makers, other response organisations and readers a quick understanding of the current situation of the incident and the response measures that have been deployed.	Technical Team / FCC
Action Tracker	Action Tracker forms allow each member of a functional group to clearly see what actions are assigned to them and the group and track their completion.	Member of Each functional group
Log Form	Log forms should be used to keep note of all key actions undertaken by members of the SRC.	Everyone
Resource Request Forms	Resource request forms are utilised to request, document and track the ordering of additional resources. Generally submitted to the Procurement Team to order additional resources.	Everyone
Response Forms		
Risk Assessment	The risk assessment identifies all relevant hazards associated with the area and executing the response strategy along with all personnel that can be affected by these hazards.	Beach Supervisor

Forms	Descriptions	Responsibility
	All risks associated with each hazard will be individually assessed in line with the hierarchy or risk management within the risk assessment. Suitable control measures have to be implemented to ensure they are eliminated or reduced to ALARP. Example: Working near water, risk of drowning: to reduce risk personnel are to wear life jackets. The risk assessment shows that all hazards to personnel have been identified and risks have been addressed. The risk assessment form should be reviewed periodically or following any significant change.	
Log Form	Log forms should be used to keep note of all key actions undertaken by members of the SRC.	**All members of the SRC**
Site Safety Briefings	Site Safety Briefings should be held at the beginning of the daily operation. It allows the Beach Supervisor to highlight the day's operational goals, highlight hazards and associated risks with the operation and safety measures which have to be undertaken to ensure responder safety. The site safety form should be signed by all responders and On Scene Commander to ensure they have understood all risks involved and are prepared to follow safety measures in place.	**Beach Supervisor**
Gas Monitor	The Gas Detection Form should be completed when undertaking air analysis. Spilled oil can release vapours deemed hazardous to human health. Prior to any response operation the surrounding air should be tested to ensure it is safe to operate, both offshore and onshore.	**Beach Supervisor**
Site Safety Operational Survey Form	The Site Safety Operational Survey form is to ensure the continuous analysis of the work site, informing the SRC with both operational and safety concerns/information, and provides all information to construct a site safety plan, which should be produced by an assigned health and safety individual and contain, but not limited to: - - Work Zone characteristics - Hazard Information on the spilled product - Control Measures - Assembly points - Emergency contact details - Evacuation routes This form should be completed by Beach Supervisor at the beginning of each operational period/shift.	**Beach Supervisor**
SCAT Forms	A systematic form which ensures the collection of consistent data which shows, environmental and socio-economic receptors at risk or impacted, shoreline response site constraints, geomorphology and recommended clean-up Techniques. (See Section 13)	**SCAT Team**

7.7 External Communications – Liaison Officers

External Liaison Officers should be appointed as required. This will be dependent on how many external organisations are involved in the response. The main role of the Liaison Officer is to be the single point of contact for a designated external agency/organisation.

The Liaison Officer serves as a crucial communication channel between the SRC and other response organisations thereby promoting a combined response effort.

When possible the Liaison Officers should attend Management Team meetings, or schedule briefings with the Incident Commander. The briefings should discuss the requirements and planned actions of the external response agency.

The Action Card for Liaison Officers can be found in Appendix A – Action Cards

7.8 Resilience Direct

Resilience Direct is a web based private 'network' which enables civil protection practitioners such as the NIEA to work together – across geographical and organisational boundaries – during the preparation, response and recovery phases of an event or emergency.

There are a variety of activities associated with Resilience Direct in the preparedness and response phases of an emergency, but most notably include the ability for any Local Resilience Forum (LRF) to:

- Share situation reports and briefings between local responders, to enable the integrated management of events, consistent provision of information to the public, and
- Communicate situation reports to lead government departments and/or COBR, facilitating national coordination/action in response to an incident if necessary.

Throughout a response it will be the responsibility of the Technical Functional Group to update Resilience Direct.

8 Transboundary Joint Response

This section of the plan identifies measures that should be followed in the event of a pollution incident impacting both the Northern Ireland and Republic of Ireland coastlines, resulting in a transboundary response.

The areas at the highest risk of a transboundary response are at Carlingford Lough and Lough Foyle. The areas of Carlingford Lough and Lough Foyle can be seen in Figure 8.1.

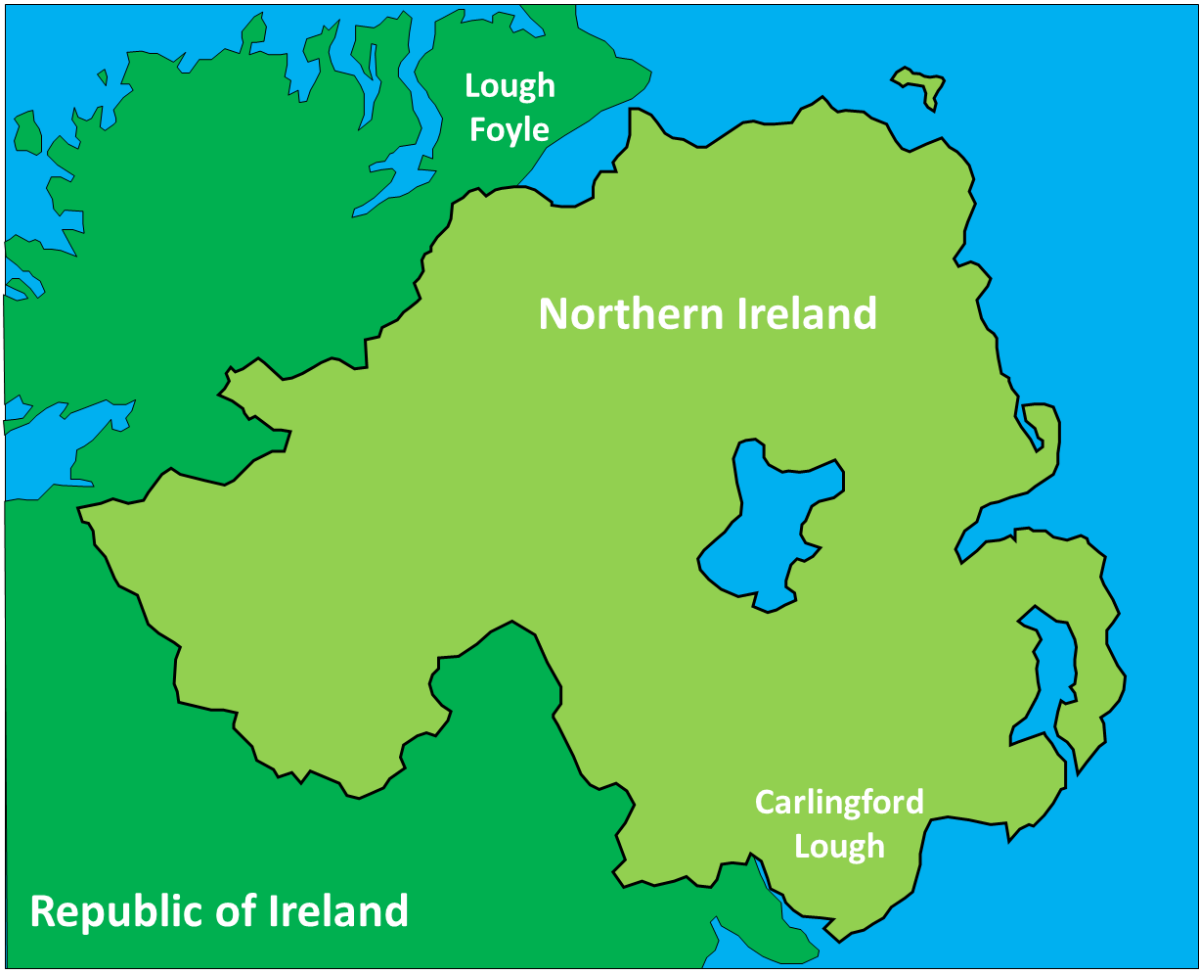


Figure 8.1 Northern Ireland Map

8.1 Pollution Response Ireland

8.1.1 Irish Coast Guard

The Irish Coast Guard within the Department of Transport, Tourism and Sport has the responsibility for exercising Ireland's Central Government's responsibility for counter pollution and marine casualty response within Ireland's Exclusive Economic Zone (EEZ).

The Irish Coast Guard is responsible for preparedness and response to marine pollution incidents within the Irish EEZ. This includes casualty response to vessels in need of assistance and pollution response arising from the threat of or actual spillage or loss of oil, chemical or hazardous noxious substances which threatens the Irish coastline or related interests.

The Irish Coast Guard provides support in terms of resources and expertise to Local Authorities when responding to a shoreline pollution incident.

8.1.2 Local Authorities

Within the Republic of Ireland, the county council is the lead agency when responding to a shoreline pollution event and will manage incidents in accordance with the Framework for Major Emergency Management within Ireland, and have in place pollution response plans in accordance with the Sea Pollution Act 1999.

The two local authorities likely to be involved in a transboundary response are:

- Donegal County Council
- Louth County Council

Louth have in place a County Coastal Plan which is inclusive of the shellfish waters in Carlingford Lough.

8.2 Pollution Event Originating in Ireland EZZ

The Irish Coast Guard have responsibility, via various international agreements, to notify Coastal States if pollution is likely to enter their waters. Responsible persons must therefore assess any potential transboundary impact.

In the event of a pollution incident occurring within the Irish EEZ which poses a risk of impacting the Northern Ireland Shoreline the notification process is shown in Figure 8.2.

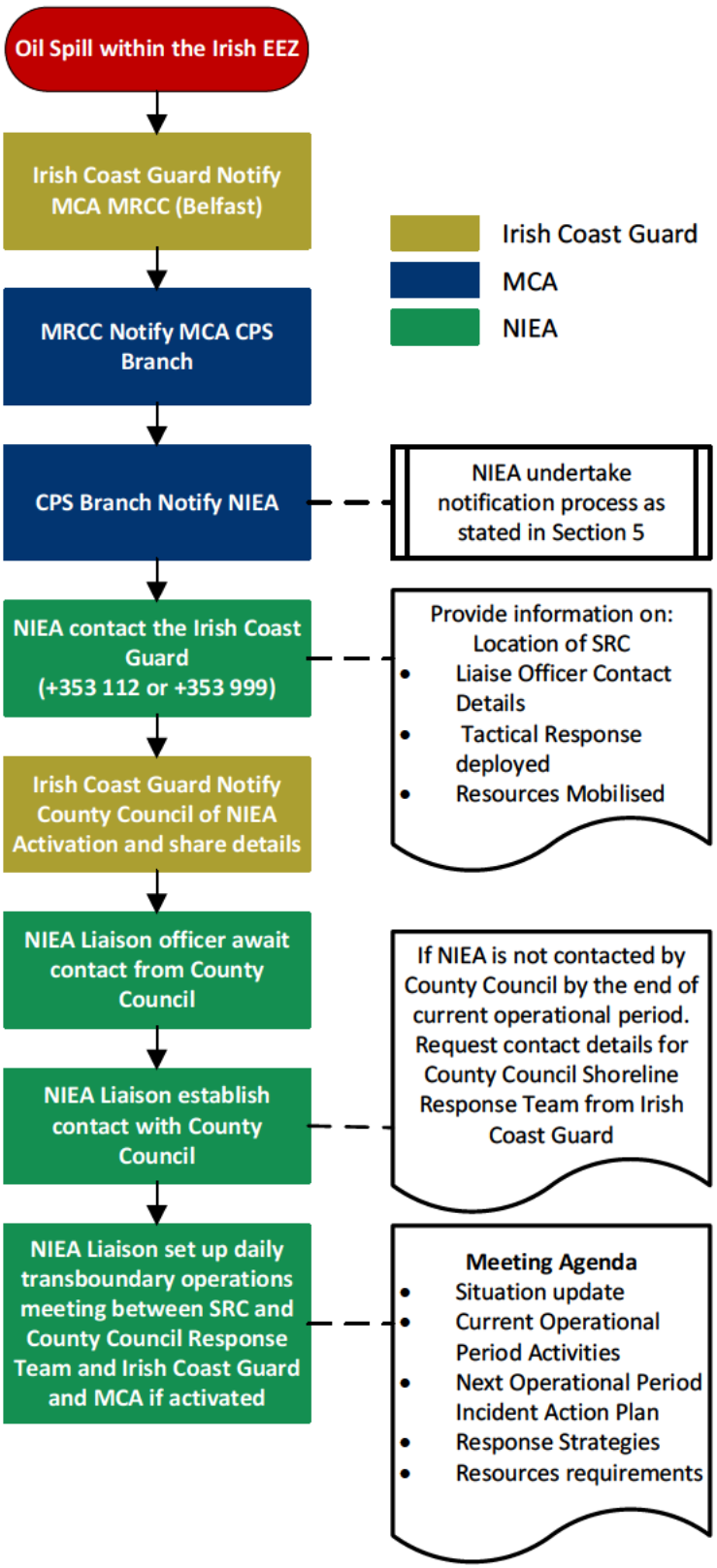


Figure 8.2 Notification Procedure for Pollution Originating in Ireland EEZ

8.3 Pollution Event Originating from Northern Ireland

The MCA have responsibility, via various international agreements, to notify Coastal States if pollution is likely to enter their waters. Responsible persons must therefore assess any potential transboundary impact.

In the event of a pollution incident occurring within the UK EEZ which poses a risk of impacting the Republic of Ireland's Shoreline the notification process is shown in Figure 8.3.

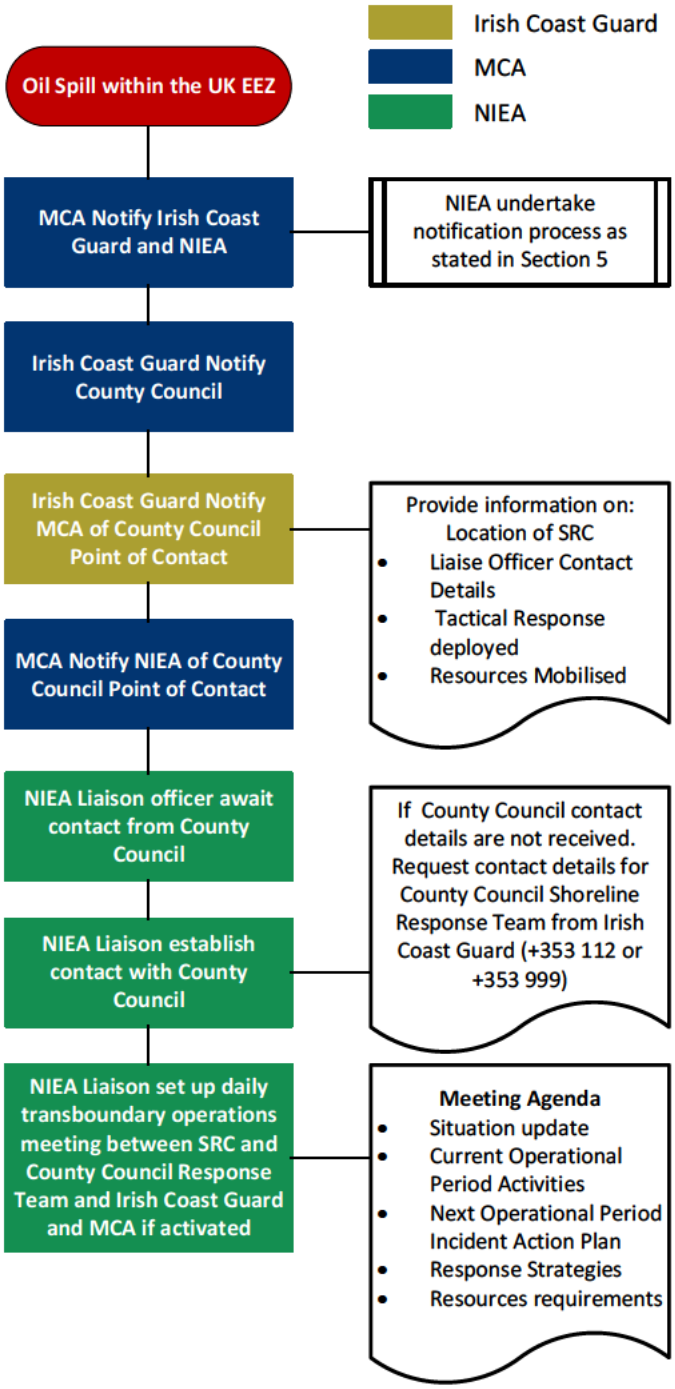


Figure 8.3 Notification Procedure for Pollution Originating in UK EEZ

8.4 Response Integration

Upon notification of a transboundary response the NIEA will undertake the following key actions to ensure an integrated response to a shoreline incident.

1. Appoint A Liaison Officer to be a continuous point of contact with County Council Shoreline Response Team
2. Provide a situation update of current operational period, tactics deployed and incident information
3. Schedule at a minimum a daily Transboundary Operations Meeting (teleconference of face to face)
4. Offer support of available resources and expertise if required to mitigate the overall impact of the spill

8.4.1 Transboundary Operations Meeting

The Transboundary Operations Meeting is a virtual meeting between key shoreline response agencies and should be held daily at a minimum. The SRC Irish County Council Liaison Officer will be responsible for arranging the meeting and ensuring all participants have the correct communications details.

The participants of the meeting should include but not be limited to:

- SRC Irish County Council Liaison Officer,
- SRC Management Team Representative (Operations Group Chair, Technical Team Chair, Incident Commander, or Deputy Incident Commander),
- MCA representative,
- NIEA representative
- Irish Coast Guard Representative,
- Members of the County Council Shoreline Response Team.

The agenda of the meeting should include but not be limited to:

- Situation updates,
- Overall objectives of the response,
- Strategy/tactics deployed during current operational period,
- Incident Action Plan for next operational period,
- Additional resources required,
- Sharing of available resources and expertise,
- Time of next meeting.

The SRC Irish County Council Liaison Officer will facilitate the meeting with the meeting having a maximum duration of 1 hour.

9 Spill Impact Mitigation Assessment (SIMA)

A Spill Impact Mitigation Assessment (SIMA) is a structured process that has been developed to help facilitate response option selection and support response strategy development in both the contingency planning phase and during an oil/HNS response.

The SIMA process described in this Section is "used to identify and compare the potential effectiveness and collateral impacts of candidate response options, enabling a qualitative and transparent determination of the most appropriate strategy"[5].

The SIMA process is primarily applicable to larger oil spill incidents where multiple spill response options are being considered.

The SIMA process is undertaken in four distinct stages as shown in Figure 9.1. The final output of SIMA assessment is a SIMA Matrix, shown in Figure 9.2, which when complete clearly identifies the most appropriate response option/s to mitigate the overall impact of the oil/HNS incident.

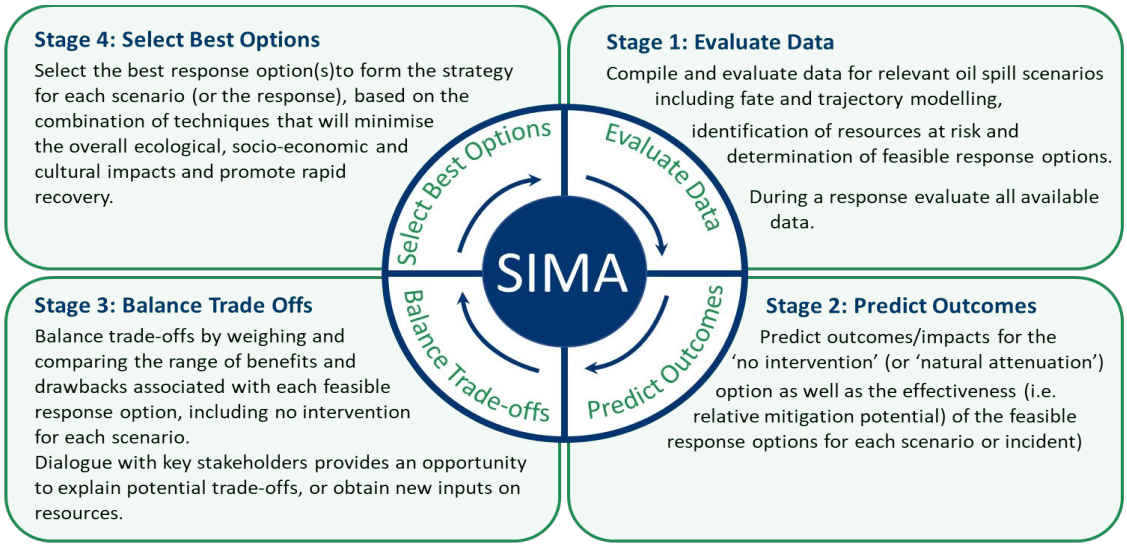


Figure 9.1 Summary of the SIMA Methodology

The process for completing the SIMA matrix and the corresponding stage within the SIMA methodology are shown below:

1. Determining resource compartments (Stage 1/2)
2. Assessing the potential relative impact (Stage 2)
3. Predicting the effectiveness and impact modification potential of the response options (Stage 3)
4. Determining impact modification factors (Stage 3)
5. Calculating total impact mitigation scores (Stage 3)
6. Rank response options (Stage 4)

Examples of completed SIMAs can be found in Section 9.6.

[5] Guideline on implementing spill impact mitigation assessment (SIMA), Pg6, IPIECA, 2017

Spill Impact Mitigation Assesment (SIMA)																			
		Response Technique																	
		Natural Recovery		Manual Clean-up		Debris Recovery		Sorbents		Surf Washing		High Pressure Washing		Mechanical Recovery		Flushing		Trilling/Harrowing/Ploughing	
Resource Compartments	Potential relative impact		Impact Modification Factor	Relative Impact Modification Score	Impact Modification Factor	Relative Impact Modification Score	Impact Modification Factor	Relative Impact Modification Score	Impact Modification Factor	Relative Impact Modification Score	Impact Modification Factor	Relative Impact Modification Score	Impact Modification Factor	Relative Impact Modification Score	Impact Modification Factor	Relative Impact Modification Score	Impact Modification Factor	Relative Impact Modification Score	Impact Modification Factor	Relative Impact Modification Score
	A		B1	A x B1	B2	A x B2	B3	A x B3	B4	A x B4	B5	A x B5	B6	A x B6	B7	A x B7	B8	A x B8	
	Total Impact Mitigation Score:																		
	Ranking:																		

Figure 9.2 SIMA Matrix Template

9.1 Stage 1: Evaluate Data

High consequences scenarios that identify a range of response challenges should be chosen for the SIMA process.

The analysis of the incident/scenario data should identify resources at risk and most appropriate response options available, thus forming the foundation of the SIMA Matrix (Figure 9.2). Response options that are not available should be disregarded from the SIMA Matrix.

The following information is required for undertaking Stage 1 of a SIMA.

- Location of incident
- Time of year
- Oil type and properties
- Volume of oil released
- Duration of the release
- Prevailing hydrodynamic and metrological conditions to determine
    - Spill trajectory modelling/calculation
    - Fate and effects of the oil in the environment (mass balance)
- Resources at risk (Section 3)
    - Ecological
    - Socio-economic
    - Cultural
- Potential response options (Section 10)
    - Available resources
    - Shoreline type (Environmental Sensitivity Index)
    - Most appropriate options

Note* The list of agreed resources can be obvious and evident; however, some resources maybe at risk, but not vulnerable to the detrimental impacts of the pollutant. It is useful to summarise discussions that took place to reach an agreement on what resources to consider and the organisations involved in the discussions.

9.2 Stage 2: Predict Outcomes

The next stage of the SIMA process is to predict the outcome of the spill incident in terms of detrimental impact to resources if no response was undertaken (no intervention). This initial phase provides an opportunity to confirm the determined resources at risk and complete/finalise the Resources Compartment column on the SIMA Matrix (Figure 9.2).

Throughout this phase of the SIMA process subject matter expert input may be required from the Environment Group, special response contractors and local stakeholders. Available literature should also be consulted if available.

When evaluating the potential impact "the categorisation of the impacts does not need to be precise but should be reasonable and justifiable"[6]. The ranking scale shown in Table 9.1 is generally utilised when determining the level of impact in the SIMA methodology. The numerical values are input into Column A on the SIMA matrix (Figure 9.2).

Table 9.1 Scaled Impact Ranking System

Level of Impact/Outcome	Numerical Value
None	1
Low	2
Medium	3
High	4

Towards the end of Stage 2 the SIMA team should be making predictions of how each feasible response will modify the overall impact of the spill. The effectiveness of the response should take into consideration various factors such as, oil type, weather, volume of oil to be treated, resource encounter rate, and logistical issues (all information that was gained throughout Stage 1).

The preliminary prediction on how the selected response options will affect the overall impact of the incident provides the basis for allocation of the impact modification factors for each response option in the SIMA Matrix.

9.3 Stage 3: Balance Trade Offs

Throughout this stage of the SIMA process the SIMA Matrix (Figure 9.2) is completed to show which response options best mitigate the overall impact of the spill and which response options benefit certain resources.

The final matrix promotes discussion on which resources are considered more important and therefore certain trade-offs are considered such as, cultural over environmental sensitive receptors.

[6] Guideline on implementing spill impact mitigation assessment (SIMA), Pg32, IPIECA, 2017

9.3.1 Impact Modification Factor

The first columns to be completed in the SIMA Matrix are the Impact Modification Factors (B1, B2, B3 etc.). The numerical value input into the columns is derived from determining the reduced, or increased impacts the response options will have on identified resources compared to the no response/intervention.

The scale for the impact modification factors is shown in Table 9.2. Each response option modification value is dependent on various parameters. Section 10 identifies the limitations and benefits for all response shoreline response options and should be consulted when determining the impact modification factor. All devised response modification values should be reasonable and justifiable.

Table 9.2 Impact Modification Factors

Description	Impact Modification Factor
Major mitigation of impact	+3
Moderate mitigation of impact	+2
Minor insignificant alteration of impact	+1
No or insignificant alteration of impact	0
Minor additional impact	-1
Moderate additional impact	-2
Major additional	-3

9.3.2 Relative Impact Mitigation Score

The relative impact score is calculated by multiplying the no intervention potential relative impact score in column A with the impact modification factor, column B, for each response option. The score "represents the relative change that each response option is likely to have on the level of impact on each resource. Since the relative impact mitigation score is derived from a qualitative ranking of impacts, the score should not be taken as a quantitative measure of impact"[7]

The visual reference colour code in Figure 9.3 can be applied to the relative impact mitigation scores on the SIMA Matrix to provide visual reference and emphasis to the most beneficial response for each comparative resource.

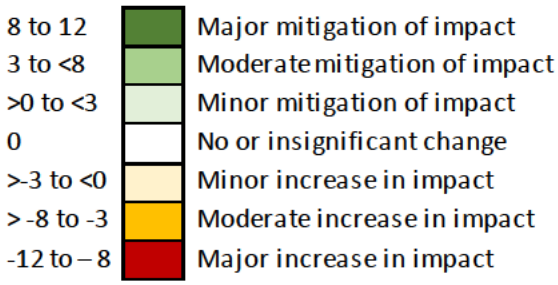


Figure 9.3 Visual Reference of the Potential Impact Mitigation

[7] Guideline on implementing spill impact mitigation assessment (SIMA), Pg 18, IPIECA, 2017

9.3.3 Total Impact Mitigation Scores

The total impact scores are derived from calculating all the relative impact mitigation scores for each response option and displayed at the bottom of the SIMA Matrix. The totals are qualitative predictions and should be "used to rank the relative ability of each response option to mitigate the impacts and enhance recovery"[8].

Note* The total impact mitigation scores do not have any direct mathematical relationship; for example a response option with a total impact mitigation score of + 30 will not achieve twice the overall mitigation of a response option with a total impact mitigation score of + 15.

9.4 Stage 4: Select Best Response Options

This stage involves selecting the option or options with the largest mitigation score. In most cases with shoreline response a differing response option will be required throughout the differing phases of shoreline response (Section 10) and more SIMAs may have to be undertaken throughout the response to achieve the determined end-point criteria (see Section 10 for information on end-point criteria).

9.5 Real Incidents

SIMA's can be used during an incident response to develop the most appropriate response strategy to mitigate the overall impact of the incident.

As there are time-constraints when responding to an incident the SRP should minimise the stakeholders involved in developing the SIMA, rely on best available professional judgement, and if suitable utilise a pre-completed SIMA in Section 9.6 which has similar circumstances and parameters to the incident.

The following sources of information will prove highly beneficial when undertaking a SIMA during a response:

- Oil spill trajectory modelling (available through the MCA)
- ESI layer on Spatial NI
- Environment Group
- Specialist Response Contractors
- Response Strategy (Section 10)
- SIMA Matrix Form (Appendix D SIMA Form and Scenarios)

9.6 Pre-planning Response Scenarios

SIMAs conducted during contingency planning develops the most effective response strategy for worst case scenarios identified as part of the risk assessment process. A likely scenario was identified during the production of this contingency plan and corresponding SIMA undertaken. The results of the SIMA are shown in Appendix D SIMA Form and Scenario. Throughout the completion of exercises and training additional SIMA's should be created and archived.

[8] Guideline on implementing spill impact mitigation assessment (SIMA), Pg 19, IPIECA, 2017

10 Response Strategies and Clean-up Guidelines

The purpose of this Section is to guide the Shoreline Response Centre (SRC) in determining the most appropriate response strategy for safely and effectively minimising the overall impact of an oil pollution incident. For guidance on combating HNS incidents please refer to Section 11.

Strategy, in this field, is defined as the utilisation of a single response option, or combination of options to effectively combat an oil spill[9]. Throughout the response to a shoreline incident, a combination of response options maybe required and the overall strategy may change as the incident develops.

Selection of the most appropriate shoreline response option(s) involves the consideration of several differing factors including, oil type, shoreline type, access points, available resources, and environmental, cultural and socio-economic sensitivities.

This Section of the plan should be utilised concurrently with:

- NIEA Environmental Sensitivity Index available on Spatial NI
- SIMA process (see Section 9)
- Local booming plans
- Shoreline Clean-up Assessment Technique (SCAT) Surveys (see Section 13)

Figure 10.1 shows the process for developing an effective shoreline response strategy

10.1 Principles of Shoreline Response

During an oil spill and if oil impacts, or is expected to impact a shoreline then a response can be implemented in three distinct phases[10].

Shoreline Protection – Response options are deployed to protect the shoreline through booming to deflect oil from sensitive receptors or collect oil in a favourable location to prevent further spreading.

Shoreline Preparation – Undertaken in areas where oil is predicted to beach, response options such as removal of uncontaminated shoreline debris, seaweed and flotsam to above the highest stranding line; and the erection of appropriate signage.

Shoreline Clean-up – Undertaken once oil is beached and entails deploying response options to physically remove oil from the shoreline to an agreed 'clean up' end-point. The shoreline 'clean-up' operation is generally undertaken in three stages.

Stage 1: Removal of floating oil at the waters edge and thick concentrates on the shoreline

Stage 2: 'Clean-up' of moderate contamination, stranded oil and oiled beach materials.

Stage 3: 'Clean-up' of lightly contaminated shoreline and final polishing to achieve an agreed end-point.

Throughout the differing shoreline response operations and phases, different shoreline response options may be implemented. Please refer to Section 10.3 for guidance on determining the most appropriate response options/'clean-up' technique(s) to deploy. Each shoreline clean-up technique described in Section 10.3 provides recommended end-point criteria.

[9] Guideline on implementing spill impact mitigation assessment (SIMA), IPIECA, 2017
[10] Shoreline Response, Oil Spill Response Tool Kit, Oil and Gas UK, 2015

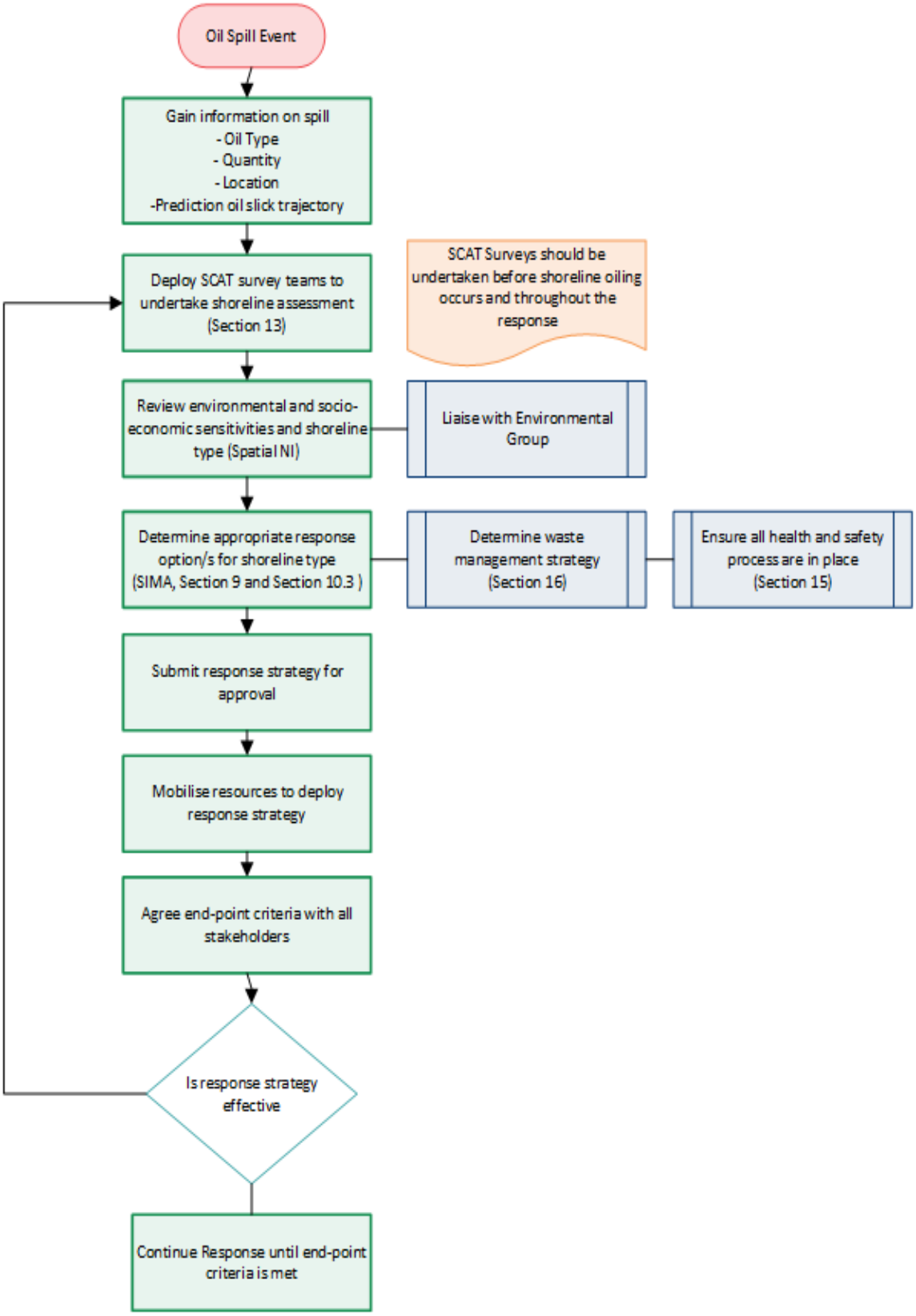


Figure 10.1 Shoreline Response Strategy Development Process

10.2 Localised Shoreline Response Plans

NIEA have access to a database of localised shoreline 'Clean-up' Plans and SpatialNI can be used to identify if a localised shoreline response plan is available for an area where shoreline impact has or is likely to occur.

The localised shoreline response plans identify environmental and socio-economic sensitivities, and pre-identified locations where oil collection/recovery is considered to be both practicable and beneficial. The plans include the following response strategy development steps:

- Access routes from the nearest town
- Site specific hazards/safety considerations
- Shoreline types
- Suggested clean-up methods
- Booming plans for protective sensitive receptors

10.3 Shoreline Response Options/Clean-up Techniques

Understanding the advantages and limitations of each response option/'clean-up' technique is fundamental in determining the most appropriate response strategy for a segment of shoreline.

The Shoreline 'Clean-up' Technique Decision Chart in Table 10.1 (also found in Appendix E Shoreline Response Technique Decision Table), along with 'clean-up' technique descriptions in Sections 10.3.1 – 10.3.11, should be utilised by members of the SRC to determine the most appropriate 'clean-up' technique for a shoreline type.

In most cases, more than one 'clean-up' technique is required for an effective shoreline response strategy to achieve the agreed end-point criteria.

Table 10.1 Shoreline Clean-up Technique Decision Chart

	Shoreline Clean-up Technique Decision Chart											
	Response Technique											
Types of Shoreline (and environmental sensitvities index category)	Debris Recovery	Natural Recovery	Mechanical recovery using pumping and vacuum equipment	Mechanical In-Situ Substrate Washing	Mechanical recovery using plant machinery	High Volume Low Pressure cold water flushing	High Pressure Washing	Manual Clean-up	Surf Washing	Sorbents	Protection booming and deflection / collection booming	Trilling / Harrowing / Ploughing
Exposed Rocky Shores (ESI 1A)	●	●	○	●	●	●	○	○	○	○	○	●
Exposed Solid Man-Made (ESI 1B)	●	●	●	●	●	○	●	●	●	○	●	●
Exposed Rocky Platforms (ESI 2A)	○	●	○	●	○	○	○	○	○	○	○	●
Fine-Medium Sand Beaches (ESI 3A)	●	○	●	●	●	●	●	●	○	○	●	●
Scarps And Steel Slopes In Sand (ESI 3B)	●	○	○	●	○	○	○	○	○	○	○	●
Course Sand Beaches (ESI 4)	●	○	○	●	○	○	●	●	●	○	○	○
Mixed Sand And Gravel (ESI 5)	●	○	○	○	○	●	●	●	●	○	○	○
Gravel Beaches (ESI 6A)	●	○	○	●	○	●	●	○	●	○	○	○
Rock Armour Sea Defence And Gravel Beaches (ES	●	●	○	●	●	●	○	○	●	○	○	●
Exposed Tidal Flats (ESI 7)	●	●	●	●	●	○	●	○	●	○	●	○
Sheltered Scarps And Rocky Shores (ESI 8A)	●	●	●	●	●	●	○	○	●	○	○	●
Sheltered Solid Man-Made Structures (ESI 8B)	○	○	●	●	○	○	●	○	●	○	○	●
Sheltered Riprap (ESI 8C)	○	●	○	●	●	○	●	○	●	○	○	●
Sheltered Rocky Rubble Shores (ESI 8D)	○	●	○	●	●	○	○	○	○	○	○	○
Sheltered Tidal Flats (ESI 9A)	●	●	○	●	●	●	●	○	●	○	●	●
Vegetated Low Banks (ESI 9B)	●	●	●	●	○	○	●	○	●	○	○	●
Salt And Brackish Water Marshes (ESI 10A)	●	●	●	●	●	●	●	○	●	○	●	●
Freshwater Marshes (ESI 10B)	●	●	●	●	●	●	●	○	●	○	●	●

● Prefferred ○ Possible ● Avoid

10.3.1 Debris Removal

Debris Removal	
Explanation	Debris removal is a defensive 'clean-up' technique which involves utilising manual and mechanical recovery techniques to remove flotsam, jetsam and organic matter from the shoreline or to above the highest stranding line (dependent on available resources) before the oil spill impacts the shoreline. This method is effective in reducing the amount of contaminated waste generated, which is subsequently treated as hazardous. High concentrations of debris can be identified though aerial reconnaissance and response teams can be directed accordingly to specific debris hotspot locations.
Key Considerations	- Identify the current position and trend of the tidal cycle at each location and constantly review weather reports for the region, considering tidal variations, storm events, pressure differences, flood events, which may affect how high to displace debris above the current stranding line. - Consider tidal times to ensure the safety of responders and ensure access to shorelines. At high tides, response teams may become cut off from access and egress points or have an insufficient area to operate in.
Necessary Resources	- Beach Supervisor. - Labour. - Hand tools (rakes, pitch forks, shovels). - Mechanical Machinery (front loaders, backhoe excavators etc.).
Advantages /Disadvantages	Advantages - Reduces waste generated throughout a response. - Makes for easier 'clean-up' operations. Disadvantages - Can remove organic matter from the littoral ecosystem. Organic matter can be a crucial source of nutrients to littoral ecosystems. Once shoreline operations have ceased it is advised to segregate flotsam and jetsam from recovered organic matter (seaweed, wood, sand dune grass etc.) as this allows removed organic matter to be returned to the shoreline.
End-Point Criteria	- When debris is removed from the shoreline or above highest stranding line.
Shoreline Types	- All accessible shoreline types.

10.3.2 Natural Recovery

Natural Recovery	
Explanation	In time, most shorelines will clean oil naturally through the interaction of oil with sea water and microorganisms, as oil will weather through abrasion, clay-oil flocculation, mineral-oil aggregation, photo-oxidation and biodegradation. Where circumstances allow, and end agreed points aren't driven by amenity or political considerations, natural cleaning is the preferred option. On high energy, exposed shorelines, the majority of the oil will be removed within one seasonal cycle. In low energy environments, oil will usually disappear within two to three years. Continued monitoring and sampling schedules should be devised for visual inspection and independent chemical laboratory analysis when natural cleaning is deployed as a shoreline clean-up technique. *(for the presence of hydrocarbons in the water column)
Key Considerations	- Good for lightly oiled shores. - Most efficient and effective solution, especially during seasonal storms. - Not effective for oil trapped in anaerobic mud (ESI 8E and 9A). - Can be used as the final cleaning technique after other techniques have been deployed.
Necessary Resources	- None
Advantages / Disadvantages	Advantages - Reduces waste generated compared to substrate removal. - High level of sediment cleanliness achieved. - Low to no labour required (other than monitoring and sampling). Disadvantages - Impact to littoral ecosystem whilst oil degrades - Seen to be doing nothing.
End-Point Criteria	No visible oil, sheen, or greasy texture to sediment.
Shoreline Type	- All.

10.3.3 Mechanical Recovery using Pumping and Vacuum Equipment

Mechanical Recovery Using Pumping and Vacuum Equipment	
Explanation	Mechanical recovery using pumping equipment can be undertaken where free floating oil or other pollutant has been contained. The free-floating oil or other pollutant can be pumped directly from the containment area to temporary storage tanks or into a road tanker/vacuum tanker. The type of pump selected will depend on the viscosity and chemical characteristics of the oil or other pollutant (sulphuric acid and ammonium hydroxide requires a chemical resistant pump; methanol requires an intrinsically safe pump). Oil recovery can be enhanced by utilising oil recovery skimmer attachments on vacuum pump hoses. The skimmers can prove effective in minimising the volume of water removed from the environment. Oleophilic disk skimmers are advised for condensate and diesel. **This shoreline clean-up technique can be used in conjunction with Protection Booming and Deflection/Collection Booming (Section 10.3.9).**
Key Considerations	- The right pump is used for the oil or other pollutant. - There is adequate onsite waste storage for the oil or other pollutant that is not directly recovered into a vacuum tanker. - Ensure tankers are ADR (European **A**greement concerning the International Carriage of **D**angerous Goods by **R**oad) rated. - Ensure Contractors/Contracted vehicles are Registered Carriers of Waste in NI.
Necessary Resources	- ADR Tanker. - Pumps, Skimmer attachments. - Temporary waste storage equipment for liquid. - Gas Monitors.
Advantages / Disadvantages	Advantages - Removal of bulk pollutant. - Low biological impact. - If using heavy plant non-labour intensive. - Can efficiently and effectively treat cobbles and pebbles. Disadvantages - If not undertaken appropriately, a lot of water can be removed, therefore, increasing the overall waste generated.
End-Point Criteria	- When no more pollutant can be recovered.
Shoreline Types	- All.

10.3.4 High Volume, Low Pressure Cold Water Flushing

High Volume, Low Pressure Cold Water Flushing	
Explanation	Flushing is an active clean-up technique, where high volumes of water at low pressure is used to wash stranded, or buried oil from shorelines. The two most common applications of this technique are the removal of buried oil or removal of surface oil from sensitive areas, like tidal mud flats and salt marshes. This technique is often used in conjunction with sorbent deployment to collect oil released during the flushing process. In general, a self-priming centrifugal pump is used to supply seawater to a length of fire hose, with multiple perforations, which is strategically positioned above the strandline to allow a steady evenly distributed flow of low pressure water on to the impacted area. A directional flushing lance can be used to assist in the direct agitation of sediment, which can release oil trapped in soft sediment. This process is often undertaken on the ebb tide. This technique can be a viable alternative to the removal of contaminated substrate, significantly reducing the waste generated throughout a response.
Key Considerations	- Identify the tide times, as this technique is more successful on the ebb tide. - Saltwater can damage equipment so ensure regular maintenance checks to manufacturer's guidance. - For flushing above the waterline, the released oil can be channelled into natural collection areas, or constructed pits. - Locating a sorbent boom down gradient of the flushing will be required to prevent the migration of oil to other shorelines. - Complete a Net Environmental Benefit Analysis before deploying this technique on sensitive shorelines (ESI 7 – 10C) and review adjacent shorelines at risk of contamination due to this technique.
Necessary Resources	- Beach Supervisor. - Labour. - Hand tools (rakes, pitch forks, shovels) to assist agitation. - Sorbent material (preferably absorbent booms). - Waste bags for spent sorbent. - Pumping system. - Perforated hoses and lances. - Gas Monitors.
Advantages / Disadvantages	Advantages - Reduces waste generated compared to substrate removal. - Removes oil from sensitive areas, such as salt marshes. - Minimal disruption to beach profile and ecosystem, due to natural attenuation processes. Disadvantages - Moderate to high labour intensity. - Operation is limited to the ebb tide. - Coating of oil may remain on substrate.
End-Point Criteria	When no more oil can be released from flushing. Additional 'clean-up' techniques such as tilling, natural weathering, or surf washing maybe required to achieve agreed end point.
Shoreline Type	- All.

10.3.5 High Pressure Washing

High Pressure Washing	
Explanation	High pressure washing is generally utilised on hard substrates and manmade surfaces and deployed when the natural cleaning rate is insufficient to satisfy the agreed end point objectives. The aggressive active 'clean up' technique entails the use of a compressor and a lance to apply water at high pressure to surfaces; the water can either be cold or warm dependent on the degree of contamination. High pressure teams generally consist of 3-4 personnel, due to restricted movement and dangerous working environment / equipment, trip hazards and hot water application. This 'clean-up' technique can be used concurrently with flush/flooding and sorbent use to mitigate the risk of oil migration and secondary contamination.
Key Considerations	- Recommended pressure is 50 -150 bars (725 – 2175psi) with flow rates of 10-20 litres/minute. - Hot water, high pressure washing operating temperatures are 70-95 ^{0}C, therefore, response personnel should wear appropriate PPE, for example oil skin coveralls and face masks. - If salt water is used, regular maintenance checks of equipment will be required due to the damage sea water causes. - It could be beneficial to pump water into a temporary storage tank then into the compressor to ensure a continuous supply of water to the pressure washer. - The jetting process can be slow and cause damage to surfaces and kill biota (Net Environmental Benefit Assessment required). - Tidal times required (often more successful on the ebb tide). - The jetting is a slow process (average rate of 1-3 m^{2}/hr). - Safe working platforms e.g. floating pontoons/cherry pickers may be required to access oil staining with lance.
Necessary Resources	- Beach Supervisor. - Labour. - Compressor. - Lances. - Safe working platforms (if necessary). - Temporary storage tanks (if used). - Transfer pump system (water source to temporary storage tank). - Sorbent material (preferably sorbent booms). - Waste bags for spent sorbent. - Gas Monitors.
Advantages / Disadvantages	Advantages - Removes oil staining and achieves aesthetically based objectives and end points. Disadvantages - Very aggressive clean-up technique. - Safety of response personnel. - Can have large impact on coastal ecosystem.
End-Point Criteria	No to faint oil staining on surface.
Shoreline Type	- Hard Surfaces (ESI 1B) - Man-made surfaces (ESI 8B, 8C)

10.3.6 Manual Clean-up

Manual Clean-up	
Explanation	Manual recovery is generally utilised on non-fluid stranded oil and oiled beach materials (sand and shingle) on shorelines accessible on foot. The stranded oil and contaminated substrates can be removed with a variety of implements; trowels, scrapers, rakes and shovels. Recovered oil is usually placed in heavy-duty plastic bags (400 gauge/100µm thick) with a nominal capacity of 25kg, and should be filled no more than 3/4 full, or approximately 15kg in weight. If the impacted shoreline supports machinery, collected waste can be put straight into a bucket or trailer to reduce the manual labour. If oil is to be collected manually from sensitive wetlands (ESI 9A, 9B, 9C, 10A,1 0B, 10C) ground load bearing capacity tests will have to be undertaken. All waste collected should be stored in a designated location on the beach above the highest stranding line.
Key Considerations	- Tide times, access points and operational hours. - Undertake a NEBA to assess the risk of surrounding shorelines. - When planning the response, consideration of the transportation of waste on the shoreline especially in areas where vehicle access isn't supported. - Ensure there is adequate personnel to undertake the manual recovery response and regular rest breaks are undertaken. - An effective span of control should be implemented; 7 – 10 labourers to one beach supervisor. - Gas Monitoring.
Necessary Resources	- Beach Supervisor. - Labour. - Implements; trowels, scrapers, rakes and shovels. - Heavy plant (loaders, dump trucks, backhoe tractors, tractor trailer, all-terrain vehicle with trailer). - Sorbent material (preferably absorbent booms). - Waste bags. - Gas Monitors.
Advantages / Disadvantages	Advantages - Removal of stranded oil from all types of shoreline as well as contaminated sediments from sand and shingle shorelines. - Highly selective, leading to a high oil content in oily waste with relatively small amounts of clean substrate, thereby minimizing the amount of waste for transport and disposal. - Low biological impact. Disadvantages - A large workforce needs to be well organised with a high level of supervision to maintain focus of workforce. - Restricted by tides and beach access points. - Temporary disruption to beach use. - The coordination of large numbers of staff in this role calls for significant management effort.
End-Point Criteria	When no more product can be manually recovered.
Shoreline Type	- Sand (ESI 3A,3B,4,5) - Shingle (ESI 6A) - wetlands (ESI 9A, 9B, 9C, 10A, 10B, 10C)

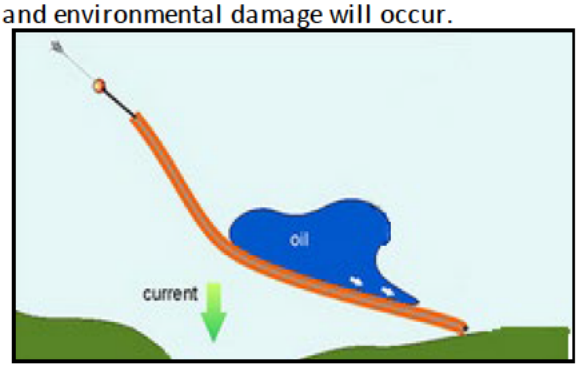
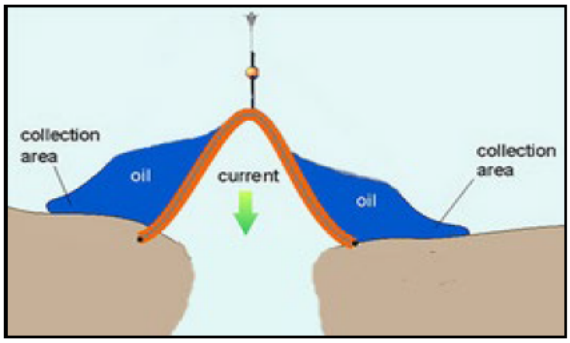
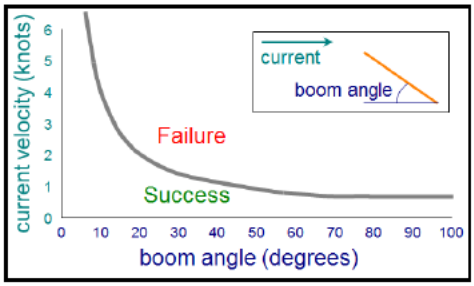
10.3.7 Surf Washing

Surf Washing	
Explanation	Surf washing is a natural process, which can be enhanced by using heavy plant to relocate contaminated substrate into the surf zone. The purpose of the technique is to utilise the wave energy in the intertidal surf zone to remove oil from the substrate through abrasion, oil-mineral aggregation (molecules of oil absorbed on to mineral surfaces) and dispersion (and potentially evaporation). This technique maybe used in conjunction with sorbent deployment to recover oil and minimise the risk of contaminating adjacent shorelines. Due to the natural process of attenuation, the beach will redistribute sediment deposited into the surf zone, reforming its natural profile over time
Key Considerations	- Tide times will affect access points and operational hours. - Salt water can be damaging to heavy plant, freshwater wash down facilities for heavy plant will be required for a prolonged response. (warm area) - Undertake a SIMA to assess the risk of surrounding shorelines of remobilised oil. - Silver and iridescent sheen maybe visible on the surface of the water because of this technique. It is envisaged the sheen will dissipate naturally into the marine environment. - The agreed end point for amenity beaches will be different to non-amenity beaches; further tilling maybe required for amenity beaches. - Gas Monitoring.
Necessary Resources	- Beach Supervisor. - Labour. - Heavy plant (loaders, dump trucks, 360 excavators, backhoe tractors). - Sorbent material (preferably absorbent booms). - Waste bags for spent sorbent. - Gas Monitors.
Advantages / Disadvantages	Advantages - Reduces waste generated throughout a response. - Relies on natural clean-up processes. - Cleans a large volume of substrate in a small time. - Low Labour. Disadvantages - Restricted by tides and beach access points. - Temporary disruption to beach use. - Temporary alteration of beach profile. - Potential to disrupt beach ecosystem especially fauna.
End-Point Criteria	When no more oil can be released from flushing.
Shoreline Type	- Sand (ESI 3A,3B,4,5) - Shingle (ESI 6A) - Pebble (ESI 6A) - Cobble (ESI 6A) Vehicle access and exposure to breaking waves is required

10.3.8 Sorbent Use

Sorbent Use	
Explanation	Sorbents are man-made materials that preferentially soak-up oil or chemicals rather than water. Sorbents can be used to collect product from the shore, manmade structures or floating in the marine environment. Once the sorbents are saturated they are bagged and stored at the temporary waste storage area. The large-scale use of sorbents is not advocated as it increases the quantities of waste produced. There is an array of different absorbent products for both oils and chemicals, absorbent booms, pads, pom poms and dust for different applications. To remain effective, sorbent materials must be changed once they become saturated with the oil or other pollutant.
Key Considerations	- Correct use of sorbents. - Waste management of saturated absorbents. - Gas Monitoring.
Necessary Resources	- Spill Response Technician. - Temporary waste storage. - Sorbents – oil and chemical.
Advantages / Disadvantages	Advantages - Low labour requirement – sorbent materials need to be exchanged when saturated. - Low biological impact. - Can be used in both chemical and oil spills. - Can be used in conjunction with other clean up strategies. (Pumping, Surf Washing) Disadvantages - End-point leaves surface oil residue, cover or coating and depending on location, further treatment may be required. - Generates waste (spent/saturated absorbents).
End-Point Criteria	No visible oil, sheen, is released.
Shoreline Type	- All

10.3.9 Protection Booming

Protection Booming and Deflection/Collection Booming	
Explanation	To protect socio-economic and environmentally sensitive areas from the effects of spilt oil or other pollutant. Protection booming can be the last line of defence in preventing shoreline contamination of specific areas. Booms can also be deployed to deflect oil into designated recovery areas. Recovery areas must be areas of shoreline where the least socio-economic and environmental damage will occur.  **Deflection/Spur Boom Configuration** Deflection/spur booming can be deployed to prevent contamination of sensitive shoreline areas and river mouths/estuaries. It can also be deployed as a method to prevent the migration of oil via longshore currents.  **Chevron Boom Configuration** Chevron booming can be deployed as a method to prevent oil or other pollutant entering river mouths or contaminating environmentally sensitive areas. The method can also be employed to contain oil close to source, for example from an interceptor outfall.
Key Considerations	- When deploying the boom consideration should be taken on the effect of current forces on the position of the boom. The angle of boom will have to increase with increased current/force. -  - The technique is restricted to conditions of light breezes and slight seas (i.e. wave heights between 0.5 and 1.25 metres high).

	- Response teams will require a suitable staging area to deliver equipment and then deploy equipment which is addressed in Part 2 – 4 of this shoreline response plan. - A boat will be required to deploy boom. - Pooled condensate will be highly flammable.
Necessary Resources	- Beach Supervisor. - Trained Response Technicians. - Containment boom and ancillaries (anchors, rope, buoys). - Boat to deploy boom. - 4 x 4 Vehicles for Kit Deployment.
Advantages / Disadvantages	Advantages - Protects sensitive areas. - Contains floating oil in one location for recovery. - Minimises the contamination of sediment and therefore reduces waste generated. - Low biological impact. Disadvantages - End point leaves surface residues on any contaminated sediment. - Contaminated sediment will require further treatment. - Initially labour intensive.
End-Point Criteria	No visible oil in containment area.
Shoreline Type	- All

10.3.10 Tilling/Harrowing/Ploughing

Tilling/Ploughing/Harrowing	
Explanation	Tilling of sediment means using agricultural equipment to plough or harrow lightly contaminated sediment. This is often initiated when sediments have a greasy feel; the ploughing action breaks up the sediments, increasing the surface area of oil exposed to weathering processes, facilitates clay-oil flocculation or mineral-oil aggregation. The process also assists in aerating the sediment, allowing for naturally occurring littoral micro-organisms to readily degrade the oil This process is often undertaken at low tide and repeated on the receding tide and may be a practical alternative to surf washing if the shoreline is sheltered from breaking waves.
Key Considerations	- Identify the tide times, as it may be impractical to undertake tilling on a high tide. - Can only be utilised on tidal shorelines. - Reworking the beach can have an acute impact on the littoral ecosystem. - Natural attenuation should return the beach to its natural beach profile. - Gas Monitoring.
Necessary Resources	- Beach Supervisor. - Tractor. - Agricultural equipment (plough). - Gas Monitors.
Advantages / Disadvantages	Advantages - Reduces waste generated (compared to substrate removal). - Low labour. - Agriculture equipment required is readily accessible. - High level of sediment cleanliness achieved. Disadvantages - Acute effects on littoral ecosystem.
End-Point Criteria	No visible oil, sheen, or greasy texture to sediment.
Shoreline Type	- Fine to coarse sediment shoreline (including shingle) (ESI 3A,3B,4,5)

10.3.11 Bioremediation

Bio-remediation	
Explanation	Bio-remediation is the term used to describe a range of naturally occurring processes, which occur in the environment where micro-organism degrade oil by using it as a food source, converting it into carbon dioxide and water. This process can be enhanced through bio-stimulation, where nutrients such as nitrogen, phosphate and iron are added to sediment to support microbial growth. Bio-augmentation (or seeding) is the addition of microorganisms, specially selected to degrade oil, to the sediment to increase bio-degradation of oil. When deployed as a shoreline 'clean-up' technique, continued monitoring and sampling schedules should be devised for visual inspection and independent chemical laboratory analysis for the presence of hydrocarbons, to monitor the success of this technique.
Key Considerations	- Best suited to lightly oiled shores. - Bio-remediation may accelerate the process but likely to have the same effects as active 'clean-up' techniques in removing pollutant. - Can be used as the final cleaning technique after other, more active techniques. - Bio-remediation can be enhanced at offsite locations where the environment is controlled and then the sediment can be replaced back to the shoreline.
Necessary Resources	- Nutrients. - Selected microorganisms (bio-augmentation).
Advantages / Disadvantages	Advantages - Low environmental impact. - Can enhance the natural process of bio-degradation. Disadvantages - Slow removal process. - Not effective on heavily oiled shorelines.
End-Point Criteria	No visible oil, sheen, or greasy texture to sediment.
Shoreline Type	- All shorelines expect manmade structures.

11 HNS Response

A Hazardous and Noxious Substance (HNS) is a term used to describe a substance other than oil, which if introduced into the marine environment is likely to create hazards to human health, to harm living resources and marine life, and to damage amenities or to interfere with other legitimate uses of the sea.

Whether a substance is classed as hazardous or noxious is largely determined by its inclusion in one or more lists found in the IMO Convention and Codes designed to ensure maritime safety and prevention of pollution. A chemical is likely to be considered as a hazardous and noxious substance if it is transported with one of the following properties:

- Flammable
- Explosive
- Toxic
- Corrosive

11.1 HNS Response Process

The response to an HNS incident will require the assistance of subject matter experts and trained response personnel due to the range of hazards and the requirement for specialist equipment.

The fire brigade will initially take primacy of the on-site response to ensure the safety of the general public and then seek to hand over the site to a specialist HNS response contractor, who will be under the direction of the SRC.

The SRC should follow the steps outlined in Figure 11.1 when managing the response to an HNS incident. The information provided throughout this section of the plan is to provide the SRC with critical HNS information to support specialist contractors.

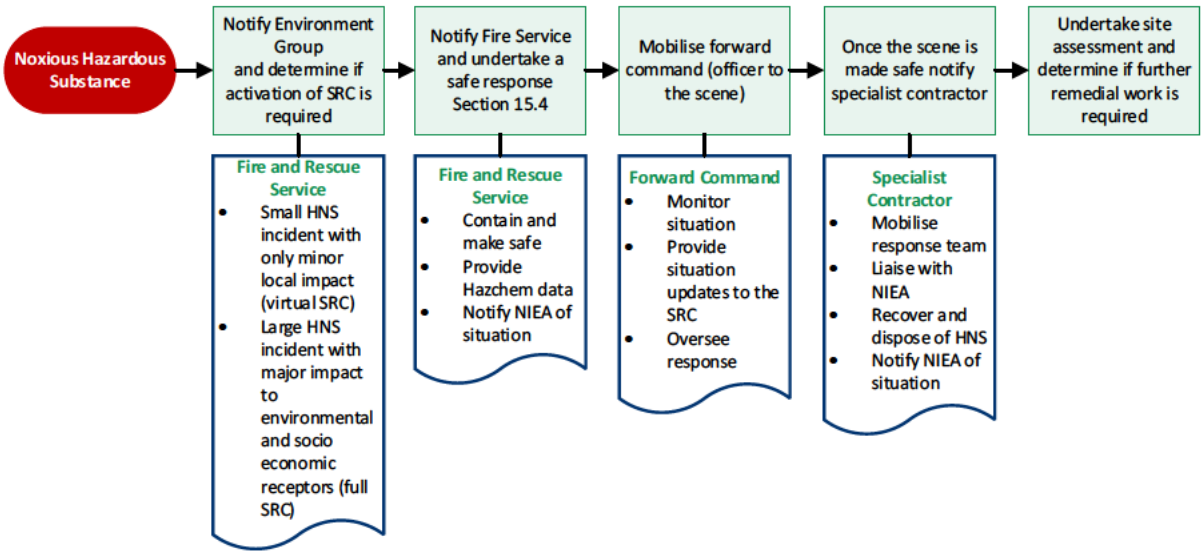


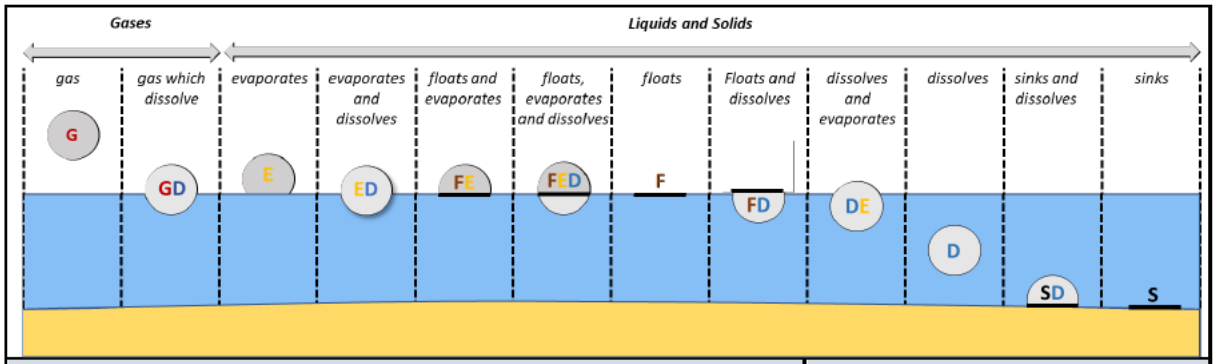
Figure 11.1 HNS Response Process

11.2 Fate of Chemicals in the Marine Environment

The fate of a chemical in the marine environment is determined by the properties of volatility, solubility and density which in turn determine the hazard(s) presented by the chemical (toxicity, flammability, reactivity, explosivity, corrosivity).

The Standard European Behaviour Classification (SEBC) system categorises chemicals into 12 groups based on their dominant behaviour in water shown in Table 11.1.

Table 11.1 The Standard European Behaviour Classification System for Chemicals



Property Group		Properties
G	gas	evaporate immediately
GD	gas/dissolver	evaporate immediately
E	evaporator	float evaporate rapidly
ED	evaporator/dissolver	evaporate rapidly, dissolve
FE	floater/evaporator	float evaporate
FED	floater/evaporator/dissolver	float, evaporate, dissolve
F	floater	float
FD	floater/dissolver	float, dissolve
DE	dissolver/evaporator	dissolve rapidly, evaporate
D	dissolver	dissolve rapidly
SD	sinker/dissolver	sink, dissolve
S	sinker	sink

In simple terms chemicals behave in one or more of five ways when released into the marine environment as shown in Table 11.2.

Chemicals may react with adjacent materials, oil, water or air in a variety of different ways including corrosion, decomposition, oxidation/reduction or polymerisation (a reaction where one or more small molecules combine, this process can release energy by light or heat). It is important to know how chemicals react to formulate a response.

When on the shoreline the movement of a chemical is dependent on its physical state and its reactivity.

- **Liquid state chemicals** will have similar mobility characteristics to water; however, movement maybe inhibited by its reaction with another substance.
- **Solid state chemicals** will remain in a location and potentially react with the surrounding environment for example interfacing with air and rain could cause a chemical to dissolve.
- **Gas state chemicals** will be affected by prevailing winds and ambient temperatures.

Table 11.2 Chemical Processes in the Marine Environment

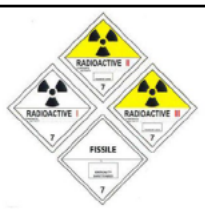
Process	Explanation
Dissolve	Dissolving depends on the molecules of the substance responsible for dissolving, called the solvent, and the molecules of the substance being dissolved, called the solute. Dissolving is the process in which these molecules interact and attract each other to form a solution. The mutual attraction between water molecules and other substances with positive and negative charges causes these substances to dissolve. A dissolving chemical in the marine environment will form a growing plume of decreasing concentration as it moves away from the source.
Evaporate	Is a type of vaporisation that occurs on the surface of a liquid as it changes into the gas phase before it reaches its boiling point, when molecules at the surface absorb enough energy to overcome vapour pressure. A spilt chemical with a high vapour pressure will evaporate quickly and form a vapour cloud above a slick.
Float	Floating chemicals have a lower density than water and can be low or high viscosity liquids, they will spread across the water surface in a similar manner to oil. The density of the chemical depends on the mass and size of its atoms and molecules.
Gas	Gas is a state of matter and can be released from a chemical liquid due to the evaporation process. The release of a gas, or evaporating liquid, has the potential to generate vapour clouds that might be toxic or form an explosive mixture with air. To plan a response, it is important to know how the gas will behave and the likely trajectory of hazardous clouds.
Sink	Sinking chemicals have a higher density than water and can be low or high viscosity liquids, they will spread across the seabed. The density of a chemical depends on the mass and size of its atoms and molecules.

11.3 HNS Identification

Under the UN Globally Harmonized System of Classification and Labelling of Chemicals, chemicals are classified according to the types of hazard they represent. The hazards will provide an indication of how a chemical will react in the environment and determine what response strategy to deploy. The hazards are communicated by labelling for work place hazards and for the transport of dangerous goods as shown in Table 11.3 .

Table 11.3 UN Globally Harmonized System of Classification and Labelling of Chemicals

Class	Description	Description	Label
1	Explosives	Explosives are materials or items which can rapidly conflagrate or detonate because of a chemical reaction.	
2	Gases	Gases are defined by dangerous goods regulations as substances which have a vapour pressure of 300 kPa or greater at 50°c, or which are completely gaseous at 20°c at standard atmospheric pressure, and items containing these substances. The class encompasses compressed gases, liquefied gases, dissolved gases, refrigerated liquefied gases, mixtures of one or more gases with one or more vapours of substances of other classes, articles charged with a gas and aerosols.	

Class	Description	Description	Label
3	Flammable Liquids	Flammable liquids are defined by dangerous goods regulations as liquids, mixtures of liquids or liquids containing solids in solution or suspension which give off a flammable vapour (have a flash point) at temperatures of not more than 60-65°C, liquids offered for transport at temperatures at or above their flash point or substances transported at elevated temperatures in a liquid state and which give off a flammable vapour at a temperature at or below the maximum transport temperature.	
4	Flammable Solids	Flammable solids are materials which, under conditions encountered in transport, are readily combustible or may cause or contribute to fire through friction, self-reactive substances which are liable to undergo a strongly exothermic reaction or solid desensitised explosives. Also included are substances which are liable to spontaneous heating under normal transport conditions, or to heating up in contact with air, and are consequently liable to catch fire and substances which emit flammable gases or become spontaneously flammable when in contact with water.	
5	Oxidising Substances	Oxidisers are defined by dangerous goods regulations as substances which may cause or contribute to combustion, generally by yielding oxygen because of a redox chemical reaction. Organic peroxides are substances which may be considered derivatives of hydrogen peroxide where one or both hydrogen atoms of the chemical structure have been replaced by organic radicals.	
6	Toxic Substances	Toxic substances are those which are liable either to cause death or serious injury or to harm human health if swallowed, inhaled or by skin contact. Infectious substances are those which are known or can be reasonably expected to contain pathogens. Dangerous goods regulations define pathogens as microorganisms, such as bacteria, viruses, rickettsiae, parasites and fungi, or other agents which can cause disease in humans or animals.	
7	Radioactive Material	Dangerous goods regulations define radioactive material as any material containing radionuclides where both the activity concentration and the total activity exceeds certain pre-defined values. A radionuclide is an atom with an unstable nucleus and which consequently is subject to radioactive decay.	
8	Corrosives	Corrosives are substances which by chemical action degrade or disintegrate other materials upon contact.	

Class	Description	Description	Label
9	Miscellaneous dangerous substances and articles	Miscellaneous dangerous goods are substances and articles which during transport present a danger or hazard not covered by other classes. This class encompasses, but is not limited to, environmentally hazardous substances, substances that are transported at elevated temperatures, miscellaneous articles and substances, genetically modified organisms and micro-organisms and (depending on the method of transport) magnetized materials and aviation regulated substances.	

11.4 HNS Response Strategies

Response strategies are eventually largely dependent on the specific circumstances of the incident, advice and guidance by the substance owner/carrier/manufacturer, and MSDS/SDS information. ITOPF provide the following general guidance for the various groups of chemicals[11].

11.4.1 Gas & Evaporators

The release of a gas or chemical substance evaporating under the weather conditions prevailing at the time have the potential to generate large vapour clouds that might be toxic or form an explosive mixture with air. As a result, there may be potential health and safety implications for the vessel crew, responders and population nearby.

In order to plan a response, it is important to know how the gas or vapour will behave and the likely trajectory of the hazardous cloud. Relevant computer modelling of the spreading of airborne contaminants is likely to help to forecast the movement and fate of the plume as it disperses. Appropriate safety zones can then be put into place as necessary and the public advised as appropriate.

Issuing advice to the public to remain indoors for a short period may be given by the authorities. If the chemical is of a flammable nature, then all ignition sources must be eliminated. Techniques such as trying to "knock down" a water-soluble vapour cloud or trying to stop or deflect it using water sprays are other measures that may be available to responders. In such incidents occurring near populations, the fire service is likely to have the commanding role in the response.

In any case, responders must wear the appropriate Personal Protective Equipment (PPE) and response/monitoring equipment, vehicles or crafts must be adequately designed should they need to enter the hazardous atmosphere.

[11] Response to Marine Chemical Incidents, ITOPF Technical Paper

11.4.2 Chemicals That Dissolve

A dissolving chemical will form a growing 'plume' of decreasing concentration in the water and eventually dilute. It is important to monitor the concentrations in the water to track the movement of the chemical and therefore to predict any hazard that may arise to the environment, fisheries, fresh water intakes, recreational areas, etc. Again, relevant computer models can give useful indications on the likely fate of the substance.

The ability to contain and recover dissolved chemicals is extremely limited. Providing means to accelerate the natural processes of dispersion and dilution may be the only way to respond to such chemicals. Some dissolved chemical plumes may, in theory, be neutralised, oxidised, flocculated or reduced by the application of other chemicals. However, careful assessment of feasibility and expected efficiency in an open environment as well as approval of the relevant authorities is usually required before this response method is employed.

11.4.3 Chemicals That Float

Chemicals that float will spread under the effect of gravity to form a slick in a similar way to oil. However, unlike oil they may not be visible on the water. Nevertheless, in some cases remote sensing techniques may be employed to detect and monitor floating materials.

Floating chemicals can be low or high viscosity liquids or may even be solid. If the spilt chemical has a high vapour pressure it may evaporate quickly and form a gas cloud above the slick. In such cases air quality monitoring is usually undertaken to assess fire, explosion and toxicity risks.

It may be possible to consider deploying booms to contain and control the movement of substances over the water surface. Skimmers and other oil spill response equipment may also be used to recover the material from the surface of the water. However, it is important to make sure, prior to use, that the spilt chemical will not react with the equipment by taking into account the chemicals reactivity. Alternatively, emergency responders may have fire-fighting or suppressant foams that can be applied to reduce the evaporation and the risk of fire/explosions.

Again, responders must wear the appropriate Personal Protective Equipment and response/ monitoring equipment, vehicles or crafts must be adequately designed should they need to enter a hazardous atmosphere.

11.4.4 Chemicals That Sink

Chemicals that sink have the potential to contaminate the seabed, and sometimes to persist in the sediment. The response to sunken chemicals may, therefore, need to consider the recovery of the chemical and any heavily contaminated sediment. Careful attention will also need to be paid to the removal and disposal of these contaminated sediments.

In shallow waters, mechanical dredgers and pump/vacuum devices may be used to recover sunken substances. The use of submersibles and remotely controlled underwater cameras may identify and recover chemicals on the seabed.

12 Dispersant Application

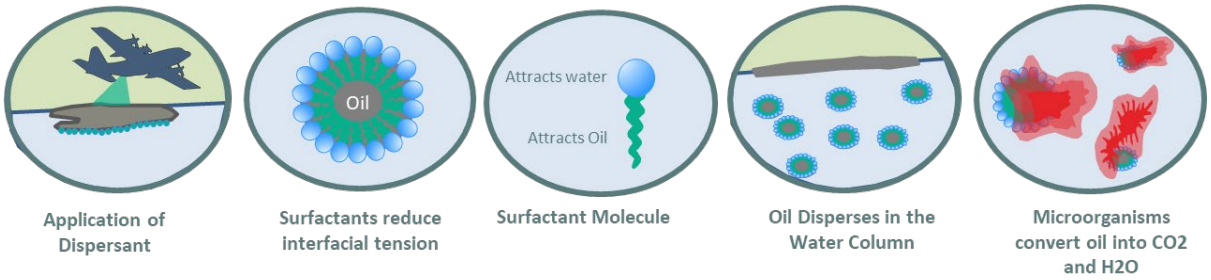
12.1 Principles

" *The Principal aim of dispersant application is to break up an oil slick into numerous small droplets which become rapidly diluted into the water column and are subsequently degraded by naturally occurring micro-organisms*" [12]. Used appropriately, dispersant application can be an effective response to an oil spill and can minimise or prevent damage to environmental and socio-economic receptors.

In common with other response techniques, any dispersant application must be considered carefully, and take into account oil characteristics, sea and weather conditions, environmental sensitivities, resource availability and national regulations on dispersant use. In some cases, significant environmental and socio-economic benefits can be achieved through dispersant application, particularly when other at-sea response techniques are limited by weather conditions or the availability of resources.

Figure 12.1 outlines how dispersants work within the marine environment:

Figure 12.1 How dispersant works



12.2 Advantages and Limitations

Dispersant application is a useful oil spill strategy as it can accelerate the (relatively slow) natural processes of oil dispersion into the water column and subsequent biodegradation. This also means that the volume of floating oil which must be recovered and treated is reduced.

Dispersant application can remove an oil slick from the surface of the water and place the oil into the water column thus protecting sea bird populations, especially those which feed on the water's surface, and raft.

Dispersant application is normally limited to persistent medium viscosity oils and it may not be effective on high viscosity oils such as heavy fuel oil, emulsified oil and bitumen. A dispersant efficacy test should be undertaken before deploying a full dispersant response strategy.

Dispersant application on non-persistent oils is generally not recommended as it may have a greater negative environmental impact than leaving the non-persistent oil to naturally degrade

[12] ITOPF Technical Information Paper 04 Use of Dispersants to treat oil spills 2014, Page 2

Generally dispersant application is effective on areas where they can be used safely with minimal impact to the marine ecosystem. Effective dispersant application also requires 'mixing energy' either from prevailing wind and waves or created by vessels.

Table 12.1 highlights some of the principal advantages and limitations of dispersant use which should be considered when planning a response:

Table 12.1 Advantages and Limitations of Dispersant

Advantages	Limitations
• Very rapid treatment of large areas of oil (resource availability dependant)	• Does not remove the oil from the environment, oil enters the water column as opposed to floating on the surface
• Reduces the risk of coastal impact	• Oil made available to organisms in the water column and may increase likelihood of sedimentation
• In principal removes oil from the water surface thus protecting rafting birds	• Limited effectiveness with weathered or heavy oils
• Minimises waste generation	• Requires mixing energy from either weather conditions or available resources (mechanical aggravation)
• Effective in most weathers	• Adds an additional chemical into the marine environment
• Can be cost effective as opposed to major shoreline clean-up operations	• Having spray equipment and dispersant stock available to apply dispersant at an early stage of the response

12.3 Viscosity

Dispersants have very little effect on high viscosity oils, normally only being effective on oils up to 5000 centistokes (cst). Dispersant will have limited effect on oils between 5000-10000 cst and above 10000 cst will have almost no effect at all.

As an oil spill weathers over time and becomes more viscous, it becomes less amenable to chemical dispersion. For all oil types, the time available before dispersant stops being effective depends upon such factors as sea state and temperature as shown in Figure 12.2**Error! Reference source not found.**. It is important that during an oil spill, an assessment of the desirability and practicality of using dispersants as a response strategy is commenced as soon as possible.

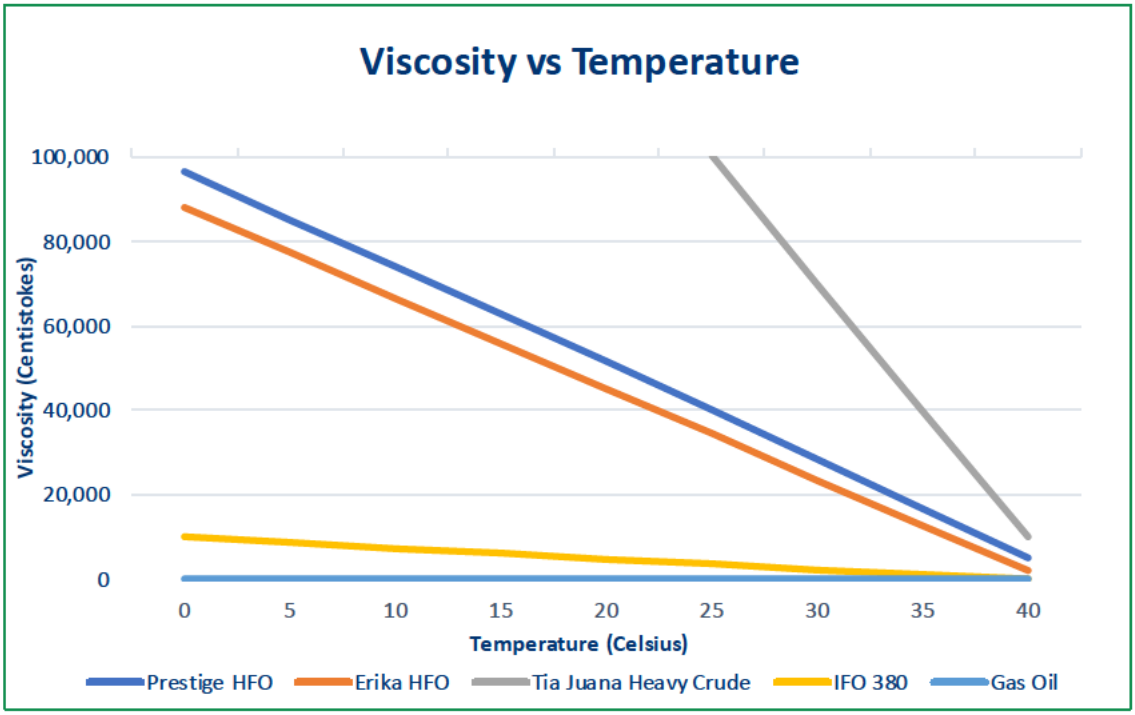


Figure 12.2 Viscosity vs Temperature

12.4 Environmental Considerations

Before a dispersant is used a Spill Impact Mitigation Assessment (SIMA) should be undertaken to determine whether dispersant application could be an effective response strategy. The SIMA process is outlined in Section 9.

If used improperly, dispersants can cause damage to the marine environment due to the increase in dispersed oil concentrations in the water column associated with their use. "*Specific approval from the appropriate licensing authority is required for any use of oil treatment products in water depths of less than 20 metres or within one nautical mile of any such area*"[13]. In areas outside of these confines the regulating authority will decide on a case by case basis. The controlled application of dispersants can be beneficial in reducing damage to ecologically sensitive shorelines by surface oil and minimise the risk to sea birds.

12.5 Use of Dispersants in Northern Ireland

"*Dispersants remain a primary United Kingdom response to oil spilled in the marine environment. However, legislation prohibits the use in UK waters of oil treatment substances unless approved by an appropriate regulatory and licensing authority*"[14].

EMFG is responsible for marine licensing and enforcement under Part IV of the Marine and Coastal Access Act, 2009. Under the provisions of the Marine and Coastal Access Act 2009, it is an offence to deposit any substance or object into the sea without a licence.

[13] Maritime and Coastguard Agency National Contingency Plan, 2014, Page 39
[14] Maritime and Coastguard Agency National Contingency Plan, 2014, Page 38

The Marine Licensing (Exempted Activities) Order (Northern Ireland) 2011 states that a licence is not required for the deposit of marine chemical and marine oil treatment substances under article 4 of the Order, subject to the following conditions:

- **Condition 1** is that the substance must be one the use of which is for the time being approved for the purposes of this Order by the licensing authority,
- **Condition 2** is that the substance must be used in accordance with any conditions to which the approval is subject,
- **Condition 3** is that no deposit may be made in an area of the sea of a depth of less than 20 metres or within one nautical mile of any such area except with the approval of the licensing authority,
- **Condition 4** is that no deposit of any marine chemical treatment substance or marine oil treatment substance may be made below the surface of the sea except with the approval of the licensing authority.

The NIEA recognises that dispersants are a useful oil spill response tool and are not opposed to their use, provided they are approved for use and are applied under the correct conditions and following the appropriate legislation, in this case the Marine and Coastal Access Act, 2009.

In the event of an oil spill where a response is needed NIEA should always apply SIMA to determine which response strategy would be best utilised.

Further information on the use of dispersants during oil spills can be found in ITOPF and IPIECA documents.

13 Shoreline Clean-up Assessment Technique (SCAT)

Shoreline Clean-up Assessment Technique (SCAT) surveys are a systematic approach to determine the degree of shoreline contamination, identify environmental and socio-economic receptors and identify shoreline characteristics. This information is used in the decision-making process to recommend the most appropriate shoreline clean-up techniques, for each specific location to the SRC. SCAT reports also highlight the progress of a response and assist in determining when to finish.

SCAT teams generally consist of representatives of differing stakeholders with a knowledge of coastal geomorphology, shoreline clean-up techniques and who are familiar with the SCAT process. In this context the initial SCAT teams will consist of representatives from DAERA to recommend clean-up strategies to the SRC.

The number of SCAT teams assigned to undertaking the survey is dependent on the area of shoreline impacted. It is advised to maintain the same composition of SCAT team throughout the response as the team can consistently determine the success of the implemented clean-up techniques.

SCAT Assessments and recommendations should be discussed and agreed with the Environment Group Liaison Officer before being enacted.

The SCAT Team will be organised and report to the Technical Team within the SRC. The process shown in Figure 13.1 and the UK SCAT Manual should be consulted when planning and undertaking a SCAT Survey. SCAT Survey forms can be found in Appendix F Forms

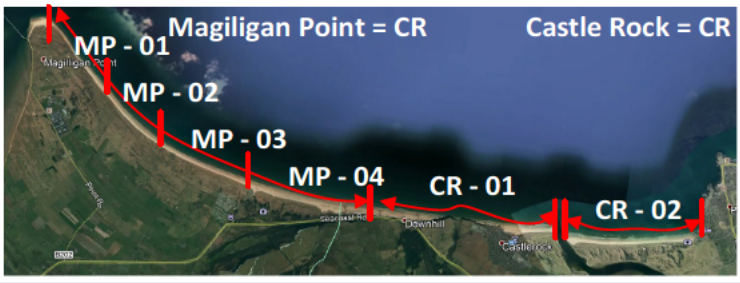
	Action	Objectives	✓
1	Reconnaissance	From overflight, ESI Map Layer, and Snap Map Photographs: • Obtain overall perspective on shoreline types, • Degree of contamination, • Identify logistical constraints, • Shoreline access for both shoreline assessment and clean-up teams.	☐
2	Segmenting the Shoreline	Divide the shoreline into operational working units, called segments, for recording and tracking survey data and making recovery technique recommendations. Most segments in contaminated areas would be in the range of 0.2 – 2.0 km in length. Segments can be further broken down into sub segments if oiling conditions vary significantly within a segment. Use land marks where possible to separate the different segments. 	☐
3	Pre-planning Determine of Number SCAT Teams	Determine the number of SCAT teams required, this will be dependent on the scale of and predicted shoreline contamination. Ensure each team can cover the designated area in under a day and ensure adequate time remains to develop reports.	☐

Figure 13.1 SCAT Planning Process

4	Pre-planning Determine the Members of the SCAT Teams	Practical consideration limits an assessment team to two or three, and occasionally four or five participants. The ideal composition of a team combines. • An individual with oil spill experience and SCAT training who can identify and document oil on the shoreline • An individual familiar with the coastal ecology of the affected area who can document the impacts of the oil and who can recommend priorities and clean-up end-points. • In areas where archaeological or cultural resources exist, a specialist, who can advise on precautions and constraints to protect those resources. • A representative from the Shoreline Response Centre (DAERA)	☐
5	Pre – Survey Planning Data Management	SCATs can generate a large volume of data, so be sensible and practical in designing field surveys. Use existing documentation and forms that are appropriate and standardise terms, definitions, and forms at the outset (Refer to MCA SCAT MANUAL Pg. 34 – 47). Ensure a procedure is in place for receiving, analysing, and storing reports, photographs and videos. A SCAT Coordinator can be assigned within the Technical Group to manage the input of data.	☐
6	Pre-survey Planning Brief SCAT Teams	SCAT teams should be adequately briefed before being deployed into the field. It may prove beneficial to do a shoreline walk over with all teams to ensure everyone is using the same terminology and standardisation. A check list of recommend SCAT equipment is found in Refer to MCA SCAT MANUAL Pg. 34 – 47.	☐
7	Shoreline Surveys	The ground shoreline surveys are to collect information on shoreline types, oiling conditions, the effects on ecological and human habitation – use of resources for each segment. This is achieved by completing the MCA SCAT Form (APPENDIX F). Reach agreement on treatment recommendations and priorities for specific segments. Confirm that recommendations are effective and beneficial to the environment.	☐
8	Submitting Field Data	In almost all cases there will be need for a full time SCAT coordinator within the Technical Group who takes care of all data entry, manages data files (hard copy and electronic), and generates summary information for the SMT. It is the responsibility of the SCAT teams to submit complete, accurate data, to SCAT Coordinator before the end of the current operating period.	☐
9	Developing Spill Specific Clean-up Guidelines and Endpoints	Typically, the establishment of the clean-up end points and shoreline response technique is a joint decision by the SMT in the SRC. The SCAT team can identify operational constraints, ecological sites, cultural resources and access considerations.	☐
10	Clean-up evaluation/ effectiveness monitoring	Deploy SCAT teams to monitor clean-up operations routinely to evaluate the progress of clean-up activities and assess the need for modifying clean-up methods or endpoints, this will also be completed by the on-scene beach commander who will complete a daily operational forms. Investigate reports of new oiling, changes in erosional/depositional processes that affecting oil behaviour, the response, and other issues. Conduct tests to evaluate treatment methods.	☐
11	Post-clean-up inspections	SCAT team comprising of land managers, local government representatives, polluter, contractors and stakeholders will inspect segments that the operations section has declared that the endpoint has been met.	☐
12	Final sign off of clean-up activities	Approve the End Point of all clean-up activities of each segment.	☐

13.1 Red Amber Green (RAG) Status

Throughout the clean-up operation the traffic light rating system, or red, amber, green (RAG) status will be employed by the SRC to show the progress of the shoreline clean-up operation at different geographical locations.

Red = Heavy oiling (bulk recovery phase of shoreline clean-up)

Amber = Moderate oiling (project phase of shoreline clean-up)

Green = Little to no oiling (final "polishing" phase of shoreline clean-up).

The status of the shoreline will change, depending on the reports received by SCAT teams or Beachmasters, dependent on the size of the incident. The stakeholders may agree to terminate the response to a certain segment of shoreline once it has remained at a green status for a defined period.

The GIS Data and Tech Sub Group, under the guidance of the Technical Team will generate a map which can be shared with all stakeholders.

14 Oiled Wildlife Response

14.1 Introduction

This section of the plan provides a strategic overview of Oiled Wildlife Response (OWR) procedures, objectives, techniques, and the notification process. It also identifies the lead Government Agencies within Northern Ireland with the responsibility to manage OWR.

The information provided throughout this section of the plan is to promote an integrated response to a shoreline pollution incident between the SRC and the OWR Incident Management Team.

14.2 Lead Agencies

The lead Agencies for OWR are as follows:

- Ulster Society for the Prevention of Cruelty to Animals
- NIEA Natural Environment Division
- DAERA Marine & Fisheries Division

Upon activation the Ulster Society for the Prevention of Cruelty to Animals (USPCA) will be supported by the RSPCA who is further supported by a group of professional oiled wildlife response organisations. NIEA Natural Environment Division will provide advice relating to birds, and DAERA Marine and Fisheries Division will provide advice on marine mammals.

The Environment Group will assist in providing an element of support and guidance in terms of oiled wildlife response.

14.3 Notification

The "activation of the wildlife response should be scheduled for the earliest possible opportunity when the risk of a spill incident is high or immediately after a spill has been reported"[15]. The organisations below should be notified immediately, as there is a limited window of opportunity for many preventive OWR techniques.

Ulster Society for the Prevention of Cruelty to Animals: 02830251000 headoffice@uspca.co.uk
NIEA Natural Heritage: biodiversityunit@daera-ni.gov.uk
DAERA Marine and Fisheries Division – Marine.Wildlife@daera-ni.gov.uk

Note* Upon notification it may prove beneficial to assign an OWR liaison within the SRC or invite the OWR incident management team to operate within the SRC, or in a room of opportunity within the NIEA offices, Lisburn.

[15] Wildlife Response Preparedness, IPIECA, 2014, Pg40

14.4 Oiled Wildlife Response Process

The primary objectives of an oiled wildlife response are to contain the spill at the source(s), prevent the pollutant spreading and therefore reducing the risk of impacting wildlife. These activities are not part of the oiled wildlife response, but greatly increase the effectiveness of the oiled wildlife response.

Wildlife protection strategies during an Oiled Wildlife Response (OWR) may be divided into:

- **Wildlife reconnaissance**, i.e. evaluating the wildlife that has become involved in the incident or is at risk of becoming involved, this should be undertaken throughout the response and undertaken by wildlife specialists.
- **Primary response**, i.e. maintaining the oil away from the wildlife,
- **Secondary response**, i.e. maintaining the wildlife away from the oil,
- **Tertiary response**, i.e. rescuing and rehabilitating wildlife exposed to oil, and
- **Documentation**, i.e. maintaining detailed records and transparency in all information, decisions and activities involved in the OWR.

Figure 1.1 shows the general oil wildlife response process.

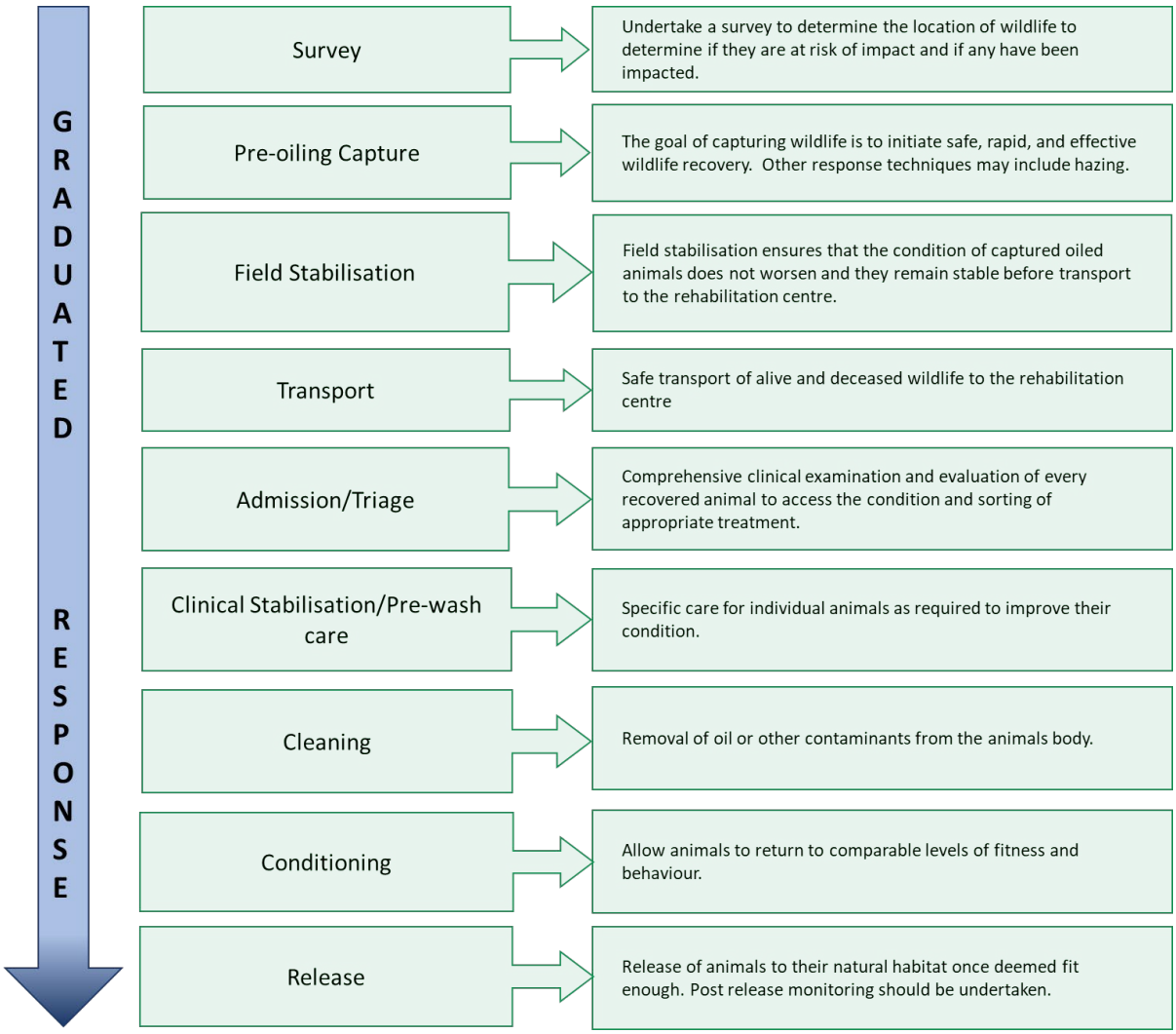


Figure 14.1 Oiled Wildlife Response Process

14.5 Objectives of Oiled Wildlife Response

The aim of a wildlife response is to provide effective protection and care of wildlife threatened or affected by a release of oil to the environment. As such, the response will aim at minimising the impact on wildlife populations following the priorities below:

- Making sure that human health and safety is priority over any oiled wildlife response activities.
- Minimising damage to marine wildlife and other resources by combating oil at sea and attempting to avoid impact through protective booming strategies to habitats and areas where animals are known to congregate.
- In-depth consideration to wildlife issues.
- Preventing, where possible, the oiling of wildlife using appropriate pre-emptive capture or hazing/deterrence techniques.
- Minimising the disturbance of wildlife via proper planning of clean-up activities.
- The collection of live oiled animals from the shoreline or marine environment with a view to attempting rehabilitation where possible.
- The collection of dead animals from the shoreline to:
    - Carry out a scientific population impact assessment;
    - Dispose of polluted carcasses in a safe and environmentally friendly way; and
    - Reduce the effects of secondary oil pollution via scavenging.

14.6 Oiled Wildlife Response Techniques

Response activities may include the assessment of wildlife risks, real-time monitoring of the location of wildlife in relation to the oil, protection of nesting/haul-out sites, hazing and deterrence, pre-emptive capture of un-oiled animals (if feasible) collection, and analysis, of corpses, euthanasia and/or rehabilitation of live oiled animals.

Wildlife response is best initiated at an early stage after oil has spilled. Early notification and mobilisation will allow real-time wildlife threats to be assessed so that possibilities for prevention of wildlife oiling can be maximised as part of an oil spill response action plan. Early activation is also crucial for:

Mobilisation of hands-on and trained wildlife expertise:

- Plan for, and operate hazing and deterrence and/or recovery (search and collection) activities; and
- Identify potential field stabilisation areas and logistic challenges

Successful rehabilitation of oiled animals is dependent on available expertise, using the network of known oiled wildlife responders, applying pre-defined and well proven protocols and most importantly ensuring that the response is well resourced and managed.

14.6.1 Surveys

Surveys are extremely important to calibrate the wildlife response. Using the data collected from the field team reports, it is possible to:

- Confirm and verify baseline information

- Determine the number of wildlife affected or potentially affected,
- Identify priority species and habitats in relation to at risk of impact from pollutant
- Monitor the impacts of the oil spill on wildlife over time.

Field assessments and surveys can be undertaken on foot, by vehicle, by boat or by aircraft. They should be conducted across all shoreline environments where wildlife could be impacted.

It is crucial to account for live and dead animals. Survey and monitoring activities should continue for the duration of active wildlife response operations and post-release of rehabilitated animals. Record keeping, and documentation is an important routine and serves as the basis for reports and analyses of the spill impacts.

Field surveys also assist in the conduction of concurrent activities developed during an oiled wildlife response like hazing, deterrence and collection of affected wildlife.

14.6.2 Carcass Retention and drift experiments

The collection and scientific processing of carcasses found during an oil spill is an important element in making a more accurate estimation of the impact on wildlife (numbers and species affected) following an oil spill.

Pro-active and systematic collection of carcasses is recommended to avoid scavenging and the secondary pollution of un-oiled animals that are attracted to the carcasses. To make a scientifically reliable estimate of animals impacted by the spill, collected carcasses should be labelled with references to location (GPS coordinates if possible), date and time.

Ideally, drift experiments should be conducted at the same time to account for carcasses that remain at sea.

14.6.3 Hazing and Deterrence

Hazing is the act of disturbing animals in a non-harmful way to make them leave the area predicted or observed to be impacted. High-use areas threatened or impacted by the oil are priority targets for hazing. Hazing should be undertaken by professionals as the knowledge of the species is important since some methods are species-specific. The effects of a poorly performed hazing program could be ineffective and cause additional damage. The most common methods include:

- Human disturbance;
- Vehicle disturbance;
- Visual disturbance (lights, reflector, flags, effigies, balloons, etc.);
- Auditory disturbance (noise generators, propane cannons);
- Pyrotechnics;
- Physical structures (fences, barriers).

Hazing and deterrence techniques have variable efficacy. Animals easily become habituated to the disturbing effect that is used; therefore, techniques need to be changed frequently, sometimes every hour to be effective. It is important to ensure that hazing and deterrence does not result in animals escaping towards or into the oil.

Before any hazing is attempted, a hazing plan should be developed. This should include the locations to which animals will be hazed – these must consider the needs of individual species and their current lifecycle stage.

Specifically, if the animals are being hazed from their feeding grounds, the identified location must provide an equivalent food source.

If the animals are on their nesting grounds, it is highly unlikely that hazing will be effective as birds have an extremely high nest site tenacity and fidelity. Life cycle, seasonality, status and weather conditions may impact with planning and chosen methodology.

14.6.4 Capture of Oiled Animals

When animals become oiled, they need to be captured. The collection of affected wildlife will occur during the shoreline and beach surveys. Animals can be captured using nets according to their size and species then placed in pet carriers or cardboard boxes. It is essential to minimise chasing time and to free the animals quickly from the net. The transport container must provide enough room to fit the animal comfortably. Compatible species can be housed together.

Professional wildlife responders should evaluate each situation, since their expert advice will allow them to assess risks and make recommendations regarding the collection of animals.

Once oiled animals are collected, they will be stabilised as close to the capture site as possible and when stable enough to travel they will be transported to the wildlife rehabilitation facility for full examination and rehabilitation. No triage decisions are made in the field but only once a full examination and blood work has been done will those decisions be taken.

Pre-emptive capture, to prevent contamination, may also be an option.

Note* DAERA Marine and Fisheries Division will give advice in line with existing marine mammal stranding protocol.

14.6.5 Field Stabilisation

Once animals are captured, it is crucial that they are provided with medical stabilisation as soon as practicable. Depending on where the wildlife rehabilitation facility is located relative to the field, it may be necessary to have stabilisation units set up near the wildlife collection activities to provide immediate care for the captured oiled wildlife, as shown in Figure 14.2. Field stabilisation units must provide shelter, can be temperature controlled and provide space to store oiled wildlife until they are stable for transport.

Field stabilisation units are often used by field operations to provide a place where field teams replenish capture supplies such as nets, animal carriers, PPE.

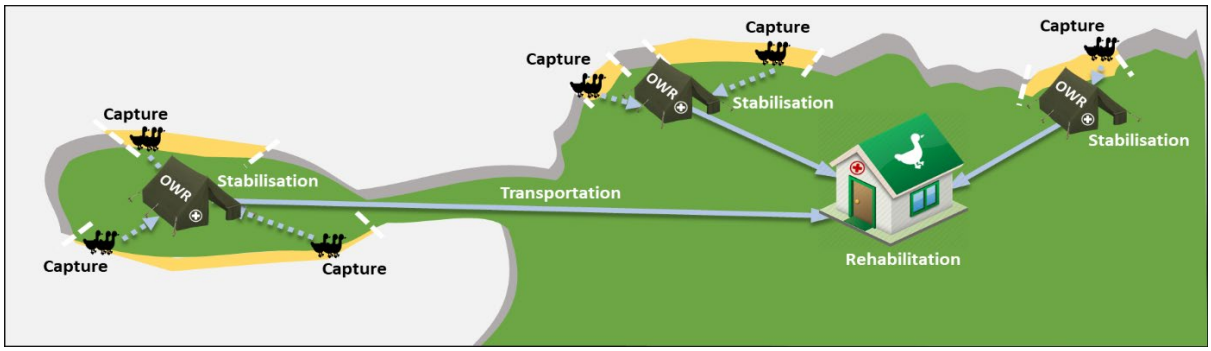


Figure 14.2 OWR Collection, Stabilisation, Transportation, Rehabilitation

14.6.6 Transportation

Once animals are medically stable enough to travel, regular transport will be set up to move animals from the field to the wildlife rehabilitation facility. Depending on the distance from the field stabilisation unit to the wildlife rehabilitation facility and the number of animals coming in to the stabilisation unit, transport may be set up for once per day or several times per day with the goal of moving oiled wildlife back to rehabilitation centre at the earliest possible time.

14.6.7 Rehabilitation

Oiled wildlife response and rehabilitation is a complex endeavour and will be undertaken by qualified and experienced personnel.

Once animals are thermo-stable and hydrated, they can be transported from the field or field stabilisation site to the wildlife rehabilitation facility. Upon arrival, veterinary staff or qualified wildlife rehabilitation staff will conduct full examination and documentation. Internationally agreed protocols for the care of oiled wildlife will be applied to ensure animals are receiving the best achievable care.

The first goal of this phase is to get the animals back to their natural state as quickly as possible. For oiled seabirds, that means getting them clinically stable to enable them to be washed and then back on water, in conditioning pools, as soon as possible.

14.6.8 Release

Once animals have regained their waterproofing they will be evaluated for release. Clinical evaluation includes behaviour, body weight, body condition, blood parameters, absence of respiratory problems, waterproofing or natural conditioning of pelage or feathers.

Once animals have been deemed clinically approved and ready for release, the appropriate release location will be established. Generally, animals are marked before release to assist in determining post-release survivability. The animals are generally released in the morning to enable them to become oriented to their surroundings and assist them in finding food. Marking should be undertaken by suitably qualified persons who have appropriate licences (e.g. birds, marine mammals).

14.6.9 Euthanasia as a Response Option

While the intention in wildlife response is to successfully rescue and rehabilitate animals affected by oil, those animals that will not benefit from any further rescue or rehabilitation should be euthanised

to prevent further suffering. The decision of euthanasia will be determined by trained personnel and undertaken using internationally recognised procedures. It is advisable to have a current list of vets who may be available and have the appropriate expertise e.g. to deal with stranded mammals.

15 Responder Health and Safety

The safety of the public and response personnel is NIEA's highest priority during the response to all pollution incidents. The guidance provided throughout this section of the plan is in line with NIEA Health and Safety Policy.

This section of the plan is aimed to assist the Health and Safety Sub-Group, within the SRC, to address all health and safety concerns, identify risks and put in place measures to remove or lessen the risk to As Low As Reasonably Practical (ALARP).

Action cards for members of the Health and Safety Sub Group can be found in Appendix A – Action Cards should be read concurrently with this section of the plan throughout responding to a pollution incident

The Health and Safety Sub-group will be required to provide guidance in health and safety concerns throughout development of the shoreline response strategy. Ensuring that all health and safety risks are ALARP, appropriate PPE is issued, shoreline response sites are set-up correctly and all appropriate documentation is issued and recorded.

During the initial stages of the response the Safety Sub-Group will be required to undertake a "high-level risk assessment of the overall situation as soon as possible to ensure that responders or the wider public are not in danger"[16]. This may lead to exclusion zones, air monitoring and additional PPE for survey teams (See Section 15.4 for safety response guidance).

Following on from the initial stages of the response the Safety Sub-Group will be required to receive reports of any near miss and incident reports so corrective actions can be put in place, along with maintaining all health and safety forms.

15.1 Hazards Associated with Shoreline Response

Table 15.1 highlights some of the hazards that should be considered throughout a shoreline response. Before a response operation is conducted it is advised that all the following safety measures are undertaken:

- Safety Data Sheet (SDS) for the specific product spilled in the incident and any dispersants which may be subsequently used are carefully reviewed and all environmental protection and health and safety precautions are followed.
- Personnel are trained to carry out assigned task.

[16] Oil Spill Responder Health and Safety, IPIECA, 2012, Pg 4

Table 15.1 Shoreline Response Hazards

Hazard	Description	PPE
Weather	In the case of heat, work performance declines especially where the task requires coordination, alertness or vigilance. Cold/wet conditions reduce comfort and increase distractions.	Correct clothing for the weather conditions, and supply appropriate welfare (warm drinks in wet/cold conditions, and cold drinks in warmer/humid conditions)
Toxicity of oil and chemicals	Oil and chemicals can contain potentially harmful components. Toxic components can enter the body through inhalation, absorption and ingestion.	Ample supply of appropriate PPE for hazards involved (coveralls, gloves, boots and respirators). Brief responders on health and safety measures and decontamination procedures. SDS should also be checked before carrying out response, and response altered accordingly
Flammability/Fumes/ Oxygen Displacement	Whilst oil is fresh, care must be taken to exclude any potential sources of ignition as the volatile compounds evaporate. Volatile compounds may also be inhaled and can have a detrimental effect on human health. Fumes of spilled oil can contain harmful compounds such as benzene. The fumes can also displace oxygen especially in confined spaces which can cause asphyxiation.	Gas detection monitors, gas monitoring schedule and log undertaken by trained personnel. Respirators given to responders until gas detection levels are deemed safe. Care must be taken to monitor benzene concentrations in the air. Response should only be undertaken when safe to do so.
Slips, Trips and Falls in the Natural Environment/ on the Recovery Vessel	Spilled hydrocarbons can be slippery. Shoreline areas and vessels where responses are carried out can also be very slippery areas	A hazard identification and site safety briefing should be undertaken before an oil spill response commences indicating which potential hazards are fenced off and issue of appropriate PPE, life jackets, boots, climbing harnesses if required
Manual Handling	Responding to a spill incident can be physically demanding, requiring responders to lift heavy waste and response equipment. Continuous and improper lifting of heavy weight items can lead to exhaustion and injury	Gloves should be worn during lifting; loads should be assessed depending on weight, number of lifts, posture, distance to be lifted and features of the load
Open Water	Shoreline and offshore response operations will have open water concerns. Not preparing responders can result in loss of life in extreme cases	Life jackets should be worn at all times within 10m of the water's edge. Tide times should be noted
Nature/Wildlife	Oiled wildlife can be confused and aggressive. Responders should be aware of potentially aggressive animals, such as birds, and seals.	Oiled wildlife should only be approached and captured by trained professionals. Responders should be made aware of potentially harmful wildlife in safety briefing and supplied with first aid kit and emergency contact numbers.
Heavy Plant for Waste Recovery and Transport	Heavy plant maybe required for response strategies (E.g. tilling and in-situ mechanical washing) to transport waste from shorelines and from waste storage sites to waste treatment facilities. This can lead to increased risk of collisions	Responders near heavy plant should be issued with high visibility clothing and hard hats. Waste storage sites should also have restricted access. The shoreline response site should be set-up to segregate the pedestrians from plant movement.

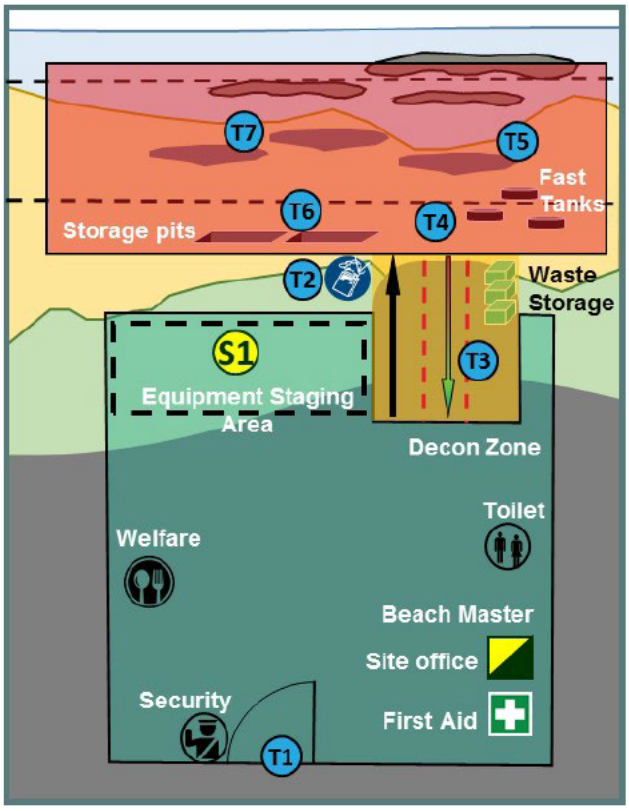
15.2 Safe Site Set-up

Shoreline response operational sites should be set up in a safe manner where hot (red) zones and cold (green) zones are clearly identified and joined by a decontamination (orange) zone to reduce levels of contamination on personnel, PPE, equipment and transport.

Figure 15.1 provides an example of how a 'safe site' should be laid out and the order of tasks (T1 -7) that should be carried out to ensure it is set up safely.

As can be seen in Figure 15.1, decontamination zones should take personnel and equipment from the 'hot' contaminated zone through a 'warm' cleaning/decontamination zone to the 'cold' exit point from the operations area. Movement through these zones should be coordinated to reduce the possibility of cross contamination.

A copy of Figure 15.1 should be provided to Beachmasters when setting up a site and used by SRC health & safety representatives when conducting a site audit.



Safe Site Set-up Process

T1 - Establish best site entry point with easy access to road. If possible fence off and employ security to control site entry

T2 - Undertake gas detection tests to determine PPE requirements for completing the response

T3 - Set up decontamination chamber

T4 - Set up primary waste storage facility in hot zone

T5 - Start recovering oil/implementing shoreline response technique

T6 - Erect storage pits for contaminated PPE/equipment

T7 - Rehabilitate site once all contamination has been removed

Figure 15.1 Safe Site Set-up

15.3 Shoreline Response Safety Forms

Due to several varying factors during a shoreline response operation, individual forms including gas monitoring, site safety surveys, risk assessments and site safety briefing forms should be completed daily.

Table 15.2 provides detail on the advised forms to be completed by Beachmasters throughout a shoreline response. All forms should be submitted to the SRC before the end of the operational period. All forms can be found in Appendix F Forms.

It is the responsibility of the Health and Safety Sub Group to ensure that all forms are issued to response Beach Supervisors, completed and recorded during each operational period

It is advised response organisations and contractors use their own risk assessment forms as their response personnel will be trained and familiar in how to complete the forms

Table 15.2 Shoreline Response Health and Safety Forms

Form	Description	Check
Site Safety Operational Survey Form	The SSOSF is used to ensure the continuous analysis of the work site, informing the incident command team with both operational and safety concerns/information, and provides all information necessary to construct a site safety plan. It should be produced by an assigned health and safety individual and contain work zone characteristics: - Hazard information on the spilled product - Control measures - Assembly points - Emergency contact details - Evacuation routes This form should be completed by Site Supervisor/On-scene Commander at the beginning of each survey/shift/operation on site.	☐
Risk Assessment	The hazard risk assessment should be completed after the SSOSF, to show that all operational risks for the task in hand have been covered and mitigated (where possible).	☐
Site Safety Briefing	Site safety briefing forms should be utilised to brief teams on operational objectives, health and safety implications, work plan and provide an opportunity to record the names of personnel present.	☐
Gas Monitoring	Gas monitoring should be undertaken throughout the day especially after changes in oil pollution or wind direction.	☐

15.4 Safety Response

When a pollutant releases vapours which may be highly explosive or extremely hazardous to health a safety response, as shown in Table 15.1, should be the primary response option.

The fundamental principles of a safety response are communication and hazard to health mitigation. Assume a gas hazard is present until proven otherwise

Table 15.3 Safety Response Process

Safety Response Process			
Stage	**Action**	**Actioned**	**Time**
1	**Monitor and Evaluate**: Determine the likely area of shoreline contamination using aerial surveillance, SCAT Teams, deterministic spill trajectory modelling and local knowledge. Ensure all survey teams undertake air monitoring and wear appropriate PPE.	☐	
	Continue monitoring the spill trajectory throughout the response		
2	**Communication:** Once the area of shoreline likely to be impacted has been determined, notify local authorities of potential shoreline contamination and determine the strategy to issue a notice to the public, noting that: - Police and fire brigade involvement may be required - Coastal businesses will require notification Depending on the magnitude of the spill, the local authority may establish a SCG or TCG., and NIEA may be required to supply a liaison focal point.	☐	
3	**Media:** Notify the media team to prepare a holding statement and develop a media response strategy (as per Section 17)	☐	
4	**Safety Assessment:** Deploy response personnel to undertake gas detection tests to determine the presence of gas/vapour and complete gas detection form (See **Appendix F Forms**). The results should be used to establish safety and danger zones. **GAS DETECTION MEASUREMENTS SHOULD BE UNDERTAKEN THROUGHOUT A RESPONSE** Ensure any party approaching a contaminated area have completed a comprehensive risk assessment and have all appropriate personal protective equipment before undertaking assessment and erecting exclusion zones.	☐	
5	**Evacuate:** If there is an exposure risk to the health of residents, undertake measures to relocate residents and public whilst contamination is present.	☐	
6	**Prevent access:** Ensure there is enough security/signage at the exclusion zone to prevent unauthorised access of public and vehicles (including vessels and aircraft where possible).	☐	
7	**Monitor:** Continually monitor the presence of gases and develop shoreline clean-up strategy dependent on shoreline type and amount of contamination.	☐	

16 Waste Management

The polluter has a duty of care to manage the waste produced from an incident correctly by storing it properly, transferring it only to the appropriate people and ensuring that when it is transferred it is sufficiently well described to enable its safe recovery or disposal without endangering human health or harming the environment. This should be carried out in Northern Ireland as per the Waste Management: The Duty of Care – A code of Practice in accordance with Article 5(9) of the Contaminated Land (Northern Ireland) Order 1997 (the 1997 Order).. However, in Northern Ireland the Water (Northern Ireland) Order 1999 empowers the Department of Agriculture, Environment and Rural Affairs (DAERA) to carry out pollution clean-up work through the Northern Ireland Environment Agency.

Therefore, during the response to a shoreline pollution event the NIEA have the statutory responsibility to handle and dispose of waste on behalf of the polluter. All reasonable costs associated with the response, including waste handling and disposal can be recovered from the polluter or from the appropriate fund (Section 19).

The **Waste Management Sub-Group** within the SRC has the responsibility for managing and directing waste disposal for all response activities. This group will formulate an appropriate waste management strategy to supplement the chosen response strategy. To assist the group in developing a waste management strategy guidance can be found at www.daera-ni.gov.uk/topics/waste.

This section of the plan should be utilised by the Waste Management Sub-Group concurrently with the guidance provided in Section 6.

16.1 Waste Hierarchy

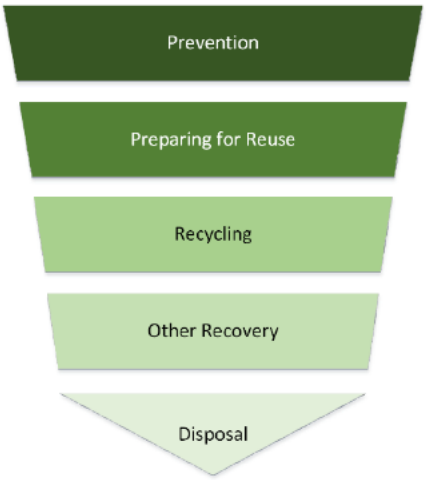
The volume of waste generated during a shoreline response is highly dependent on the degree of oiling, substrate type, whether shoreline protection or preparation strategies have been deployed (Section 10) and the method/s of clean-up techniques deployed. "Even with the use of appropriate and reasonable response methods, the volume of waste generated can sometimes be as much as ten times the volume of oil originally spilt[17]."

When developing a shoreline response strategy, the waste hierarchy in Figure 16.1 should be a priority.

16.2 Types of Waste Generated

An example of the differing types of waste to be managed during a shoreline response are shown in Table 16.1. Where possible waste should be segregated on site to assist in the overall waste management process. Waste should be managed with regard to the waste hierarchy, for example recovered oily water should be sent to an authorised oil waste recovery facility in Northern Ireland, so the oil can be sold for reuse to minimise the potential impact to the environment.

[17] Disposal of oil and debris, ITOPF, Pg2



Prevention: Consideration should be first given to techniques that avoid or eliminate the production of waste such as, natural weathering, surf washing, and tilling.

Preparing for re-use: Development of efficient methods to check, clean, repair and refurbish items such as PPE that could be re-used.

Recycling: Turning waste into a new substance or product, certain oils can be re-cycled into new products for example HFO can sometimes be recycled for use in Bitumen based products.

Other Recovery: Includes Bioremediation and incineration with energy recovery.

Disposal: Waste that can't be handled through any of the above will go to Landfill or incineration without energy.

Figure 16.1 Waste Hierarchy

Table 16.1 Example of waste to be treated during shoreline response operations

Types of Shoreline Waste		
 Source: Cedre	 Source: Cedre	 Source: Cedre
Liquid Oil	Contaminated Sand	Contaminated Substrate
 Source: OTRA	 Source: OTRA	 Source: OTRA
Spent Sorbent	Contaminated Seaweed	Contaminated Solid Waste
	 Source: OTRA	
Container Debris (hazardous)	Contaminated Fauna	Container

16.3 Logistics

Shoreline response can generate high volumes of waste over a short time period, which may be more than the local waste treatment infrastructure can handle. Poor waste management can hamper a shoreline response and reduce the daily volume of pollutant recovered from the shoreline if there is inadequate onsite storage, or poorly organised offsite transport of waste to the final waste treatment facility.

It may be necessary to construct intermediate waste holding facilities close to the vicinity of the shoreline. Historically, the primary waste storage facilities have been within 5km from the impacted shorelines, with local intermediate storage facilities in the close vicinity, to allow for the easy transfer of waste between sites as shown in Figure 16.2.

In the event that intermediate waste storage facilities are required, locations will be decided in consultation with stakeholders, landowners and local authorities.

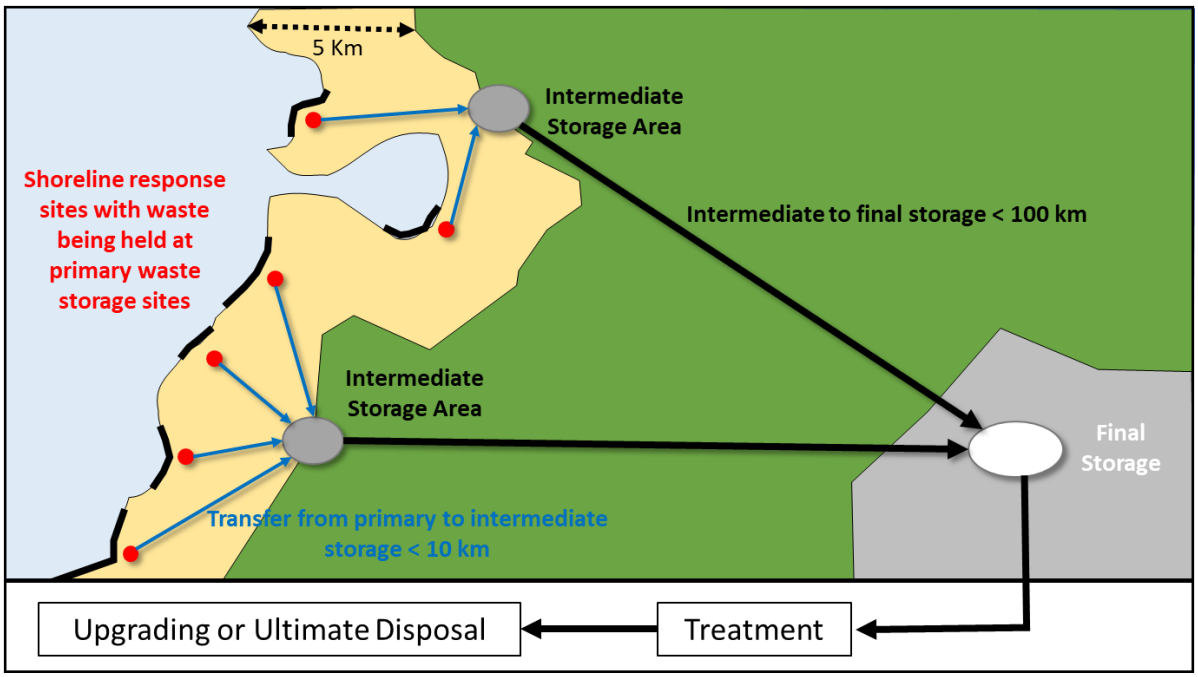


Figure 16.2 Storage areas to be considered when responding to a significant pollution event

16.3.1 Primary waste Storage

Primary waste storage sites are generally close to the recovery operations. The equipment identified in Table 16.2 can be utilised at primary waste storage sites. There should be enough space to allow for waste segregation at site. The site should be secured to prevent unauthorised access.

Note* Where possible waste storage equipment should be lined with impermeable membrane to avoid secondary contamination.

16.3.2 Intermediate

Intermediate storage areas are established to act as a buffer between the recovery sites and the final storage/treatment site ensuring that recovery operations continue unhindered. The site should be secured to prevent unauthorised access.

A study in 2007 identified several potential intermediate waste storage sites in Northern Ireland, Figure 16.3 shows the potential intermediate waste storage sites which are still suitable for use (2019).

The planning, design, construction, operation and decommissioning of temporary Intermediate waste storage areas must comply with best practice and legislation. Figure 16.4 provides guidance on establishing intermediate and long-term storage sites.

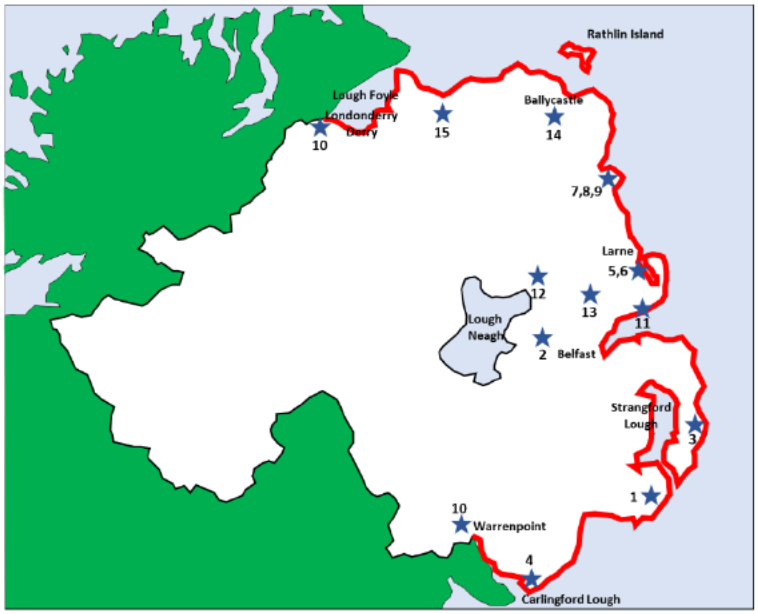
Table 16.2 Types of Primary Waste Storage Equipment

Primary Waste Storage Equipment	
Storage Facility	**Comments**
Vacuum Tankers	Ideal for routing to final disposal site and well suited for operations close to shore especially when quays are available. Are used to recover oil from primary storage vessels, dracones, barges, pillow tanks, direct from skimmer etc.
Intermediate Bulk Storage Containers	Suitable for the storage of liquid waste. Require a fork lift to relocate when full.
Bunds/Large Waste Storage Areas	Can be created from scaffold, and impermeable membrane. Good as intermediate storage area. Due to the large surface area can collect a lot of rain water.
Skips	Versatile, robust and cheap. Can be transported on supply boats/landing craft to remote sites. If possible, line with plastic. Good for solid waste and highly viscosity products.
Open Top Oil Drums	Difficult to handle when full
Heavy Duty Plastic Bags	Ideally suited when clearing beaches by hand. Can be moved above the high-water line. Lead to problems at the disposal site. Can store high volumes of oiled PPE and other contaminated solid waste.
Plastic Bags	All waste collected in hazardous waste bags should be double bagged, and cable tied closed, to limit the risk of secondary contamination.
Fast Tanks	Specialised oil spill response temporary waste storage tanks.
Storage Pit	An excavated trench which is lined with impermeable membrane, and geotextile membrane.

Final Storage and Treatment

Sites where waste is held prior to treatment or disposal are to be authorised and licenced; the Waste Management Sub-Group will manage and direct waste activities in line with the Waste and Contaminated Land (Northern Ireland) Order 1997 and the Waste Management Licensing Regulations (Northern Ireland) 2003.

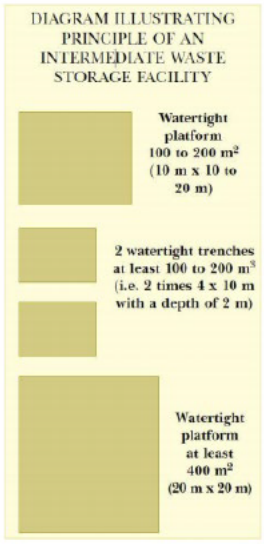
Pre-determined Intermediate Waste Holding Sites in Northern Ireland



1) Bishop Court Airfield
2) Nutts Corner Airfield
3) Kirkistown Airfield
4) Cranfield Airfield
5) Magheramorne Quarry
6) Magheramorne cement works
7) Glenarm disused Fish Factory
8) Glenarm Lime Quarry
9) Glanarm adjacent to recycling centre
10) Newry Quarry 1
11) Kilroot Salt Mine Depot
12) Ladyhill Quarry
13) Ballyclare Quarry
14) Ballycastle Quarry
15) Northbrook Industrial Estate
16) Maydown Industrial Estate 3

Figure 16.3 Pre-determined Intermediate Waste Storage Sites in Northern Ireland

Example of set up of Intermediate Storage Sites



Example of Long-Term Storage Sites

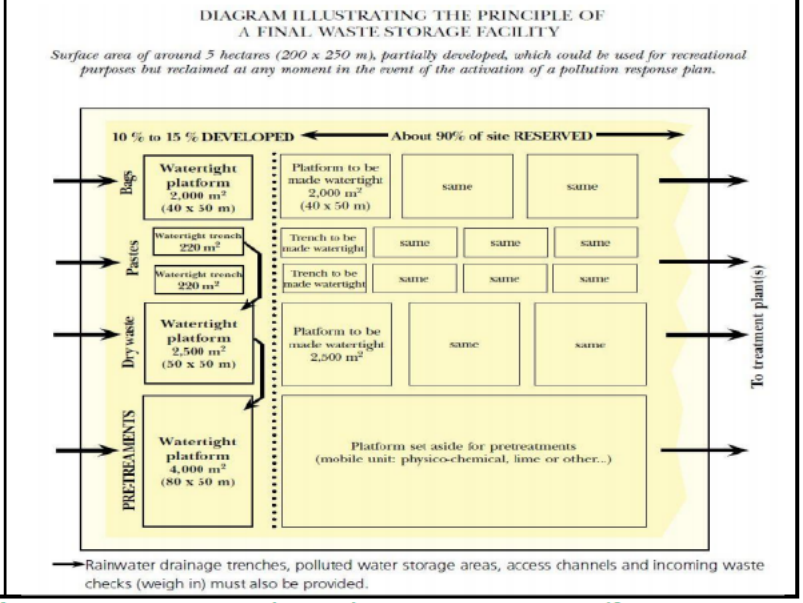


Figure 16.4 Examples of Arrangements at Intermediate and Long-term Storage Sites[18]

16.3.3 Shipping of Waste

During a Tier 2/3 shoreline pollution incident there may be a requirement to ship hazardous waste material for final treatment outside of Northern Ireland and potentially outside of the UK. The Transfrontier Shipment of Waste Regulations 2007 sets out the Government policy on shipments of waste for disposal to and from the United Kingdom.

[18] RP 549 Planning the Processing of Waste arising from a marine oil spill, MCA, 2010 Page 22,

16.3.4 EWC Codes

All waste transported from the recovery sites to intermediate/final disposal sites will have to be done according to all relevant regulations and legislations. Table 16.3 shows the categories of waste which may be produced during a shoreline response, together with relevant EWC codes.

Table 16.3 Potential EWC Codes for Shoreline Response Waste Transport and Disposal

EWC Code	Description
05 01	Wastes from petroleum refining
05 01 05*	Oil Spills
13	Oil wastes and wastes of liquid fuels
13 05 01*	Solids from grit chambers and oil/water separators
13 05 06*	Oil from oil/water separators
13 05 07*	Oily water from oil/water separators
13 05 08*	Mixtures of wastes from grit chambers and oil/water separators
15 02 02*	Absorbents, filter materials (including oil filters not otherwise specified), wiping cloths, protective clothing contaminated by dangerous substances
17	Construction and demolition wastes (including excavated soil from contaminated sites)
17 05 03*	Soil and stone containing hazardous substances
19	Wastes from waste management facilities, off-site waste water treatment plants and the preparation of water intended for human consumption and water for industrial use.
19 02 04*	Pre-mixed wastes composed of at least one hazardous waste
19 02 07*	Oil and concentrates from separation
19 02 08*	Liquid combustible wastes containing dangerous substances
19 02 09*	Solid combustible wastes containing dangerous substances

16.3.5 Waste Registers

PPC Sites: https://appsd.daera-ni.gov.uk/ipri/

WML Sites: https://appsd.daera-ni.gov.uk/wastelicences/

Registered waste carriers/transporters: https://www.daera-ni.gov.uk/articles/registered-waste-carriers-transporters

17 Public Relations and Media Response

In the event of a major incident The Department of Agriculture, Environment and Rural Affairs (DAERA) Major Emergency Response Plan (MERP) should be activated and will take precedence.

DAERA press office will take the lead in communicating with the media.

Depending on the severity of the incident, CCGNI may take control and therefore all media communications will be handled by The Executive Office Press Office.

17.1 Role of NIdirect Central Editorial Team

The NIdirect Central Editorial Team (CET) will be responsible for publishing information provided by the Lead Government Department (LGD) on the NIdirect website and social media channels during normal working hours.

While the NIdirect CET can provide editorial advice on content supplied, they should not be expected to identify the most appropriate information for publication. The NIdirect CET will monitor the NIdirect social media accounts (in hours) and alert the LGD as necessary.

See Appendix G Media on how NIdirect will be utilised

If a Tier 2/3 shoreline pollution incident is declared the DAERA Press Office will undertake the role of the Media Liaison Officer and will arrange the staffing of a DAERA Press News Media Liaison Team (PNMLT) to be established in the Media Briefing Centre.

Media representatives from other response organisations/stakeholders (e.g. FSA, shipping company, MCA, & oil industry) will be invited to join the SRC Media Briefing Centre to ensure a combined media message.

Action card for Media Liaison Officer available in Appendix A – Action Cards

17.2 Media Briefing Centre

A media briefing centre will need to be set up at the most appropriate location. This may be close to, but a suitable distance from the Shoreline Response Centre or Forward Command Centre.

Press conferences and interviews will be held at an appropriate location. The SRC's response is normally represented by the appropriate spokesperson / with additional representation from external agencies as appropriate.

Early and regular Sitrep reports (or press conferences) will help to keep the media well informed and less likely to seek out additional interviews with response staff at the clean-up site. All media visits to the site should be co-ordinated through the DAERA Press Office.

Out of hours contact No for duty press officer is 02890 378110

Facilities within the SRC Media/PR Team base must include the items identified in Table 17.1.

Table 17.1 SRC Media Room Items

Items with SRC Media	
Internet	Chargers
Laptops	Recording Tapes
Television	Audio Recorders
Radio	Mobile Telephone
Batteries	Note pads
High Visibility wear for staff on site	Protective clothing

17.3 Information Notices

The Technical Function Group and the PNMLT will work closely together to formulate a plan for providing up to date information to a wide audience including members of the public, press agencies etc. This should take the form of;

- Information sheets
- Up to date website reports

A temporary media holding statement and Public Information Notice can be found in Appendix G Media

17.4 Use of social media

The NIdirect Twitter and Facebook accounts will be the lead government social media channels in most emergency situations. See Appendix G Media for further detail.

17.5 Guidelines for Staff Dealing with the Media

Any contact with the media must be discussed with DAERA press office at all times. All SRC and operational staff will be briefed as to what information to provide to the media. Staff should be aware of the following guidelines;

Do's

- Know where the Press Office is and what assistance the media can obtain there,
- Advise media to contact press office if approached directly
- Let the press officer know immediately of any developments via your team leader,
- Remember that, although you are not an appointed spokesperson, your attitude and what you say to the media reflects on the agency response as a whole,
- Ask for ID and note who you are talking to and what you say,
- Inform the Press Officer of any journalist whom you suspect of behaving in an unacceptable manner,

Don'ts

- Agree to any media interviews without discussing with Press Office
- Give any fact unless you are sure that it is correct.
- Speculate. Journalists may exaggerate your speculation.
- Say "no comment" as it may be taken as a negative answer.
- Be afraid to say I don't know.
- Deny access or assistance.
- Allow the media to deflect you from your main task. Explain, if you have to, why you are too busy to help.

18 Enforcement

The Northern Ireland Environment Agency (NIEA) can take enforcement action in the event of a marine oil and/or chemical spill incident.

The NIEA have a policy and guidelines in place on enforcement and prosecution for environmental protection. Details of this policy can be found in the following documents, both of which are held in the Operations Room, NIEA Lisburn:

- The DAERA Environment, Marine & Fisheries Group – Enforcement Policy
- Guidance Notes for Staff Involved in Enforcement Action following Water Pollution Incidents

18.1 Enforcement and Prosecution Policy

This policy sets out the general principles of enforcement and prosecution available to the NIEA who will follow the key principles of proportionality, consistency, transparency, accountability and targeting, in addition to the polluter pays principle.

These are the main factors on which decisions to prosecute are based. The policy sets out the circumstances when, along with sufficient evidence, the NIEA will normally prosecute. It also outlines the NIEA policy for prosecuting people and companies.

18.2 Procedures for Field Staff

The purpose of the Field Staff Procedures document is to explain how policy is put into practice and outline the Department's consistent approach to enforcement. It details the procedures for field staff when dealing with water pollution incidents with the aim of:

- Ensuring a fair and standard approach;
- Preventing the waste of valuable resources;
- Providing guidance on issuing warning letters;
- Providing stipulations on the documentation required and timescales for submission;
- Providing a definition of an incident category.

The document is designed to supplement the following two WMU documents:

- Regional Operations – Water Pollution Response Procedures;
- NIEA Sampling Manual.

Field Staff given the responsibility of investigating an incident are referred to as 'Investigating Officers'. These investigating officers are employed by the Group Environmental Health Committees and work on an agency basis for the NIEA.

Regional Operations staff from the NIEA will use the evidence presented by the field staff to decide whether or not to refer cases to the Office of the Public Prosecution Service (PPS), which is an independent body who may act on the Department's behalf to pursue a prosecution through the courts.

18.3 MCA's Enforcement Unit

The MCA's Enforcement Unit can provide invaluable support having gained wide ranging experience in dealing with similar incidents in the past. Support and advice should be requested at the outset from the SRC in the event of a Tier 3 response.

19 Finance and Record Keeping

19.1 Emergency Procurement Procedures

During the response to a shoreline incident the Finance Team can invoke Emergency Direct Award Contracts, without needing quotations or prior approvals. This is laid out in the Procurement Guidance Note, PGN 03/11 Direct Award Contracts, paragraph 3.3.1.

19.2 Legislative Framework

Table 19.1 shows the legislative framework in place to ensure compensation is available for pollution damage as well as remuneration for preventive and response measures. Depending on the scale and type of incident compensation can be claimed against one of the legislative items shown in Table 19.1.

19.2.1 Exemptions

The following are exemptions to the legislative framework given in Table 19.1:

- Resulted from an act of war, hostilities, civil war, insurrection or a natural phenomenon of an exceptional, inevitable and irresistible character;
- Was wholly caused by an act or omission done with intent to cause damage by a third party; or
- Was wholly caused by the negligence or other wrongful act of any Government or other authority responsible for the maintenance of lights or other navigational aids in the exercise of that function.

19.3 Maritime and Coastguard Agency (MCA)

The Maritime and Coastguard Agency are available to assist DAERA in submitting compensation claims for preventive and response measures deployed following a marine incident.

The MCA will:

- Provide advice on admissibility and presentation of claims;
- Assist in claim collation;
- Issue claim templates;
- Negotiate on your behalf.

The MCA will not:

- Dictate what should or should not be in your claim;
- If an in-admissible or questionable claim item has been submitted, jeopardise the entire joint claim to pursue this item;
- Do the claim compilation on behalf of claimant.

Table 19.1 Conventions and Liabilities to Submit Claims

Name	Description	Pollution	Claim Submission
The 1992 International Convention on Civil Liability for Oil Pollution (CLC)	Enforces strict liability, direct action against the insurer for an oil spill from oil tankers carrying over 2,000 tonnes of persistent oil cargo.	Persistent Oil Cargo	Insurer
The 1992 Fund Convention	Additional compensation made available to claims above the ship owners liability as guided by the CLC. (maximum is 203 million SDR)	Persistent Oil Cargo	IOPC/Insurer Claim Form
The 2003 Supplementary Fund	Additional compensation made available to claims above the 1992 Fund. (maximum is 750 million SDR)	Persistent Oil Cargo	IOPC Claim Form
Bunkers Convention	Compulsory bunkers insurance required for all ships of 1000 gross tonnes or more. Oil must be traced to the polluter. Liability limited under 1976 Limitation Convention.	Bunker Fuel (any hydrocarbon mineral oil, including lubricating oil, used or intended to be used for the operation or propulsion of the ship, and any residues of such oil)	Insurer
The Offshore Pollution Association Ltd	A voluntary association which all offshore operators currently active in exploration and production within the UKCS are party to. Compensation of up to 250 million US dollars is available. Oil has to be traced to the polluter.	Offshore Pollutant	Directly to the operator.
Wreck Convention	Requires vessels over 300GT to have wreck removal insurance. Level of liability determined by the liability convention i.e. the tonnage (starts at 1.512 million SDR)	Wreck (grounded vessel and cargo)	Insurer
The Environmental Liability 2009	The polluter pays principle to protect species, statutory designations, surface water, or ground water or land.	All types of pollution that can cause damage (not covered in the other conventions)	Operator

19.4 Protection and Indemnity Association (P&I Club)

P&I Clubs are mutual, non-profit making associations which insure their ship owner members against various third-party liabilities, including oil cargo pollution, bunker pollution, and wreck removal. Each P&I Club has full-time managers who deal with the day-to-day business of the Club.

Upon notification of an incident they will notify their "worldwide network of commercial representatives (correspondents) who act as the Club's local contact to mobilise to the site of an

incident"[19]. Depending on the magnitude of the incident the P&I club will establish a claims office to receive claims of compensation for preventive measures, response measures, property damage, economic loss, and environmental restoration.

19.5 ITOPF

ITOPF is a not-for-profit organisation consisting of technical pollution response advisors who will be mobilised to a pollution incident by their Members (tanker owners) or associates (other ship owners) and vessel insurers such as the P&I club.

Their primary role during a response is to give objective advice and assistance to Incident Management Teams with the aim of reaching an agreement on the clean-up measures which are technically justifiable in the circumstances.

They also assist in facilitating the prompt settlement of subsequent claims for compensation of incidents.

During the response to a significant marine incident a member of ITOPF will most likely mobilise to the SRC and provide guidance to the Management Team and wider SRC.

19.6 IOPC Secretariat

The 1992 fund and the supplementary fund share a joint secretariat based in London which is headed by a Director who is responsible for the management of the fund. The Director has the authority to settle claims and compensation up to predetermined levels.

Upon notification of a significant tanker incident the IOPC Secretariat will mobilise someone to the site and set up a claim's office. Generally, the P&I club and IOPC work in close correlation on a large incident setting up a joint local claim's office.

Details of claims offices are given in the local press and are available on www.iopcfunds.org

Claimants who wish to claim directly against the 1992 Fund should submit their claims to the following:

Address: International Oil Pollution Compensation Funds, 4 Albert Embankment, London, SE1 7SR, United Kingdom

Telephone: +44 (0)20 7592 7100

Telefax: +44 (0)20 7592 7111

[19] Oil Spill Compensation, IPIECA/ITOPF Guidance, 2007, Page 5

19.7 Claims and Compensation

Claims in respect of pollution damage can fall under one of the following broad categories for most of the funds and conventions outlined in Table 19.1.

- Response and preventive measures;
- Damage to property;
- Economic losses;
- Reinstatement/restoration of impaired environments.

Reinstatement/restoration of impaired environments includes reasonable studies to establish nature and extent of the damage caused to the environment by the spill and costs of reasonable measures to reinstate contaminated environment, which are technically, economically and environmentally feasible.

Claims are normally subject to time limits therefore claims should be submitted as soon as possible. In most cases claimants will ultimately lose their right to compensation after three years from the date on which the damage occurred. If there is a delay in submitting a claim, formal notification to the fund or insurer should be made.

Although damage may occur sometime after an incident takes place, court action must be brought within six years of the date of the incident.

More information on claims can be found in the IOPC claim https://www.iopcfunds.org/publications/other-publications/manual

19.7.1 Response and Preventive Measures

Response and preventive measures collectively fall under the term preventive measures as they are acts to minimise the overall impact of an incident. The costs of incident management, clean-up tactics deployed, waste treatment, deployment of boom(s) to protect sensitive receptors are all considered under the term preventive measures.

The claim for preventive measures compensation is "assessed on the basis of objective criteria"[20]. The Insurer/Fund Director may request a technical expert to determine if the deployed response strategy was reasonable and in-line with industry best practice.

19.7.2 Property Damage

Claims under this category would include, for example, the costs of cleaning contaminated fishing gear, maricultural installations, yachts, and industrial water intakes.

19.7.3 Economic Loss

Spills can result in economic losses through, for example, preventing fishing activity or a reduction in tourism over a prolonged period.

[20] Oil Spill Compensation, Ipieca/ITOPF Guidance, 2007, Page 11

19.8 Presentation of Claims

Claims should be presented clearly and, in enough detail, so that the amounts claimed can be assessed based on the facts and the documentation presented.

Each item within the claim must be supported by an invoice or other relevant documentation, such as work sheets, incident action plans and other means of documentation identified in Section 19.9.

Photographs or videos can be helpful to explain the extent and nature of the contamination and assist in showing why certain response strategies were deployed.

The Operations Team should arrange for the sampling of oil and chemical analysis of the oil throughout the response as the chemical analysis results can assist in proving the source of the oil, which can be beneficial in the claim process. NIEA will use in house sampling procedures in line with Water (Northern Ireland) Order 1999 Investigations.

The Finance Team should contact the relevant Insurers, P&I Club, IOPC Funds or ITOPF and the MCA early on in an incident to seek advice on the preparation and submission of claims.

19.9 Record Keeping

It is the role of the Finance Team to ensure that all response documentation is collected and archived throughout the response. The Finance Team should ensure that all members of the response team complete all necessary forms and logs and submit them to the Finance Team at the start of the next operational period.

It is important that all incident action plans are recorded and archived as it clearly shows why and what strategies were determined and deployed. It also provides an outline of equipment utilised and the degree of contamination at the time of producing the incident action plan.

The speed at which claims are settled depends on how long it takes claimants to provide the necessary information, therefore proactive document management can greatly reduce the delay of remuneration for response activities.

The following lists are designed to act as guidance of documentation and data required in the claim process.

Response Organisation

- Organisational structure, roles and responsibilities;
- Personnel rates related to roles and responsibilities (showing components included in calculation for government employees) time sheets, pay advice and justification of expenses incurred for travel, accommodation and food;
- Photographs, video clips and charts identifying the area affected by the spill and chronicling progress of clean-up operations;
- Records of weather conditions and predictions of oil movement;
- Communications logs with each sector of the response operation;
- Log of events;

- Minutes of strategic meetings, noting amongst other things, how priorities were set and the rationale for response decisions including decisions to bring operations to a close;
- Minutes of daily progress review meetings;
- Incident Action Plans.

Protection of Sensitive Resources

- Maps of location of sensitive resources and associated protective measures;
- Description of sensitive resources;
- Description of type of protective measures implemented e.g hard booms, sorbent booms, temporary physical barriers, tidal currents, length involved, materials used, costs;
- If booms were used; manufacturer, model length deployed, anchoring arrangements, daily rates, period of deployment and supplier;
- Photographs.

Shoreline Response

- Maps and charts of the extent of shoreline pollution;
- SCAT (Shoreline Clean-up Assessment Technique) team reports or equivalent detailing levels of pollution and recommended clean-up techniques and end points for each worksite or section of shoreline, photographs and video clips;
- Daily worksite (Beach Supervisor) reports recording work done, for example hours worked, area cleaned, and amount of oily waste collected;
- For each worksite daily lists of equipment used, rates and supplier;
- Incident or damage reports;
- For each worksite daily lists of materials consumed, noting supplier;
- Contractor rate sheets;
- Rates and time sheets for personnel by worksite showing components included in the calculation of the rate for government employees,
- Payslips;
- Oil samples.

Waste

- Sources of waste (vessel names or beach name for shoreline point of origin);
- Cost of temporary storage, location of sites used and records of movement of waste, material coming in and going out;
- Disposal methods and quantity of waste by each method;
- Name of disposal contractors and location of facilities;
- Unit rate for each disposal method showing how costs were derived;
- Weigh bridge tickets;
- Waste authority consignment notes or equivalent;
- Transport costs, vehicles used, distance travelled, rate/km;
- Invoices and receipts;
- Photographs;
- Oil samples.

20 Training and Exercising

20.1 Training

All staff that have roles in the implementation of the NICCP will receive training by an accredited training provider. New staff will be trained as soon as is practicable and refresher training will be given as per set requirements.

Table 20.1 NIEA Training Requirements

Course	Duration	Management	Supervisors	Operators	Frequency	Notes
MCA 4P/5P On Scene/Executive Commander for oil spills course	32 hours/40 hours	✓	✓		3 Yearly Refresher	For managers or supervisors who would be responsible for the effective command and control of an oil spill response effort.
MCA 3P Beachmaster Course	24 hours		✓	✓	3 Yearly Refresher	For supervisors or operators who may have a role as a beachmaster during a shoreline response.
NIEA or MCA 1P/2P Oil Spill Equipment Operators Course	8 hours/12 hours			✓	3 Yearly Refresher	All staff who operate oil spill response Equipment.

20.2 Exercises

Regular exercises in simulated marine pollution incidents will be held to familiarise and develop capability of the SMT to effectively and efficiently manage a significant shoreline oiling event.

Exercise	Duration	Management	Supervisors	Operators	Frequency	Notes
Notification Exercise	1-2 hours	✓	✓		6 Monthly	Test communication systems, check availability of personnel, evaluate travel options and the speed at which travel arrangements can be made.
Table Top Exercise	2-8 hours	✓			Annual	Consists of interactive discussions of a simulated scenario among members of the SMT.
Equipment Deployment Exercise	4-8 hours		✓	✓	Annual combined with refresher training	Test the capability of a local team to respond to a Tier 1 or 2-type spill.
Incident Management Exercise	10 + hours	✓	✓		Once every two years	Demonstrate spill response management capabilities, integration of roles of different parties, focus on overall incident management aspects.

Appendix A – Action Cards

The action cards listed below are available in this Appendix. The action cards rely on the functional group chairs to effectively manage their teams to complete the key response activities required during a shoreline pollution incident.

- Management Team Chair (Incident Commander)
- Operations Team Chair (DEPO)
- Technical Team Chair
- Situation Leader (member of Technical Team)
- Finance Team Chair
- Waste Management Group Chair
- GIS and Tech Group Chair
- Liaison Officer
- Media/PR
- Health and Safety
- Forward Control Centre (Local Officer)
- Beach Supervisor

Common Responsibilities

The following common responsibilities should be followed by everyone arriving and managing the response to a shoreline pollution incident:

- Receive assignment, notification, reporting location, reporting time, and travel instructions from the Incident Commander;
- Upon arrival at the incident, check in at the Shoreline Response Centre, Forward Command Centre or Beach Command Post;
- All radio communications will be addressed with the incident name;
- Receive briefing from immediate supervisor;
- Acquire work materials;
- Complete forms and reports required of the assigned position and send material through to appropriate team;
- Respond to demobilisation orders;
- Ensure continuity using handover briefings.

Management Team Chair	
Responsibilities	• Assume responsibility for the shoreline response; • Appointing chairs of functional groups, and a deputy/assistant as required; • Determine overall response objectives and agree all possible shoreline protection and response strategies; • Attend Shoreline Management Meetings; • Approve shoreline response incident action plan; • Inform DAERA Senior Management Team (SMT) and CCGNI of incident response progress (SITREPS); • Liaise with Environment Group Chair; • Attend Media briefings as and when required.

Step	Actions	
1.	Receive notification of the incident, mobilise to the SRC as required, and initiate incident log. (Virtual SRC may be established depending on the severity of the incident).	☐
2.	Liaise with DEPO and ascertain all available details of the incident, what resources have been deployed and seek confirmation, if necessary.	☐
3.	Determine who is required in the Management Team and wider SRC. Request additional personnel and expertise as required; (Health and Safety Advisor, GIS Specialist, IT, Communications, waste, technical group etc. This will be dependent on Tier level and type of incident).	☐
4.	Ensure the SRC is set-up effectively and all communications are functional.	☐
5.	Appoint Liaison Officers as required and tell them where to report and how frequent to communicate with SRC; (This will be dependent on magnitude of the incident and other agencies responding).	☐
6.	Schedule the initial shoreline management team meeting.	☐
7.	Agree reporting schedule with DAERA SMT and CCGNI central, if required; (Tier level dependant).	☐
6.	Liaise with Technical Team to ensure SCAT surveys are being undertaken and managed effectively and communications are set-up so data can be transferred effectively.	☐
7.	Ensure that the Technical Team are developing a comprehensive shoreline response strategy. This should be undertaken in consultation with the Operations Team who are responsible for the tactical deployment of resources.	☐
8.	Ensure Technical Team are facilitating the completion of the Incident Action Plan. All options considered should be recorded and the reasons for selecting the final recommendations. (Each functional group should provide input into Incident action plan).	☐
9.	Situation Leader is appointed to disseminate incident information between the functional groups.	☐
10.	Nominate a deputy to cover for your absence from the SRC and attend all required meetings.	☐

Operations Team Chair (DEPO)	
Responsibilities	• Assist Technical Team in determining the most reasonable response strategies for the response; • Implementing the shoreline protection and clean-up strategies agreed by the Management Group; • Transmitting decisions and work instructions to Beach Supervisors; • Provide guidance on tactical response measures to achieve response strategy (what assets are required in order to safely deploy the approved strategies); • Assist the Chair of the Management Team prioritise resource deployment; • Liaise with Procurement Team to ensure the timely mobilisation of resources to undertake tactical response; • Ensure planning is updated of any reports received from response teams; • Liaise with Environment Group; • Attend Management Team Meetings; • Provide continuous situational updates to Technical Team.

	Actions	
1.	Receive notification of the spill and verify location, size, movement etc. (DEPO). Notify Environment Group of incident	☐
2.	Assume initial command until relieved by Management Team Chair.	☐
3.	Initiate incident log.	☐
4.	After receiving confirmation of incident facts mobilise initial response team from NIEA to undertake initial response actions. (The initial response actions may prove enough for Tier 1 incidents).	☐
5.	Tier 1 – 2 : Set-up virtual SRC (as required).	☐
6.	Tier 3 : set-up SRC and await the arrival of nominated Management Chair and provide hand over. (Brief other functional group chairs if they arrive first).	☐
7.	Recruit personnel into the Operations Team ensuring there is an effective span of control in place (1 member of the Operations Team to 5 Beach Supervisors/Beach Command Posts) and complete key response activities.	☐
8.	Arrange meeting with the Technical Team to discuss reasonable shoreline protection and clean-up strategies. During this meeting the shoreline should be divided into operational segments for SCAT Surveys and operations.	☐
9.	Develop tactical requirements to deploy approved response strategies. Tactics should be developed on a site by site basis.	☐
10.	Liaise with Health and Safety Officer, Procurement Chair, and establish communication links.	☐
11.	Nominate a deputy to cover for your absence from the SRC and attend all required meetings.	☐
12.	Attend management team meetings.	☐
13.	Discuss safety considerations with Health and Safety Officer, ensure that all necessary risk assessments are in place and forms are completed by Beach Supervisors.	☐
14.	Brief Beach Supervisors on the tactical response for each site and agree communication plan. Ensure that all SITREP's are received before the end of the current operational period.	☐
15.	Monitor the response and advice Management Team on the required strategy changes.	☐

Technical Team Chair	
Responsibilities	• Assumes responsibility for the Technical Team; • Responsible for collection, evaluation, dissemination and use of incident information throughout the SRC; • Facilitate the preparation of Incident Action Plan in association with EG; • Providing the Shoreline Management Group with a series of technically reasonable options for a Clean-up Strategy (To be submitted to EG); • Liaising with Operations Team to assess progress of operations and produce revised Incident Action Plan for the next operational period; • Determine the need for specialised resources and subject matter experts; • Establish and manage SCAT Teams; • Liaise with GIS sub group to ensure maps are developed which represent the current condition of the response; • Liaise with Waste Sub-group to ensure a comprehensive waste management strategy is developed for each response site; • Attend and facilitate Management Team Meetings.

	Actions	
1.	Receive notification of the spill.	☐
2.	Mobilise to SRC (as required).	☐
3.	Receive incident brief from DEPO, or Management Team Chair (Incident Commander).	☐
4.	Initiate incident log.	☐
5.	Assign a Situation Lead to disseminate information between functional groups and populate situational display boards.	☐
6.	Request additional expertise (SCAT, trajectory modelling, environmental specialist, response specialist). Determine the requirement of personnel within the Technical Team and mobilise more if required.	☐
7.	Liaise with Management Team Chair and establish information requirements, reporting schedules, and meeting timetable (refer to SRC Timetable Section 6.10).	☐
8.	Analyse all available incident information (spill models, environmental sensitivities, shoreline types, oil mass balance, and weather forecasts).	☐
9.	Appoint member of the Technical Team to coordinate SCAT Surveys (If required).	☐
10.	Identify incident worst case potential so appropriate contingency measures can be considered.	☐
11.	Liaise with Operations Chair and develop reasonable shoreline response strategies for current and next operational period.	☐
12.	Activate Waste Management Sub-Group to develop waste management strategy for all response sites.	☐
13.	Facilitate the preparation of the incident action plan (Ensure each function is completing its specific forms).	☐
14.	Nominate a deputy to cover for your absence from the SRC and attend all required meetings.	☐
15.	Ensure procurement receives all incident documentation and archives it on HPRM	☐
16.	Review incident information and forecast reasonable response strategy for next 24 – 36 hours. Maintain status of resources at the various locations (both actual and required)	☐

Situation Leader	
Responsibilities	• Collecting, processing and organising incident information; • Ensuring there is an effective transfer of information between the functional groups within the SRC; • Updating situation display boards; • Briefing the Management Team on the current situation during Management Team Meetings; • Developing maps and displays in liaison with the GIS and Tech subgroup.

	Actions	
1.	Receive notification of the spill.	☐
2.	Mobilise to SRC (as required). Virtual SRC established data may be collected virtually and forms/wall displays completed and shared via email.	☐
3.	Receive incident brief from Technical Team Chair.	☐
4.	Liaise with functional group chairs and arrange communication links so data can be shared effectively and efficiently.	☐
5.	Begin the collection and analysis of data to populate situation display boards.	☐
6.	Determine if any assistance is required.	☐
7.	Attend management team meeting and provide situation update.	☐
8.	Continually liaise with functional groups to maintain up to date accurate incident information.	☐
9.	Periodically capture the information on the situation display boards for historic record. This information can be captured by photograph. All data should be archived by the Procurement Group.	☐
10.	Liaise with GIS and Tech Group to develop incident specific displays	☐
11.	Assist in the preparation of SITREPS for government updates	☐
12.	Evaluate data and prepare periodic predictions to inform Management Team at meetings.	☐

Procurement Team Chair	
Responsibilities	• Assumes responsibility for the Procurement Team; • Responsible for all financial, administrative and cost analysis aspects of the response; • Procuring, marshalling and routing resources to where they are required as requested by functional group chairs; • Monitoring expenditure, to provide expenditure update/summary to management team; • Ensuring finance contracts are available to implement decision of the Management Team; • Maintaining financial status of assigned resources at various locations; • Management of claims for preventive and response measures (See Section 19); • Management of archiving incident related forms and data (See Section 19) as it will be required for the claims process; • Informing Management Group of any forecasted and actual resource shortfalls; • Attend Management Team Meetings

	Actions	
1.	Receive notification of the spill	☐
2.	Mobilise to SRC (as required)	☐
3.	Receive incident brief from DEPO or Incident Commander	☐
4.	Familiarise with the control and co-ordination of operations within the SRC.	☐
5.	Determine the number of personnel required in team. Appoint subject matter experts if required (claims, accounting, data management)	☐
6.	Appoint someone to be in charge of logistics to liaise with Operations and Technical Group to: - Obtain current details of NIEA available resources; - Identify plant hire companies; - Identify waste management companies, - Identify oil spill response organisations, - Order and track the movement of resources, - Organise food, accommodation and welfare for response personnel. - Locate all required resources to implement approved response strategy	☐
7.	Establish procurement procedure (see Section 7.6 and Appendix F resource request form) which identifies who requested item and associated costs.	☐
8.	Ensure all items are procured in a timely manner	☐
9.	Track the movement and ETA of all resources and ensure they are demobilised when no longer required on the response.	☐
10.	Appoint a deputy and attend all required meetings	☐
11.	Provide guidance on any fiscal matters	☐
13.	Ensure all incident information is being archived throughout the response.	☐
14.	Prepare documentation for claims procedure	☐

Waste Management Sub Group Chair	
Responsibilities	• Assumes responsibility for the Waste Management Sub Group; • Advising on waste management strategy to be agreed by the Management Group; • Advising on waste minimisation and segregation, and adherence to the waste hierarchy; • Preparing a plan for temporary and intermediate storage of collected waste from the shoreline; • Provide technical and advice on the location and format of temporary and intermediate storage and treatment areas and management options for the waste; • Ensure that all regulations are followed and understood by Beach Supervisors; • Organising final disposal options and identification of sites for storage; • Ensure liaison with Environment Group.

	Actions	
1.	Receive notification of the spill.	☐
2.	Mobilise to SRC (as required).	☐
3.	Receive incident brief from Technical Team Chair.	☐
4.	Initiate incident log.	☐
5.	Determine the number of personnel required in Waste Management Group and mobilise accordingly.	☐
6.	Arrange to attend the first management group meeting.	☐
7.	Familiarise with the available waste management options.	☐
8.	Liaise with Operations Team Chair and Technical Team Chair and define communication links.	☐
9.	Obtain details of location of shorelines impacted, polluting material, shoreline type impacted, and shoreline recovery strategies to be deployed.	☐
10.	Arrange a Waste Management Sub Group meeting to discuss waste management strategy options, logistical issues, and primary and intermediate storage options.	☐
11.	Liaise with the Technical Team and Procurement Team Chairs regarding the setting up of appropriate documents, procurement procedures and monitoring the volumes of waste being generated.	☐
13.	Provide information on waste management strategy in the incident action plan.	☐
14.	Appoint a deputy and attend all required meetings.	☐

GIS and Tech Sub Group Chair		
Responsibilities	• Assumes responsibility for the GIS and Tech Sub Group; • Responsible for development of incident related maps and digital displays; • Ensure that all technical / IT within the SRC is functional • Set up emails and websites as required; • Report to the Technical Group Chair.	
	Actions	
1.	Receive notification of the spill	☐
2.	Mobilise to SRC (as required).	☐
3.	Receive incident brief from Technical Team Chair	☐
4.	Initiate incident log	☐
5.	Determine the number of personnel required in team	☐
6.	Familiarise with the SRC and liaise with functional group chairs and ensure that all Information Technology is operational within SRC. Amend any issues as required.	☐
7.	Assign GIS specialist to ensure relevant layers are on the Marine Map Viewer situation display.	☐
8.	Liaise with the Technical Team and Procurement Team Chairs regarding the setting up of appropriate documents, procurement procedures and monitoring the movement of technical resources.	☐
9.	Liaise with the Situation Leader to determine what maps are required and determine if they can be created. If so create incident maps.	☐
10.	Liaise with SCAT Co-ordinator and generate map showing beach segments and results of SCAT reports (RAG system see Section 13.1).	☐
11.	Liaise with Operations Team to generate map showing segments of clean-up areas and where response teams are located	☐
13.	Provide technical guidance to Procurement Team for the storing of soft copies of incident related data – if required.	☐
14.	Ensure there is an effective transfer of information from Beach Supervisors to the SRC.	☐
15.	Attend Management Team Meetings as requested by Technical Team Chair	☐
16.	Complete incident log.	☐

Liaison Officer	
Responsibilities	• Liaise with other response organisations (MRC and Polluter); • Share incident information regarding response strategies, resource availability, and clean-up progress; • Be a point of contact for other response organisations and ensure a sufficient flow of communication between the response organisations; • Report to the Chair of Assigned Functional Group.

	Actions	
1.	Receive notification of the spill	☐
2.	Mobilise to SRC (as required).	☐
3.	Receive incident brief from Functional Group Chair regarding the incident, location of response teams, of organisations response centre, and who to report to upon arrival.	☐
4.	Initiate incident log.	☐
5.	Report to response organisations response centre and make yourself known to the incident commander, or Senior Maritime and Coastguard Agency Representative (MCA).	☐
6.	Establish communications with the Management Team Chair and confirm your attendance	☐
7.	Determine the reporting and communication process and notify Management Team Chair, or appropriate functional group chair.	☐
8.	Liaise with the Management Team Chair, or appropriate functional group chair regarding the recording and distribution of relevant information.	☐
9.	Attend meetings when required.	☐

For transboundary response refer to Section 8 for guidance
Always determine the limits on the information that can be shared

PR/Media	
Responsibilities	• Developing and releasing information about the incident to the media; • Send out public information notices; • Receive all media enquires; • Prepare the Management Team Chair (Incident Commander) for press conferences; • Facilitate where possible a combined media message between all response organisations.

	Actions	
1.	Consider the location of a suitable Media Centre close to, but at a suitable distance from the SRC	☐
2.	Consider the location of a Media Briefing/Press Conference Facility	☐
3.	Arrange to call out suitably qualified and experienced staff to support the operation of a media centre	☐
4.	Call out of additional support staff to support the operation of a media centre	☐
5.	Arrange for staff to open and set-up the Media Centre and Media Briefing/Press Conference facilities.	☐
6.	Liaise with the Technical Chair and arrange for suitable maps to be made available for the presentation of information	☐
7.	Arrange to attend first Management Team Meeting	☐
8.	Make contact with the Maritime and Coastguard Agency Media Team if mobilised for Tier 3 incident.	☐
9.	Liaise with the Operations Team Chair and arrange to gather all available factual information relevant to the incident.	☐
10.	Formulate issues for discussion and advice during Management Team meeting. Also the need to co-ordinate statements to the media.	☐
11.	Formulate content of the first Press Release	☐
13.	Arrange facilities to accommodate the needs of the media	☐
14.	Arrange the release of Media Centre telephone numbers to an accredited media organisation and individuals.	☐
15.	Arrange for all Management Team, Beach Supervisors and workforce to be briefed on how to deal with media enquiries and the need to refer all enquiries to the Media Centre.	☐

Health and Safety Group Chair	
Responsibilities	• Developing an overall health and safety strategy to be agreed by the Management Group; • Preparing generic risk assessments for routine clean-up procedures; • Ensuring that formal risk assessments, site safety operational survey forms, and Safety Briefs are carried out before the operations commence; • Ensuring the appropriate health and safety and welfare procedures are in place for all shoreline clean-up operations; • Ensure there is sufficient PPE and mitigation measures in place at each shoreline response site; • Ensuring that formal records are maintained and archived by the procurement team; • All incidents are reported in a timely manner.

	Actions	
1.	Receive notification of the spill.	☐
2.	Mobilise to SRC (as required).	☐
3.	Receive incident brief from Management Team Chair.	☐
4.	Initiate incident log.	☐
5.	Obtain a copy of the Data Sheet for the material spilled and consider the effects of weathering of the material and potentially hazardous vapours.	☐
6.	Ascertain the protective clothing requirements for handling the polluting material	☐
7.	Obtain data sheets on any dispersants or degreasers that may be used during the response.	☐
8.	Advise on the effects of the prevailing weather conditions on the workforce and obtain a copy of the weather forecast available within the SRC	☐
9.	Arrange for appropriate risk assessments, site safety operational survey forms and site safety briefings to be undertaken.	☐
10.	Check the record and level of training and competency of contractors and assigned beach masters.	☐
11.	Advise on welfare requirements, hygiene, sanitary etc.	☐
13.	Ensure there is a trained and competent First Aider at each response site.	☐
14.	Liaise with Procurement and Technical Chairs to set-up accident reporting procedure and maintaining records of all forms.	☐
15.	Liaise with Operations Chair, review tactical response and advise on the safety implications of using oil spill response equipment, heavy plant, working on boats, manual handling, restricted access and safety lines etc. (dependant tactical response).	☐
16.	Advise on the safety to the public in terms of proximity to beach clean-up operations and exposure to contaminated beaches which have not yet been cleaned and the need for cordons and signage.	☐
17.	Attend management team meetings when required.	☐

Forward Command Centre Leader		
Responsibilities	• Provide local knowledge of the impacted area; • Provide support to the tactical shoreline response; • Liaise with Beach Supervisors at the beginning and end of each operational period; • Collect and collate shoreline response forms from beach masters and send to SRC; • Provide operations team with regular updates of response activities; • Undertake site visits on behalf of the Operations Team in the SRC.	
	Actions	
1.	Receive notification of the spill Receive brief from Operations Team Chair (DEPO)	☐
2.	Initiate incident log	☐
3.	Mobilise to site and undertake assessment and report findings to Operations Team Chair (DEPO) (as required).	☐
4.	Set-up Forward Command Centre to assist in the incident response	☐
5.	Determine what personnel resources are required in the forward command centre	☐
6.	Ensuring there is an adequate span of control (1 – 5)	☐
7.	Liaise with Operations Team and determine meeting and reporting schedule for provision of situation updates.	☐
8.	Provide any localised knowledge to Operations Team to be included in the incident action plan.	☐
9.	Supply a list of local resources to procurement and operations team.	☐
10.	Receive the contact details of all Beach Masters and establish contact and reporting schedule.	☐
11.	Co-ordinate the activity of Forward Command Centre	☐
13.	Provide guidance on the changing conditions at the response site/s	☐
14.	Ensure Beach Masters have all necessary forms and are completing them in a timely manner	☐
15.	Provide support to Beach Masters	☐
16.	Provide updates to the Operations Team	☐
17.	Undertake site assessments as and when required.	☐

Beach Supervisor	
Responsibilities	• Oversee the deployment of the tactical response on the shorelines; • Manage response personnel; • Ensure the response is undertaken safely; • Establish a safe working site (see Section Health and Safety 15); • Ensure all forms are completed in a timely manner and are submitted to the Operations Team, or Forward Command Centre (depending on activation); • Provide frequent situation updates to the Operations Team, or Forward Command Centre (depending on activation).

	Actions	
1.	Receive notification and brief from Operations Team Chair (DEPO), ascertain communication links to the SRC, including essential telephone numbers, mobile phone and radio links.	☐
2.	Obtain safety data sheet for the material spilled, including the effects of weathering (if available).	☐
3.	Liaise with Operations Team to determine the appropriate documentation, systems and procedures for the operations.	☐
4.	Mobilise to site and provide Operations Team an estimated time of arrival.	☐
5.	Complete all necessary forms (Operational Site Survey, Safety Brief, Risk Assessment etc. See APPENDIX F)	☐
6.	Undertake gas monitoring (if undertaking a safety response follows the guidelines in Section 15)	☐
7.	Set-up safe response site and identify hot, warm and green zones. (see Section Health and Safety 15) Ensure there is adequate first aid cover.	☐
8.	Ascertain the level of knowledge and experience within your work team and ensure there is an adequate span of control – appoint supervisors/team leaders if required (1 – 5)	☐
9.	Deploy tactical response of the SRC approved response strategy for your section of coastline	☐
10.	Determine the requirement for on-site security to protect the public and reduce unauthorised site access.	☐
11.	Assess the requirement for additional resources and report to the Operations Team	☐
13.	Take an accurate record number of people on site, equipment deployed, waste recovered and submit report to the operations team along with any recommended tactical changes to the response strategy.	☐
14.	Oversee response until end point criteria is achieved and report any safety concerns	☐

Appendix B SRC Tool Kit

Items to be included in the SRC are shown in Table 0.1.

Table 0.1 SRC Tool Box Inventory

Item	Qty
Critical Items	
Dedicated telephones (minimum 2 per team)	1
IT – computers including network access (minimum 2 per team)	1
Printed Copy of Northern Ireland Coastal Contingency Plan	5
Printed Copy NIEA booming plans	3
Photocopier	1
Whiteboard/flip charts	5
Projector (display screen)	1
Television and Video facilities (optional)	
Signage	
Shoreline Response Centre (Sign)	2
Red Directional Arrows	3
Table Signs (For Each Functional Team)	1
Coloured Identification Waistcoats for Members of Each Functional Team	2 (sets)
Stationery	
Roll of Masking Tape	10
Roll of Sellotape	10
Blu Tack (pack)	5
Pens	50
Pencils	50
Sticky Notes (pack)	10
A4 Binders	10
A4 Hole Punch	6
Scissors	8
Thick Point White Board Pens (pack)	5
Thin Point White Board Pens (pack)	5
White Board Spray	5
White Board Eraser	5
Stapler	5
Pack of Staples	5
Bulldog clips (pack)	5
Document Storage	
Wire Trays	5
Wall document holder	1
Forms	
Incident Daily Log Sheets	100
Incident Action Plans	10
SCAT Forms	50

Item	Qty
Site Safety Operational Forms	50
Resource Request Forms	100
Information	
MCA Oil Spill Clean-Up Technical Manual (printed)	2
IOPC Fund Claim Manual	2
IPIECA Waste Management	2
IPIECA Shoreline Response	2
MCA SCAT Manual	2
Printed Action Cards (set)	10
Maps/Charts	
Set Of Discoverer Series Maps 1:50,000 covering Northern Ireland	3
Set Of SC 5612 Leisure Charts	1

Appendix C: Management Team Meeting Agenda and Meeting Room Layout

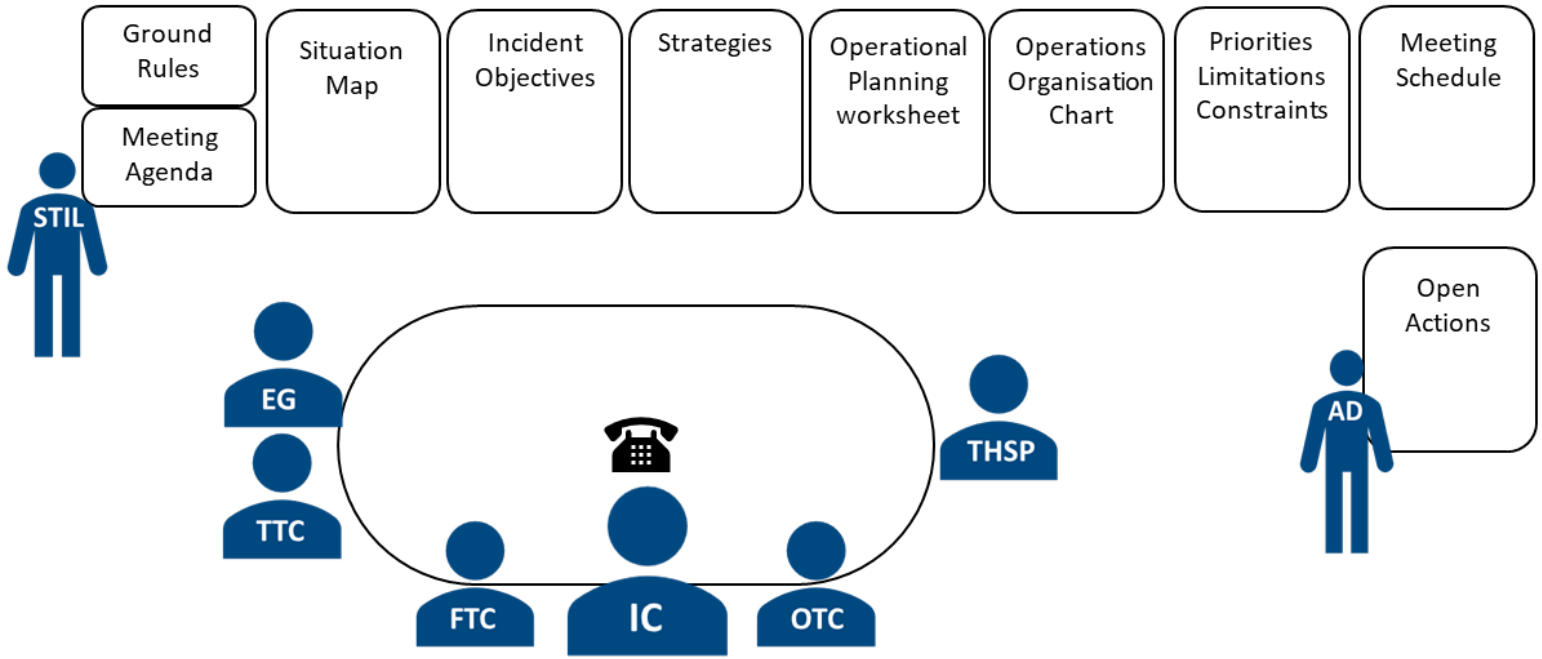
Facilitator: Technical Team Chair

Attendees: Management Team (functional group chairs) and Situation Leader (from Technical Team) Administration person from Procurement Group, Technical Specialists, Health and Safety and liaison and PR/Media as required.

Meeting Notes: Administration

1) Technical Team Chair brings meeting to order, conducts roll call, covers ground rules (phones on silent, no interruptions to speakers etc.) and reviews agenda. Admin persons takes notes and tracks actions/assignments that are developed
2) Situation Leader conducts situation status briefing (copies of situation display boards beneficial, see Meeting Room Layout):
    - Incident situation,
    - Projected situation
    - Environmental and socio-economic receptors at risk,
    - Resources deployed,
    - Update of actions/tasks determined in following team management team meeting.
3) Management Team Chair (Incident Commander):
    - Provides comments
    - Reviews any key decisions, priorities, (if new or changed)
    - Discusses incident objectives
    - Assigns or reviews functional group tasks/open actions
4) Technical Team Chair facilitates open discussion to clarify priorities:
    - Objectives
    - Assignments/Actions against each functional group based on notes captured
    - Issues
    - Concerns
    - Actions/tasks
5) Each Functional Group Chair will be called upon for any questions, concerns or issues:
    - Work assignments/actions
    - Resource commitments
    - Contingencies
    - Logistics issues
    - Additional support
    - Objectives not being met
    - Safety Issues
6) Management Team Chair (Incident Commander) provides closing comments.

Management Team Meeting Layout



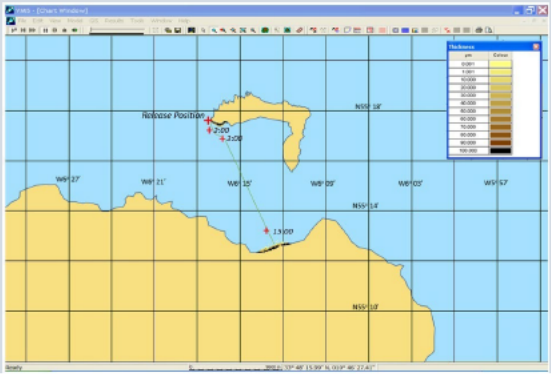
STIL = Situation Leader **TTC** = Technical Group Chair **IC** = Incident Commander **THSP** = Technical Specialist
EG = Environment Group **FTC** = Financial Group Chair **OTC** = Operations Team Chair **AD** = Administrator

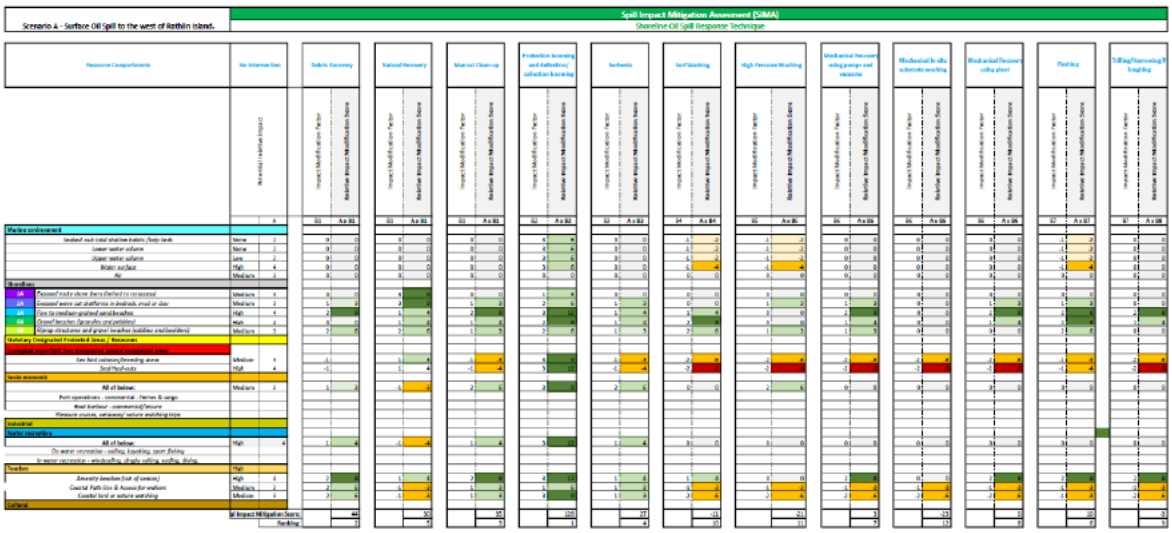
Appendix D SIMA Form and Scenarios

Spill Impact Mitigation Assesment (SIMA)																	
		Response Technique															
		Natural Recovery		Manual Clean-up		Debris Recovery		Sorbents		Surf Washing		High Pressure Washing		Mechanical Recovery		Flushing		Trilling/Harrowing/Ploughing	
Resource Compartments	Potential relative impact		Impact Modification Factor	Relative Impact Modification Score	Impact Modification Factor	Relative Impact Modification Score	Impact Modification Factor	Relative Impact Modification Score	Impact Modification Factor	Relative Impact Modification Score	Impact Modification Factor	Relative Impact Modification Score	Impact Modification Factor	Relative Impact Modification Score	Impact Modification Factor	Relative Impact Modification Score	Impact Modification Factor	Relative Impact Modification Score
	A		B1	A x B1	B2	A x B2	B3	A x B3	B4	A x B4	B5	A x B5	B6	A x B6	B7	A x B7	B8	A x B8
	Total Impact Mitigation Score:																	
	Ranking:																	

Scenario A: Incident offshore Rathlin Island

Scenario: Surface Oil Spill to The West Rathlin Island	
Location	100m off Bull Point, W tip of Rathlin Island
Incident	Tanker grounding on rocks off W tip of the island
Oil Type	Crude Oil
Volume of release	500m^3
Duration of release	5hr
Prevailing Conditions	Rough sea, F5-6 NNW winds increasing to NNW F6-7
Scenario Setting	The SIMA reviews the overall response options for the shorelines impacted by the incident as shown in the oil spill trajectory model below. The shoreline oil spill trajectory model is cross referenced with the MarineMap Viewer which shows shoreline type and environmental and socio-economic receptors.





Selecting Best Options

The SIMA matrix indicates that natural recovery provides the highest mitigation for the rocky shoreline areas located to the west of Rathlin Island and west of Ballycastle. Overall protection booming provides the highest mitigation for the response with priority areas being amenity beaches, seal haul outs and port operations. Mechanical clean-up and manual labour provide the highest mitigation for the beaches with fine grained sediment around Ballycastle. Flushing provided the highest mitigation for gravel beaches. Debris recovery shows to be beneficial at mitigating the overall impact on almost all shorelines, but rocky out crops, this is due to the risk associated with recovering debris from a rocky shoreline.

Appendix E Shoreline Response Technique Decision Table

Shoreline Clean-up Technique Decision Chart

Response Technique

Types of Shoreline (and environmental sensitvities index category)	Debris Recovery	Natural Recovery	Mechanical recovery using pumping and vacuum equipment	Mechanical In-Situ Substrate Washing	Mechanical recovery using plant machinery	High Volume Low Pressure cold water flushing	High Pressure Washing	Manual Clean-up	Surf Washing	Sorbents	Protection booming and deflection / collection booming	Trilling / Harrowing / Ploughing
Exposed Rocky Shores (ESI 1A)	Avoid	Prefferred	Possible	Avoid	Avoid	Avoid	Possible	Possible	Possible	Possible	Possible	Avoid
Exposed Solid Man-Made (ESI 1B)	Avoid	Prefferred	Prefferred	Avoid	Prefferred	Possible	Prefferred	Prefferred	Avoid	Possible	Prefferred	Avoid
Exposed Rocky Platforms (ESI 2A)	Possible	Prefferred	Possible	Avoid	Possible	Possible	Possible	Possible	Possible	Possible	Possible	Avoid
Fine-Medium Sand Beaches (ESI 3A)	Prefferred	Possible	Prefferred	Avoid	Prefferred	Prefferred	Avoid	Prefferred	Possible	Possible	Prefferred	Prefferred
Scarps And Steel Slopes In Sand (ESI 3B)	Avoid	Possible	Possible	Avoid	Possible	Possible	Possible	Possible	Possible	Possible	Possible	Avoid
Course Sand Beaches (ESI 4)	Prefferred	Possible	Possible	Prefferred	Possible	Possible	Avoid	Prefferred	Prefferred	Possible	Possible	Possible
Mixed Sand And Gravel (ESI 5)	Avoid	Possible	Possible	Possible	Possible	Prefferred	Avoid	Prefferred	Prefferred	Possible	Possible	Possible
Gravel Beaches (ESI 6A)	Avoid	Possible	Possible	Avoid	Possible	Prefferred	Avoid	Possible	Prefferred	Possible	Possible	Possible
Rock Armour Sea Defence And Gravel Beaches (ESI 6B)	Prefferred	Prefferred	Possible	Avoid	Avoid	Prefferred	Possible	Possible	Prefferred	Possible	Possible	Avoid
Exposed Tidal Flats (ESI 7)	Avoid	Prefferred	Avoid	Avoid	Avoid	Possible	Avoid	Possible	Avoid	Possible	Prefferred	Possible
Sheltered Scarps And Rocky Shores (ESI 8A)	Prefferred	Prefferred	Avoid	Avoid	Avoid	Avoid	Possible	Possible	Avoid	Possible	Possible	Avoid
Sheltered Solid Man-Made Structures (ESI 8B)	Possible	Possible	Prefferred	Avoid	Possible	Possible	Prefferred	Possible	Avoid	Possible	Possible	Avoid
Sheltered Riprap (ESI 8C)	Possible	Prefferred	Possible	Avoid	Avoid	Possible	Prefferred	Possible	Avoid	Possible	Possible	Avoid
Sheltered Rocky Rubble Shores (ESI 8D)	Possible	Prefferred	Possible	Avoid	Avoid	Possible	Possible	Possible	Possible	Possible	Possible	Possible
Sheltered Tidal Flats (ESI 9A)	Avoid	Prefferred	Possible	Avoid	Avoid	Prefferred	Avoid	Possible	Avoid	Possible	Prefferred	Avoid
Vegetated Low Banks (ESI 9B)	Prefferred	Prefferred	Avoid	Avoid	Possible	Possible	Avoid	Possible	Avoid	Possible	Possible	Avoid
Salt And Brackish Water Marshes (ESI 10A)	Avoid	Prefferred	Avoid	Avoid	Avoid	Prefferred	Avoid	Possible	Avoid	Possible	Prefferred	Avoid
Freshwater Marshes (ESI 10B)	Avoid	Prefferred	Avoid	Avoid	Avoid	Prefferred	Avoid	Possible	Avoid	Possible	Prefferred	Avoid

Prefferred Possible Avoid

Appendix F Forms

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Gas Detection Log sheet

Location:					**Incident Name:**					
	Equipment Used	**Acceptable Limits**	**Initial Test**		**Following-up Tests**					
			Results	**Date/Time**	**Results**	**Date/time**	**Results**	**Date/time**	**Results**	**Date/time**
Gas Test $\%O_2$		Limits >19.5% <22%								
%LEL		< 10%								
H2S (STEL)		Refer to current industry practice								
VOC		1st alarm 50 ppm 2nd alarm 150 ppm								
Benzene (TWA)		Refer to current industry practice								
*1										
*2										
*3										
*4										
*5										

O_2 = Oxygen **LEL** = Lower explosive Limit **H_2S** = Hydrogen Sulphide **STEL** = Short-term exposure limit **TWA** = Time weighted average

Tests Completed by	**Initial Test**	**1st Follow up**	**2nd Follow up**	**3rd Follow up**
Name				
Signature				

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Site Safety Briefing Sheet

Incident:	**Project Code:**
Site Name:	**Location:**
Date:	**Time:**
Briefing Conducted By:	

Topics Covered:

- Weather ☐
- Injuries and illness ☐
- Corrective actions/precautions ☐
- First Aid ☐
- Site emergency plan ☐
- Site hazards ☐
- Oil/chemical hazards ☐
- PPE to be worn ☐
- Decontamination procedures ☐
- Other Topics (listed below) ☐

Comments:

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Site Safety Operational Form

Incident:			
Site Name:			
Location:			
Surveyor Name:			
Time:		**Date:**	

A. Weather Conditions			
A1 Temperature	☐ Hot	☐ Warm	☐ Cold
A2 Wind Speed	☐ High	☐ Moderate	☐ Low
A3 Wind Direction			
A4 Cloud Cover	☐ High	☐ Moderate	☐ Low
A5 Precipitation	☐ High	☐ Low	☐ Non
A6 Humidity	☐ High	☐ Moderate	☐ Cold

B. Sea Conditions			
B1 Wave Height	☐ High	☐ Moderate	☐ Low
B2 Sea Condition	☐ Calm	☐ Moderate	☐ rough
B3 Tide Times	Low Water Time		High Water Time

C. Shoreline Features			
C1 Shoreline Type	☐ Cliffs	☐ Bedrock	☐ Boulders (> 10 cm)
	☐ Pebbles (1 - 10cm)	☐ Gravel (2mm - 1cm)	☐ Sand
	☐ Mud	☐ Sea Defence	☐ Marsh/Mangrove
	☐ Docks	☐ Other:	
C2 Shoreline Use	☐ Commercial	☐ Industrial	☐ Farming
	☐ Public	☐ Recreational	☐ Residential
	☐ Other		
C3 Load Bearing	☐ Firm	☐ Soft	☐ Too Soft
C4 Shoreline Access	☐ Metalled Road	☐ Track	☐ Pathway
	☐ Steps	☐ Slipway	☐ Car Park
	☐ Boat	☐ Other	

D. Ecological			
D1 Considerations	☐ Important Habitat	☐ Rare Species	☐ Birds
	☐ Marine Life	☐ Dunes	☐ Breeding Area
	☐ Statutory Designation		
	Description:		

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E. Storage/Parking			
E1 Parking Areas	☐ Yes	☐ No	
E2 Equipment /waste	☐ Yes	☐ No	
E3 Security	☐ Yes	☐ No	☐ Required
	Description:		

F. Planned Operation			
F1 Operation/s	☐ Containment	☐ Protection Booming	☐ Equipment Recov
	☐ Manual Recovery	☐ Heavy Plant	☐ Vacuum Recovery
	☐ Shoreline Survey	☐ Open Water Survey	☐ Waste Extraction
	☐ Trenching	☐ Other…	

G. Hazards			
G1 Identify Hazards	☐ Boot Safety	☐ Chemical Hazard	☐ Cold
	☐ Heat	☐ Electrical Hazard	☐ Endemic Diseases
	☐ Equipment Ops	☐ Fatigue	☐ Fire, Explosion
	☐ Fumes	☐ Drum Handling	☐ Helicopter
	☐ Humidity	☐ Insects/animals	☐ Lifting
	☐ Manual Handling	☐ Motor Vehicles	☐ Noise
	☐ Overhead Utilities	☐ Open Water	☐ Pumps and Hoses
	☐ Slips, trips and falls	☐ Steam & hot water	☐ Tides
	☐ Trenches	☐ UV Radiation	☐ Heavy Plant
	☐ Weather	☐ Visibility	☐ Other…..

H. Safety			
H1 Air Monitoring	☐ Yes	☐ No	
H2 PPE	☐ Foot Protection	☐ Impervious Suits	☐ Eye Protection
	☐ Coveralls	☐ Ear Protection	☐ Head Protection
	☐ Life Jacket	☐ High Visibility	☐ Hand Protection
	☐ Respirator	☐ Other…	
H3 Site Facilities Required	☐ Sanitation	☐ First Aid	☐ Decontamination
H4 Emergency Plan Requirements	☐ Alarm System	☐ Evacuation Plan	

I. Additional Notes

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J. Equipment List	
Qty	**Inventory**

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K. Personnel

Name (First and Surname)

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L. Sketch of Site

Scale

Points to Remember		Key
☐ Key Landmarks	☐ Oil Distribution	
☐ Access Points	☐ % Cover	
☐ Site Zonation (hot, warm, cold)	☐ Slope	
☐ Backshore Features	☐ Scale	
☐ Access restrictions	☐ Operations	
☐ H/L Tide	☐ Excavations	
☐ Photograph Locations	☐ Welfare	
Pictures taken:	☐ Yes ☐ No	

PERSONAL LOG			
Incident		Date	
Name		Role	
Page No. of			

Time Started or Occurred	Time Completed	Record of Own Decisions and Actions

SHORELINE POLLUTION SITUATION REPORT		
[ ] Urgent	[ ] Ordinary	
Date/Time of Sitrep:	SITREP No.	
Incident:		
Location of Incident:		
Latitude:	Longitude:	
Report Prepared by:		
Contact: Phone/Mobile:	Fax/Email:	
REPORT		
Summary of events since last report (Initial POLREP or last SITREP)		
Expected Developments:		
Areas Threatened:		
Planned Course of Action:		
Details of Assistance Required:		
Other Pertinent Information: (e.g. variations in spill size)		
This report is to be completed with as much of the above information as possible (regardless of the size of the spill) and faxed to the appropriate groups. For any additional information please add extra pages as required.		
Final Sitrep:	**[ ] Yes**	**[ ] No**

RESOURCE REQUEST

Incident Name:	2. Date/Time	3. Resource Request Number:

Requestor

Order (Use additional forms when requesting different resource sources of supply):

Qty.	Detailed Item Description: (Vital characteristics, brand, specs, experience, size, etc.)	Cost	Resource Status – Completed by Procurement				
			Received by	Date/Time	Assigned to	Released to	Date/Time

Requested Delivery/Reporting Location:

Suitable Substitutes and/or Suggested Sources:

Requested by Name/Position:	Priority: Low Urgent	Functional Chair Approval:

Procurement

Order Number:	Supplier Phone/Fax/Email:
Name of Supplier:	

Notes:

Approval Signature Procurement Staff:	Date/Time:

17. Order placed by:

18. Reply/Comments from Finance:

Procurement Chair or Deputy Chair Signature:	Date/Time:

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NIEA Shoreline Response Incident Action Plan

Prepared By:

Approved By:

Department of Agriculture, Environment and Rural Affairs

Shoreline Response Incident Action Plan

Incident Information							
Date:							
Incident Name:							
Date and Time Incident Occurred:							
Incident Location:							
Affected Asset/facility/vessel:							
Nature of Incident:							
Description of Incident:							
Status of Personnel:	POB:		Accounted for:				
	Unaccounted:		Injured:		Dead:		
Facility Evacuation:							
Status of Source:							
Pollution Product:							
Volume/Quantity Spilt:							
Quantity Still at Risk:							
Location/Weather Information							
Time:							
Weather:							
Sunrise:				**Sunset:**			
Low Tide:				**High Tide:**			

Environmental and Socio-economic Considerations		
Name	Location	Considerations

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Shoreline Response Incident Action Plan

Incident Status Update		
Incident Name:		
Time of Last Update:		
Status of Source:		
Volume/Quantity of Pollutant Recovered: At Sea: Shoreline: Other:		
Impact to Shoreline:		
Location/s:	**Estimated Volume/Quantity:**	
Impact to Wildlife:		
Species:	**Location:**	**Recovered:**

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Shoreline Response Incident Action Plan

Objectives	
People	
Environment	
Assets	
Reputation	

Strategies and Tactics		
Location	**Strategy**	**Tactic**

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Shoreline Response Incident Action Plan

	Strategies and Tactics	
Location	Strategy	Tactic

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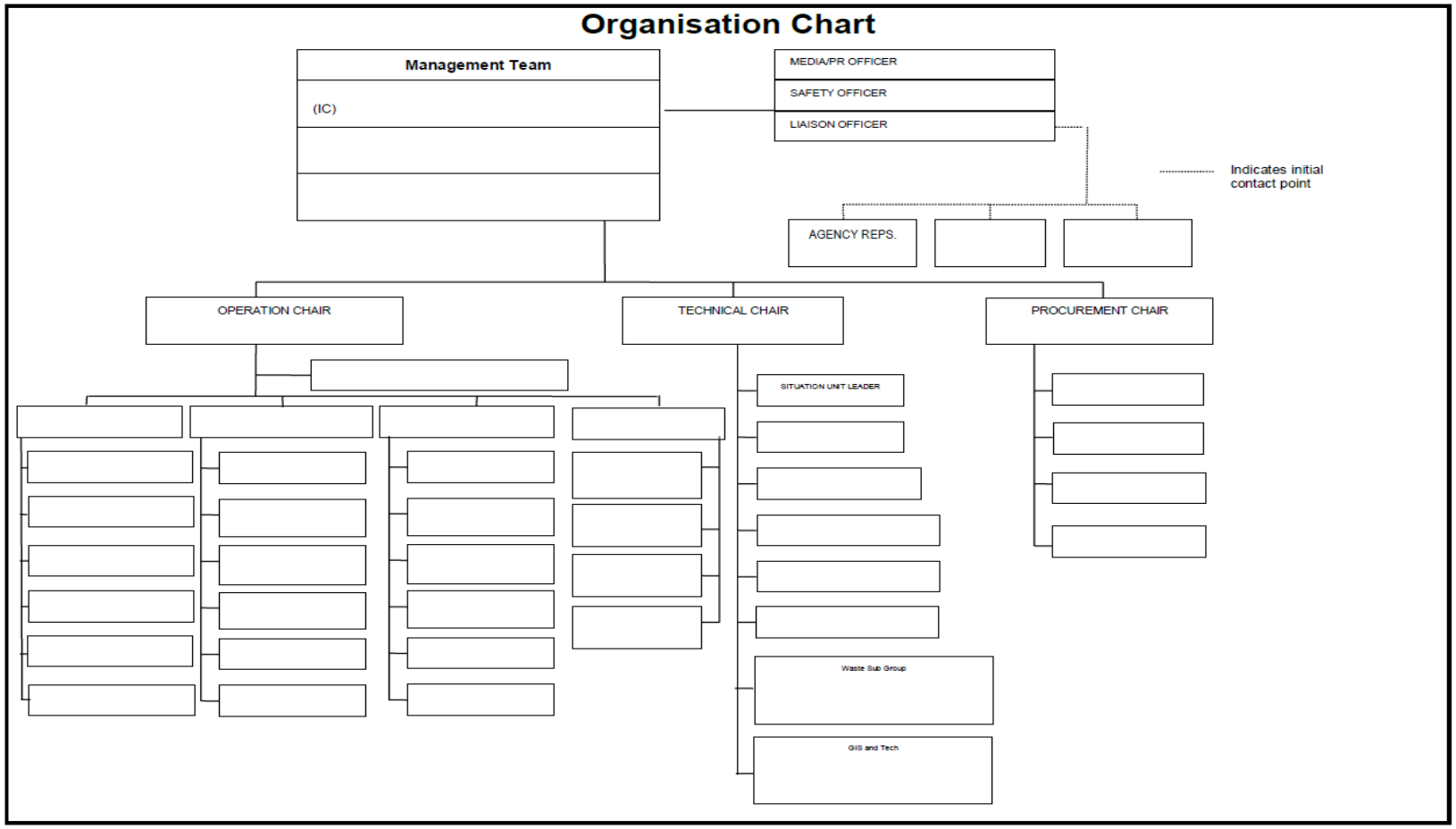

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Shoreline Response Incident Action Plan

Incident Name:		
Incident Area/Task	**Hazards/Risks**	**Mitigations**

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Shoreline Response Incident Action Plan

Operational Period (Date/Time) From: To:	**State of Resources During This Operational Period**

Resources	Site Name and/or Physical Location	State of Resources

Appendix G Media

POLLUTION

INFORMATION FOR THE PUBLIC

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There is a serious oil pollution incident in the area. Several Agencies are involved in oil clean-up operations. There are several issues that members of the public should adhere to as there is a threat to public safety.

If you see any Pollution Please Notify: Insert Number/contact details

Children

Please remember that children will be attracted to anything unusual on local shorelines whether it be oil washed up or ongoing cleaning operations. Extra care must be taken to protect children against contamination and machinery which may be in operation in the area.

Dogs

Dogs may be attracted especially to areas where unusual activity is taking place. There is danger to them from both oil and from machinery and vehicles being used in oil clean-up operations.

If you own a dog, please ensure that it is kept away from any areas being used in the clean-up operation.

In the Event of Contamination

1. Remove any oil soaked clothing as soon as possible.
2. Change into clean clothing and in doing so, check that no oil has come into contact with the skin.
3. Oil on the skin must be cleaned off as soon as possible.
4. Use an approved skin cleanser to remove oil, then wash thoroughly with soap and water.
5. Oil in the eyes should be removed as soon as possible. Rinse the eyes thoroughly with fresh clean water, then seek help from a Doctor or from the nearest hospital casualty department.
6. If oil is swallowed, DO NOT try to induce vomiting but go immediately to a Doctor or to the nearest hospital casualty department.

Use of NIDirect

A page will be created and published in the NIDirect newsroom updated by either NIDirect CET or, out of hours, by Duty Press Officers. This will be the lead information source for the public on what they can do to prepare for the situation.

This page's url cannot be determined in advance, but if a url has to be used on a graphic it should be https://www.nidirect.gov.uk/news. The content provided should be concise, ready to use and nidirect user friendly as opposed to, for example, issuing a press release and inviting nidirect to select information from it.

This crisis/emergency newsroom page will also be linked to on the nidirect 'Be Ready for Emergencies' page (www.nidirect.gov.uk/emergencies) at the earliest opportunity.

A stock of images has been prepared by nidirect to use in the event of an emergency. They can be issued as necessary via nidirect platforms by CET (in hours) and Duty Press Officer (out of hours) along with the latest information messages when required.

All communications, including press releases and media interviews by Ministers and officials should point to the agreed nidirect news page.

20.3 Use of social media

nidirect CET (in hours) and Duty Press Officer (out of hours) will monitor the nidirect social media accounts as far is as practical, alerting the lead department as necessary. The relevant department (in hours) and a Duty Press Officer (out of hours) will monitor social media as they see fit and as far as is practical.

Where it is agreed that Departments should lead in social media updates, they should contact nidirect in advance of the tweet (or Duty Press Officer dealing with nidirect out of hours), to ensure the dedicated page is updated and to ensure nidirect and the NI Executive retweets / shares the departmental post.

Consideration should be given to mentioning other appropriate organisations' handles or tagging them in an image to encourage retweeting / sharing. This might include other government departments, local government or the emergency services. Judgement should be used in selecting the most suitable accounts to mention.

Departments, in consultation with the Head of Operations and nidirect, may post their own department specific messages as appropriate. This should always be consistent with messaging on nidirect.

: Media Holding Statement

An incident (**INSERT SHORT CONFIRMED FACTS ABOUT THE INCIDENT**) has occurred at (**INSERT LOCATION**) on **(INSERT DAY & TIME**) at (**INSERT TIME**).

The following shorelines have or are expected to be impacted by the pollution incident (**INSERT SHORELINES**).

At (**INSERT TIME**) DAERA activated the Northern Ireland Coastal Contingency Plan, Y agency, X agency and the local authorities are all supporting the response.

There are (**INSERT NUMBER OF RESPONSE TEAMS**) at the impacted shorelines at this time.

At this early stage of the response our focus is on removing the contamination from the shoreline and reducing the risk and welfare to the public and minimising the impact to the environment.

We wish to convey the following key information to the public:

- At this point we are urging the public not to attend the impacted shorelines,
- (**IF APPROPRIATE**) Members of the public in (**INSERT AREA**) are advised to go in doors and remain indoors for now,
- Access to the impacted shoreline is restricted to allow access and egress to necessary response resources. It is vital that all roads in the vicinity are kept clear,
- Alternative routes and diversions are in operation and we would ask the public to observe and obey any signage,
- Public transport routes and walkways are affected/unaffected (**CHOOSE APPROPRIATE**),
- Members of the media should go to the Media Briefing Centre (**INSERT LOCATION**),
- Further updates will be issued as soon as possible (**INSERT TIME OF NEXT MEDIA BRIEF IF KNOWN**