

Appendix 1: Masterplan Development Principles and Objectives

Development Principle 1: Site Content and Operations	
Development Objectives	To create a development site that is capable of accommodating a range of uses and has the flexibility to attract and sustain both large scale inward investment as well as small-scale local business enterprise.
	To ensure the plan acknowledges user interaction and operational linkages through designated 'activity zones'
	To create an integrated and coherent Master Plan based on a simple grid framework to:
	<ul style="list-style-type: none"> • Maximise development areas • Create development plots which can be sub-divided or amalgamated into smaller or larger plots as necessary. • Accommodate user requirements with expansion areas available where possible. • Ensure adequate road alignments to service all plots and accommodate HGV's and abnormal loads. • Create unconstrained road and marine access to berthing quays and transit areas where possible.
	To renovate the graving dock to operate competitively.
	To retain the oil storage facility already in operation in its current location, making best use of existing infrastructure.
	To retain the oil jetty.
	To provide an adequate access adjacent to the quayage and dock walls to be shared by all users of the site where possible
	To utilise existing buildings as much as possible through refurbishment
	To make provision for the creation of additional berthing faces to the south and east with access to deep water where possible.
Development Principle 2: Cost and Value Engineering	
Development Objectives	Minimising up-front costs, focussing only on those enabling works required to make an early start to the project, for example by:
	Maximising use of existing built structures while ensuring that they are suitably refurbished and secure prior to letting, as the basis for a future facilities management plan
	Keeping new permanent road alignments to a minimum to facilitate movement around the site with additional road surfacing and final determination of road and utility alignments until a later phase.
	Undertaking phased provision of utilities.
Development Principle 3: Project Delivery	
Development Objectives	To demonstrate economic efficiency by maintaining a high level of flexibility by using existing resources, i.e. infrastructure, services, plant and buildings to create a competitive location.
	To phase implementation (plot demarcation, infrastructure and utility provision) to reflect user requirements as currently stated and / or predicted. It is anticipated that provision of sites and services will be primarily demand-driven.
	To maximise opportunities for employment and inward investment.
Development Principle 4: Impact and Implications of the Master Plan	
Development Objectives	To ensure that material prepared is in a form that can ultimately inform and provide the rationale that underpins the requirement to pursue the proposed Compulsory Purchase Order procedure under consideration by The Highland Council.
	To provide a strategic framework for appropriate uses for the next 15 -20 years.

Development Principle 5: Integrating the spaces	
Development Objectives	To make new connections into an opportunity to obtain new spaces
	Review adjacent sites proximal to the east of Nigg Yard to determine how their proximity may be used to advantage by effectively offering the opportunity to extend the core Nigg complex.
	The creation of new opportunity sites should also be a means to free spaces for development of the core site.
	To consolidate and enhance movement and connections
	Review and consider extension of the existing network of connections (road and rail) (e.g. link to Far North Rail from Nigg Complex).
Development Principle 6: Integrating the port/harbour/major site with its surroundings	
Development Objectives	To take care in the treatment of separating uses/elements
	New buildings/structures to provide a balance between its multi-functional industrial activity, its wider rural context and providing an assurance of security.
	To render the port/harbour/major site visible
	Combine the reduction of the potential nuisance from the site with mitigation measures and visual openings to the water.
	To exploit all the potentialities of the water
	To share the use of the water (e. g. oil terminal; ship to ship, etc.)
	To favour movements of the inhabitants by water (e. g. Nigg ferry service
Development Principle 7: Integrating functions	
Development Objectives	To organise and benefit from blending
	To use all technical solutions and to search for innovations (e. g. numerous technical solutions such as treatment of existing buildings, lighting, port equipment, surfacing, etc to reduce nuisances and to make the context between the port/harbour/major sit and its surroundings possible.
	To structure maritime/multi-use industrial activities to maximise complementary benefits (e. g. join efforts in the fields of R&D, communication, training, international prospecting, etc.)
	To make temporary uses a means to manage the site
	Rather than selling or granting concessions for certain spaces or buildings pending their allocation, their temporary occupation may enable certain functional and temporary needs to be satisfied.
	Partners/users should therefore give themselves flexibility to anticipate cycles of port/harbour/major site development and not compromise future development by irreversible modifications that 'freeze' the site.
Development Principle 8: Integrating the environment	
Development Objectives	To reduce reciprocal impacts
	To engage in a pro-active environmental approach (SEA and EIA)
	To work on the 'buffer' and transitional zones (e. g. green buffer zones stemming from the preservation of predominantly rural zones or creation of green spaces).
	To communication and to get certain nuisances accepted
	To make all the concerned parties aware of the environmental strategy of the part/harbour/major site so its positive contribution to economic growth and the quality of life of its inhabitants can be understood.
Development Principle 9: Integrating societies	
Development Objectives	To prepare for tomorrow's jobs
	To adapt the professional training sectors (e. g. in active collaboration with the academics in research and training, ports and multi-functional uses on the Nigg site should contribute to put in place specific training curricula. The contents of the course programmes should be regularly adjusted in order to

	correspond better to the requirements of a port-multi-functional use economy in constant development).
	To integrate the port/harbour/major site within the life of the local communities
	To make development projects, as far as possible, upstream to attract the support of the inhabitants by for example, landscaping treatment, port heritage, etc.
	To open the port/harbour/major site to the local populations
	The creation of cycle/pedestrian routes (e. g. enhance the existing National Cycle Route)
	To determine the overall tourism offer
	To consider the tourist potential; for example, Nigg ferry service between Nigg and Cromarty

Appendix 2: Assessment matrices

Impacts on International Sites caused by Nigg Development Masterplan alone

Development objective/ principle in question	Site(s) affected	Nature of effect	Relevant part (s) of Conservation Objectives ¹	Avoidance/ mitigation recommended by AA	Conclusion of AA – residual adverse effect on site integrity?
Development Principle 1: Site content and operations					
Create integrated and coherent framework based on a simple grid	Moray Firth SAC	Increased marine access could increase vessel traffic disturbance to bottlenose dolphins: possible habitat avoidance/ behaviour impacts	SAC: 'No significant disturbance of the species', 'Distribution of the species within site'	Liaison between Moray Firth Partnership, Marine Scotland, SNH and RSPB at an early stage to discuss vessel numbers, potential impacts and devise an avoidance/mitigation strategy	Uncertain – mitigation may be needed on a wider scale

¹ At the time of writing this report a Management Plan for the Cromarty Firth Ramsar site containing conservation objectives was still under preparation; therefore only SAC and SPA conservation objectives are referred to in this column.

	Cromarty Firth SPA/ Ramsar/ Moray Firth SAC	Maximising developed areas may lead to site drainage issues (e.g. from increased hardstanding) and possible water-borne contamination via run-off or groundwater pollution: impacts on all qualifying habitats and species, e.g. habitat deterioration and bioaccumulation of Persistent Organic Pollutants (POPs) in bottlenose dolphins/ qualifying bird species	SAC: Maintain 'structure, function and supporting processes of habitats supporting the species'	Contamination Study required to assess location of residual contaminants and propose remediation. Use mitigation measures identified in Flood Risk Assessment to avoid flood-related spread of contaminants. For example, minimum site formation level should be 3.62 m Above Ordnance Datum (AOD).	No
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Development objective/ principle in question	Site(s) affected	Nature of effect	Relevant part (s) of Conservation Objectives	Avoidance/ mitigation recommended by AA	Conclusion of AA – residual adverse effect on site integrity?
			SPA: Maintain 'Structure, function and supporting process of habitats supporting the species'	Use of bunds in chemical/oil storage areas to minimise risk of contaminant spread if leakage occurs Sustainable Drainage Systems where appropriate Adhere to SEPA PPC guidelines and The Pollution Prevention and Control (Scotland) Regulations 2000	
Renovate the graving dock to operate competitively	Cromarty Firth SPA/ Ramsar Moray Firth SAC.	Possible water-borne contamination from use of hazardous substances during renovation/ drainage of graving dock: impacts on all qualifying habitats and species, e.g. habitat deterioration and bioaccumulation of POPs in bottlenose dolphins/ qualifying bird species	SAC/SPA: Maintain 'structure, function and supporting processes of habitats supporting the species'	Avoid and minimise harmful contaminants, in particular persistent chemicals Adhere to SEPA PPC guidelines and The Pollution Prevention and Control (Scotland) Regulations 2000	No
	Cromarty Firth SPA/ Ramsar Moray	Possible water-borne contamination from draining down of dry dock (via groundwater):	SAC/SPA: Maintain 'structure, function and	Detailed plan to be devised with SEPA Oil booming techniques to be	No

Development objective/ principle in question	Site(s) affected	Nature of effect	Relevant part (s) of Conservation Objectives	Avoidance/ mitigation recommended by AA	Conclusion of AA – residual adverse effect on site integrity?
	Firth SAC.	impacts on all qualifying habitats and species, e.g. habitat deterioration and bioaccumulation of POPs in bottlenose dolphins/ qualifying bird species	supporting processes of habitats supporting the species'	made available and used as last resort Adhere to SEPA PPC guidelines and The Pollution Prevention and Control (Scotland) Regulations 2000	
	Cromarty Firth SPA/ Ramsar Moray Firth SAC.	Noise pollution and vibration from renovation: behavioural impacts on dolphins and qualifying bird species. Key habitat areas could be avoided due to noise.	SAC: 'No significant disturbance of the species', 'Distribution of the species within site' SPA: 'No significant disturbance of the species'	Obtain information on existing noise and predict sources of future noise Develop mitigation through EIA Use Best Available Technology Comply with British Standard 5228, 'Noise Control on Construction and Open Cast Sites' and SEPA PPC guidelines. Seasonal timing of works to avoid peak cetacean and bird season – see section 7.2.4 of main report Use of underwater bubble	No

Development objective/ principle in question	Site(s) affected	Nature of effect	Relevant part (s) of Conservation Objectives	Avoidance/ mitigation recommended by AA	Conclusion of AA – residual adverse effect on site integrity?
				curtains to mitigate pile driving/ construction noise – see section 7.2.4 of main report	
Retain oil storage facility in current location	Cromarty Firth SPA/ Ramsar Moray Firth SAC.	Risk of hydrocarbon pollution directly affecting habitats and qualifying bird species and dolphins via run-off or groundwater contamination: impacts on all qualifying habitats and species, e.g. habitat deterioration and bioaccumulation of POPs in bottlenose dolphins/ qualifying bird species	SAC/SPA: Maintain 'structure, function and supporting processes of habitats supporting the species'	<p>Maximise safety measures for oil storage and transportation</p> <p>Ensure old and/or unsuitable equipment replaced</p> <p>Adherence to SEPA PPC guidelines and legislation, e.g. Water Environment (Oil Storage) (Scotland) Regulations 2006 SSI 133</p> <p>Use mitigation measures identified in Flood Risk Assessment to avoid flood-related spread of contaminants. For example, minimum site formation level should be 3.62m above AOD.</p>	No
Retain oil jetty	Cromarty Firth SPA/ Ramsar Moray	Vessel traffic and noise disturbance to bottlenose dolphins and SPA/Ramsar qualifying	SAC: 'No significant disturbance of the species',	Encourage engines and propellers that minimise noise in frequencies likely to disturb dolphins.	Uncertain – mitigation may be needed on a wider scale

Development objective/ principle in question	Site(s) affected	Nature of effect	Relevant part (s) of Conservation Objectives	Avoidance/ mitigation recommended by AA	Conclusion of AA – residual adverse effect on site integrity?
	Firth SAC	bird species. Noise pollution and vibration could have behavioural impacts on dolphins and qualifying bird species. Key habitat areas could be avoided due to noise.	'Distribution of the species within site' SPA: 'No significant disturbance of the species'	Liaison with Moray Firth Partnership to devise avoidance/mitigation strategy.	
	Cromarty Firth SPA/ Ramsar Moray Firth SAC	Risk of hydrocarbon pollution from site directly affecting SAC habitat and directly or indirectly affecting dolphins or bird species through food chain via run-off or groundwater contamination: impacts on all qualifying habitats and species, e.g. habitat deterioration and bioaccumulation of POPs in bottlenose dolphins/ qualifying bird species	SAC/SPA: Maintain 'structure, function and supporting processes of habitats supporting the species'	Maximise safety measures for oil storage and transportation Ensure old and/or unsuitable equipment replaced Adherence to SEPA PPC guidelines Use mitigation measures identified in Flood Risk Assessment to avoid flood-related spread of contaminants. For example, minimum site formation level should be 3.62m Above AOD.	No
	Cromarty Firth SPA/ Ramsar Moray	Chemical, oil and litter pollution from vessels: e.g. habitat deterioration and	SAC/SPA: Maintain 'structure, function and	Comply with Port Waste Management Plan/ MARPOL 73/78 and other relevant regulations	No

Development objective/ principle in question	Site(s) affected	Nature of effect	Relevant part (s) of Conservation Objectives	Avoidance/ mitigation recommended by AA	Conclusion of AA – residual adverse effect on site integrity?
	Firth SAC	bioaccumulation of POPs in bottlenose dolphins/ qualifying bird species	supporting processes of habitats supporting the species'		
Provide adequate sea access able to be shared by all users	Cromarty Firth SPA/ Ramsar Moray Firth SAC	Vessel traffic and noise disturbance to bottlenose dolphins and SPA/Ramsar qualifying bird species. Noise pollution and vibration could cause behavioural impacts on dolphins and qualifying bird species. Key habitat areas could be avoided due to noise.	SAC: 'No significant disturbance of the species', 'Distribution of the species within site'	Encourage engines and propellers that minimise noise in frequencies likely to disturb dolphins. Liaison with Moray Firth Partnership/SNH/RSPB.	Uncertain – mitigation may be needed on a wider scale
	Cromarty Firth SPA/ Ramsar Moray Firth SAC	Chemical, oil and litter pollution from vessels: e.g. habitat deterioration and bioaccumulation of POPs in bottlenose dolphins/ qualifying bird species	SAC/SPA: Maintain 'structure, function and supporting processes of habitats supporting the species'	Comply with Port Waste Management Plan/ MARPOL 73/78 and other relevant regulations	No
Utilise existing buildings as much as possible through refurbishment	European Protected Species (EPS) - bats	Possible construction noise and light disturbance to roosts: possible direct physical damage, roost	N/A	Full ecological survey of buildings Avoid refurbishment during	No

Development objective/ principle in question	Site(s) affected	Nature of effect	Relevant part (s) of Conservation Objectives	Avoidance/ mitigation recommended by AA	Conclusion of AA – residual adverse effect on site integrity?
		avoidance or behavioural impacts Disturbance to flight lines		breeding season EPS licensed removal or roost protection of bats if present	
Creation of additional berthing faces to south and east, accessing deep water where possible	Cromarty Firth SPA/ Ramsar Moray Firth SAC.	Noise pollution and vibration from construction (e.g. sheet piling) and noise pollution from vessel traffic and increased number of vessels – disturbance to bottlenose dolphins and possible disturbance to SPA/Ramsar bird species further afield. Behavioural and habitat avoidance impacts possible.	SAC: 'No significant disturbance of the species', 'Distribution of the species within site' SPA: 'No significant disturbance of the species'	Obtain information on existing noise and predict sources of future noise Develop mitigation through EIA Use Best Available Technology Comply with British Standard 5228, 'Noise Control on Construction and Open Cast Sites' and SEPA PPC guidelines. Seasonal timing of works to avoid peak cetacean and bird season – see section 7.2.4 of main report Use of underwater bubble curtains to mitigate pile driving/ construction noise –	No

Development objective/ principle in question	Site(s) affected	Nature of effect	Relevant part (s) of Conservation Objectives	Avoidance/ mitigation recommended by AA	Conclusion of AA – residual adverse effect on site integrity?
				see section 7.2.4 of main report	
	Cromarty Firth SPA/ Ramsar Moray Firth SAC.	Dredging to a depth of 10m may; <ul style="list-style-type: none"> increase suspended sediment and increased depths of deposited sediment outside of the dredging area mobilise pollutants disrupt supporting habitat/food supply for qualifying species disposal of dredged material could also cause habitat loss/ degradation 	SAC/SPA: Maintain 'structure, function and supporting processes of habitats supporting the species'	If avoidance is not feasible seek agreement with SNH Moray Firth Partnership (MFP) and RSPB on best solutions. Precedents exist ² for dredging in relation to the Habitats Directive, to provide habitat re-creation (compensation) and sediment feeding (mitigation). Timing of dredging may be important to reduce sediment or noise impacts. Use of bathymetric mapping and appropriate equipment selection. Although outside scope of the masterplan and Highland Council, dredging mitigation is described in section 7.2.2 of main report.	Uncertain – avoidance/ mitigation essential
Development					

² Morris, R (Natural England). Ports and the Habitats Directive: A UK perspective of port-related dredging. Available on http://www.ciria.org.uk/emsagg/pdf/downloads_conf06/roger_morris_paper.pdf, accessed on 1/4/09, Stojanovic *et al.*, 2006. The impact of the Habitats Directive on European port operations. *Geojournal*, 65: 165-176.

Development objective/ principle in question	Site(s) affected	Nature of effect	Relevant part (s) of Conservation Objectives	Avoidance/ mitigation recommended by AA	Conclusion of AA – residual adverse effect on site integrity?
Principle 2: Cost and value engineering					
Maximise use of existing built structures	European Protected Species - bats	Possible construction noise and light disturbance to roosts: possible direct physical damage, roost avoidance or behavioural impacts Disturbance to flight lines	N/A	Full ecological survey of buildings Avoid refurbishment during breeding season EPS-licensed removal or roost protection of bats if present	No
Development Principle 5: Integrating the spaces					
Make new connections to obtain new spaces	Cromarty Firth SPA/ Ramsar Moray Firth SAC.	Developing on proximal land to the east is unlikely to affect the international designations unless there are drainage issues that may affect them indirectly	SAC/SPA: Maintain 'structure, function and supporting processes of habitats supporting the species'	Drainage on proximal land to be designed to minimise run-off and groundwater pollution	No
Consolidate and enhance existing connections	Cromarty Firth SPA/ Ramsar	Site drainage issues and possible water-borne contamination	SPA: Maintain 'Structure, function and	Contamination Study required to inform whether route and associated	No

Development objective/ principle in question	Site(s) affected	Nature of effect	Relevant part (s) of Conservation Objectives	Avoidance/ mitigation recommended by AA	Conclusion of AA – residual adverse effect on site integrity?
		into the SPA/Ramsar to the west if a new rail connection (and associated infrastructure) to Arabella is constructed. Pollution risk from run-off or groundwater contamination: possible habitat deterioration and bioaccumulation of POPs in bottlenose dolphins/ qualifying bird species	supporting processes of habitats supporting the species'	infrastructure will pass through contaminated land and/or affect hydrology Sustainable Drainage Systems where appropriate/ adherence to SEPA PPC guidelines Use mitigation measures identified in Flood Risk Assessment to avoid flood-related spread of contaminants. For example, minimum site formation level should be 3.62m Above AOD.	
	Cromarty Firth SPA/ Ramsar	Construction of new infrastructure could have noise impacts on qualifying bird species: possible behavioural impacts and key habitat areas could be avoided due to noise.	SPA: 'No significant disturbance of the species'	Obtain information on existing noise and predict sources of future noise Develop mitigation via EIA Use Best Available Technology Comply with British Standard 5228, 'Noise Control on Construction and Open Cast Sites' and SEPA PPC	No

Development objective/ principle in question	Site(s) affected	Nature of effect	Relevant part (s) of Conservation Objectives	Avoidance/ mitigation recommended by AA	Conclusion of AA – residual adverse effect on site integrity?
				guidelines. Seasonal timing of works to avoid peak cetacean and bird season – see section 7.2.4 of main report Use of underwater bubble curtains to mitigate pile driving/ construction noise – see section 7.2.4 of main report	
Development Principle 6: Integrating the port/harbour/major site with its surroundings					
To exploit all the potentialities of the water	Cromarty Firth SPA/ Ramsar Moray Firth SAC.	Pollution Risk from Yard via run-off or groundwater contamination: e.g. habitat deterioration and bioaccumulation of POPs in bottlenose dolphins/ qualifying bird species	SAC/SPA: Maintain 'structure, function and supporting processes of habitats supporting the species'	Pollution risks should be addressed through design of appropriate drainage systems, identification and management of groundwater issues, adherence to SEPA guidelines and implementation of a constructional Environmental Management Plan. Use mitigation measures	No

Development objective/ principle in question	Site(s) affected	Nature of effect	Relevant part (s) of Conservation Objectives	Avoidance/ mitigation recommended by AA	Conclusion of AA – residual adverse effect on site integrity?
				identified in Flood Risk Assessment to avoid flood-related spread of contaminants. For example, minimum site formation level should be 3.62m Above AOD.	
	Cromarty Firth SPA/ Ramsar Moray Firth SAC.	Pollution Risk from vessels (including ship-to-ship): possible oil slick affecting all qualifying habitats and species	SAC/SPA: Maintain 'structure, function and supporting processes of habitats supporting the species'	Adherence to The Merchant Shipping (Prevention of Oil Pollution) Regulations 1996, the draft Marine Pollution Merchant Shipping (Ship-to-Ship Transfers) Regulations 2008 and, in the event of spillage, the Memorandum of Understanding between SEPA and the MCA ³ Compliance with Port Waste Management Plan/ MARPOL 73/78 and other relevant regulations	Uncertain – avoidance/ mitigation essential
	Cromarty Firth SPA/ Ramsar Moray Firth SAC.	Chemical pollution risk from ballast water: deterioration of water quality and habitat quality	SAC/SPA: Maintain 'structure, function and supporting	Adherence to The Merchant Shipping (Prevention of Oil Pollution) Regulations 1996 and, in the event of spillage, the Memorandum of	Uncertain – mitigation advised

³ Memorandum of understanding between the Maritime and Coastguard Agency and the Scottish Environment Protection Agency on counter-pollution response

Development objective/ principle in question	Site(s) affected	Nature of effect	Relevant part (s) of Conservation Objectives	Avoidance/ mitigation recommended by AA	Conclusion of AA – residual adverse effect on site integrity?
			processes of habitats supporting the species'	Understanding between SEPA and the MCA Follow voluntary code to comply with the Ballast Water Management Convention until Convention is ratified	
	Cromarty Firth SPA/ Ramsar Moray Firth SAC.	Introduction of new marine organisms via ballast water: possible invasive species disrupting ecosystem, e.g. toxic algae	SAC/SPA: Maintain 'structure, function and supporting processes of habitats supporting the species'	Adhere to: <ul style="list-style-type: none"> • EC Habitats Directive • ICES code of practice on the "Introduction and Transfers of Marine Organisms" • Article 196 of UNCLOS • IMO guidelines (A.868 (20)) • Convention on Biological Diversity, Bonn Convention, Bern Convention, Principle 15 of the Rio Declaration on Environment and Development Consult with SNH on need to undertake and best location/ frequency Undertake ballast water sampling before discharge Follow voluntary code to	Uncertain – mitigation advised

Development objective/ principle in question	Site(s) affected	Nature of effect	Relevant part (s) of Conservation Objectives	Avoidance/ mitigation recommended by AA	Conclusion of AA – residual adverse effect on site integrity?
	Cromarty Firth SPA/ Ramsar Moray Firth SAC.	Vessel traffic and noise disturbance to bottlenose dolphins and SPA/Ramsar qualifying bird species. Noise pollution could cause behavioural impacts on dolphins and qualifying bird species. Key habitat areas could be avoided due to noise.	SPA/SAC: 'No significant disturbance of the species'	<p>comply with the Ballast Water Management Convention until Convention is ratified</p> <p>Encourage engines and propellers that minimise noise in frequencies likely to disturb dolphins.</p> <p>Liaison with Moray Firth Partnership/SNH/RSPB.</p>	Uncertain – mitigation advised

In-combination effects matrix

Development principle (DP)/objective in question	Site(s) affected	Other plan/project in question	Nature of effect	Possible combined effect	Conclusion of AA – residual adverse effect on site integrity?
DP 1: Site Content and Operations/ Create integrated and coherent framework based on a simple grid	Moray Firth SAC	Ross and Cromarty East Local Plan/ Cromarty/ Special Uses: <i>The Council will encourage appropriate restoration and other measures to intensify use of the harbour and associated land for marine related purposes.</i>	Increased vessel traffic from increased use of Cromarty harbour and physical/ noise disturbance	Increased vessel traffic disturbance to dolphins and other marine mammals: could lead to habitat avoidance or behavioural changes	Uncertain

Development principle (DP)/objective in question	Site(s) affected	Other plan/project in question	Nature of effect	Possible combined effect	Conclusion of AA – residual adverse effect on site integrity?
<p>DP 1: Site Content and Operations/ Create integrated and coherent framework based on a simple grid</p> <p>DP 6: Integrating the port/harbour/major site with its surroundings</p> <p>Objective: To exploit all the potentialities of the water</p>	<p>Moray Firth SAC/ Cromarty Firth SPA/Ramsar/ European Protected Species: cetaceans</p>	<p>No specific plan/project</p>	<p>Any increase in vessel traffic from motorised water sports and research and wildlife-watching vessels</p> <p>Any increase in number of vessels associated with future on and offshore development</p> <p>Any increase in shipping from Inverness (e.g. due to Inverness Harbour's new quay and marina development) may increase vessel traffic passing through Moray Firth</p>	<p>Increased vessel traffic disturbance to dolphins and other marine mammals: could lead to habitat avoidance or behavioural changes</p>	<p>Uncertain</p>

Development principle (DP)/objective in question	Site(s) affected	Other plan/project in question	Nature of effect	Possible combined effect	Conclusion of AA – residual adverse effect on site integrity?
<p>DP 1: Site Content and Operations/ Objectives: Create integrated and coherent masterplan based on a simple grid framework/ Renovate the graving dock to operate competitively/ Retain oil storage facility in current location/ Retain oil jetty</p> <p>DP 6: Integrating the port/harbour/major site with its surroundings</p> <p>Objective: To exploit all the potentialities of the water</p>	<p>Moray Firth SAC/ Cromarty Firth SPA/ Ramsar/ European Protected Species: cetaceans</p>	<p>No specific plan/project</p>	<p>Pollution risk from various sources:</p> <ul style="list-style-type: none"> • sewerage outfalls, • waste discharge, bilge water from vessels • ballast water discharge • marine litter • agricultural run-off • aquaculture discharge • urban run-off • use of anti-fouling coatings 	<p>Increased litter and chemical pollutants within the international designations: habitat quality deterioration</p>	<p>Uncertain</p>

Development principle (DP)/objective in question	Site(s) affected	Other plan/project in question	Nature of effect	Possible combined effect	Conclusion of AA – residual adverse effect on site integrity?
<p>DP 1: Site Content and Operations/</p> <p>Objectives: Create integrated and coherent masterplan based on a simple grid/ Retain oil storage facility/ Retain oil jetty</p> <p>Development Principle 6: Integrating the port/harbour/major site with its surroundings</p> <p>Objective: to exploit all the potentialities of the water</p>	<p>Moray Firth SAC/ Cromarty Firth SPA/ Ramsar/ European Protected Species: cetaceans</p>	<p>Future shoreline management and coastal defence (there is currently no Shoreline Management Plan for the Nigg area)</p>	<p>Possible implications for flood risk. If increased risk, also an increased water-borne pollution risk</p>	<p>Increased flood risk</p> <p>Exacerbated by sea level rise and increased storm events due to climate change.</p>	<p>Uncertain</p>

Appendix 3: External guidance on impact mitigation

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IMO

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Ref. T5/1.22

BWM.2/Circ.14
28 August 2008

**INTERNATIONAL CONVENTION FOR THE CONTROL
AND MANAGEMENT OF SHIPS' BALLAST WATER
AND SEDIMENTS, 2004**

Communication received from the Administration of the United Kingdom

A communication has been received from the Administration of the United Kingdom, on behalf of the Contracting Parties to the OSPAR and Helsinki Conventions (Belgium, Denmark, Estonia, Finland, France, Germany, Iceland, Ireland, Latvia, Lithuania, Luxembourg, the Netherlands, Norway, Poland, Portugal, the Russian Federation, Spain, Sweden, Switzerland and the United Kingdom), concerning the general guidance on the voluntary interim application of the Ballast Water Exchange Standard contained in regulation D-1 of the BWM Convention in the North-East Atlantic and the Baltic Sea.

At the request of the Administration of the United Kingdom, the above-mentioned communication annexed hereto is circulated to Member States for their information and future action as appropriate.

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Your ref:
Our ref:

22 July 2008

Dear Miguel,

Re: General Guidance on the Voluntary Interim application of the D1 Ballast Water Exchange Standard in the North-East Atlantic and the Baltic Sea.

On behalf of the Contracting Parties to the OSPAR and Helsinki Conventions who are also Member States of the IMO, the United Kingdom and Sweden would like to inform the IMO of the development of the attached General Guidance on the Voluntary Interim application of the D1 Ballast Water Exchange Standard in the North-East Atlantic and the Baltic Sea for vessels entering the OSPAR and Helsinki Convention Areas. The Contracting Parties to the OSPAR and Helsinki Conventions who are also Member States of the IMO are – Belgium, Denmark, Estonia, Finland, France, Germany, Latvia, Lithuania, Luxembourg, Iceland, Ireland, The Netherlands, Norway, Poland, Portugal, The Russian Federation, Spain, Sweden, Switzerland and the United Kingdom of Great Britain and Northern Ireland. Please note these Guidelines are also supported by the European Commission.

The issue of Non-indigenous Species Invasion through Ballast Water in the North-East Atlantic and the Baltic Sea areas is of great concern to the Contracting Parties to the Convention for the Protection of the Marine Environment of the North-East Atlantic (OSPAR Convention) and the Convention on the Protection of the Marine Environment of the Baltic Sea (Helsinki Convention). To address these risks both the Commissions supervising the OSPAR and Helsinki Conventions have been developing Ballast Water Management Strategies for their respective areas. After discussion, the two Commissions realised that there were key management options common to both strategies. This has resulted in the development of General Guidance on the Voluntary Interim application of the D1 Ballast Water Exchange Standard in the North-East Atlantic and the Baltic Sea.

This guidance forms part of the two interim strategies being developed and is based on the ballast water exchange requirements of the International Maritime



Organisation's International Convention for the Control and Management of Ships' Ballast Water and Sediments. It will therefore be phased out slowly once the Convention is ratified and ships are required to treat Ballast Water.

These guidelines are being made under paragraph 3 of Article 13 of the Ballast Water Management Convention. Vessels entering the maritime areas of the OSPAR and Helsinki Conventions, that is:

- the internal waters and the territorial seas of Contracting Parties to the OSPAR and Helsinki Commission, who are also Member States of the IMO, the sea beyond and adjacent to the territorial sea under the jurisdiction of the coastal state to the extent recognised by international law, and the high seas, including the bed of all those waters and its sub-soil, situated within the following limits:

those parts of the Atlantic and Arctic Oceans and their dependent seas, including the Baltic Sea, which lie north of 36° north latitude and between 42° west longitude and 51° east longitude, but excluding the Mediterranean Sea and its dependent seas as far as the point of intersection of the parallel of 36° north latitude and the meridian of $5^{\circ} 36'$ west longitude;

- that part of the Atlantic Ocean north of 59° north latitude and between 44° west longitude and 42° west longitude.

...are requested to apply these guidelines on a voluntary basis, to reduce the risk of non-indigenous species entering and moving round these areas through the vector of ballast water. These guidelines have been in use in the Contracting Parties to the OSPAR and Helsinki Conventions since April 2008 and information is being provided directly to the vessels flagged to each of these Contracting Parties, by the countries concerned. Please could you promulgate this information to other flag States, through the mechanisms of the IMO Secretariat.

Thank you in advance for your help.

Yours faithfully



Rod Johnson

Assistant Director Coastal Safety & Chief Coastguard

cc Mr Dandu Pughiuc, IMO Secretariat.

General Guidance on the Voluntary Interim application of the D1 Ballast Water Exchange Standard in the North-East Atlantic and the Baltic Sea.

1. In anticipation of the coming into force of the International Maritime Organization's International Convention for the Control and Management of Ship's Ballast Water and Sediments (the Ballast Water Management Convention), vessels entering the marine areas of:
 - the Convention for the Protection of the Marine Environment of the North-East Atlantic (OSPAR Convention); and,
 - the Convention on the Protection of the Marine Environment of the Baltic Sea Area (Helsinki Convention)

would be expected to apply on a voluntary basis, as from 1st April 2008, the following guidelines to reduce the risk of non-indigenous species invasion through ballast water. The guidelines are addressed to those vessels covered by Article 3 of the Ballast Water Management Convention, taking into account the exceptions in Regulation A-3 of that Convention. These Guidelines do not replace the requirements of the Ballast Water Management Convention, but provide the first part of interim Ballast Water Regional Management Strategies for the North-East Atlantic and the Baltic Sea under Article 13 (3). These Guidelines will no longer apply when a ship is in a position to apply the D-2 Standard of this Convention, or the Ballast Water Management Convention comes into force and a ship has to apply the D-2 Standard.

2. If the safety of the vessel is in any way jeopardised by a ballast water exchange, it should not take place. Additionally these guidelines do not apply to the uptake or discharge of ballast water and sediments for ensuring the safety of the vessel in emergency situations or saving life at sea in the waters of the North East Atlantic and the Baltic Sea.
3. Such Waters are defined as
 - the internal waters and the territorial seas of Contracting Parties to the OSPAR and Helsinki Conventions who are also Member States of the IMO*, the sea beyond and adjacent to the territorial sea under the jurisdiction of the coastal state to the extent recognised by international law, and the high seas, including the bed of all those waters and its sub-soil, situated within the following limits:
 - those parts of the Atlantic and Arctic Oceans and their dependent seas, including the Baltic Sea, which lie north of 36° north latitude and between 42° west longitude and 51° east longitude, but excluding the Mediterranean Sea and its dependent seas as far as the point of intersection of the parallel of 36° north latitude and the meridian of 5° 36' west longitude;
 - that part of the Atlantic Ocean north of 59° north latitude and between 44° west longitude and 42° west longitude.
4. Each vessel entering these waters should have a Ballast Water Management Plan which complies with the Guidelines for ballast water management and development of ballast water management plans (G4) (IMO resolution MEPC.127(53)).
5. Each vessel entering these waters should keep a record of all ballast water operations.
6. Vessels entering these waters should exchange all their ballast tanks to the standards set out by the D-1 Standard of the Ballast Water Management Convention, at least 200 nautical miles from the nearest land in water at least 200 metres deep. This includes vessels transiting the Atlantic, or entering the areas of the OSPAR and Helsinki Conventions from routes passing the West African Coast. It does not apply to vessels entering the area from the Mediterranean Sea. A map identifying these areas can be found in Figure 1.

7. If this has not been undertaken, vessels will be expected to exchange (to the D-1 Standard) in waters at least 200 nautical miles from the nearest land in water at least 200 metres deep within the North-East Atlantic. (If this is not possible for operational reasons then such exchange should be undertaken as far from the nearest land as possible, and in all cases in waters at least 50 nautical miles from the nearest land in waters of at least 200 metres depth). It should be noted that nowhere in the Baltic Sea fulfils these criteria. A map identifying these areas can be found in Figure 1.
8. The release of sediments during the cleaning of ballast tanks should not take place within 200nm of the coastline of the North-East Atlantic or within the Baltic Sea.

* The Contracting Parties of OSPAR and/or the Helsinki Convention, who are also Member States of the IMO, are as follows: Belgium, Denmark, Estonia, Finland, France, Germany, Latvia, Lithuania, Luxembourg, Iceland, Ireland, The Netherlands, Norway, Poland, Portugal, The Russian Federation, Spain, Sweden, Switzerland and the United Kingdom of Great Britain and Northern Ireland. These Guidelines are also supported by the European Commission.

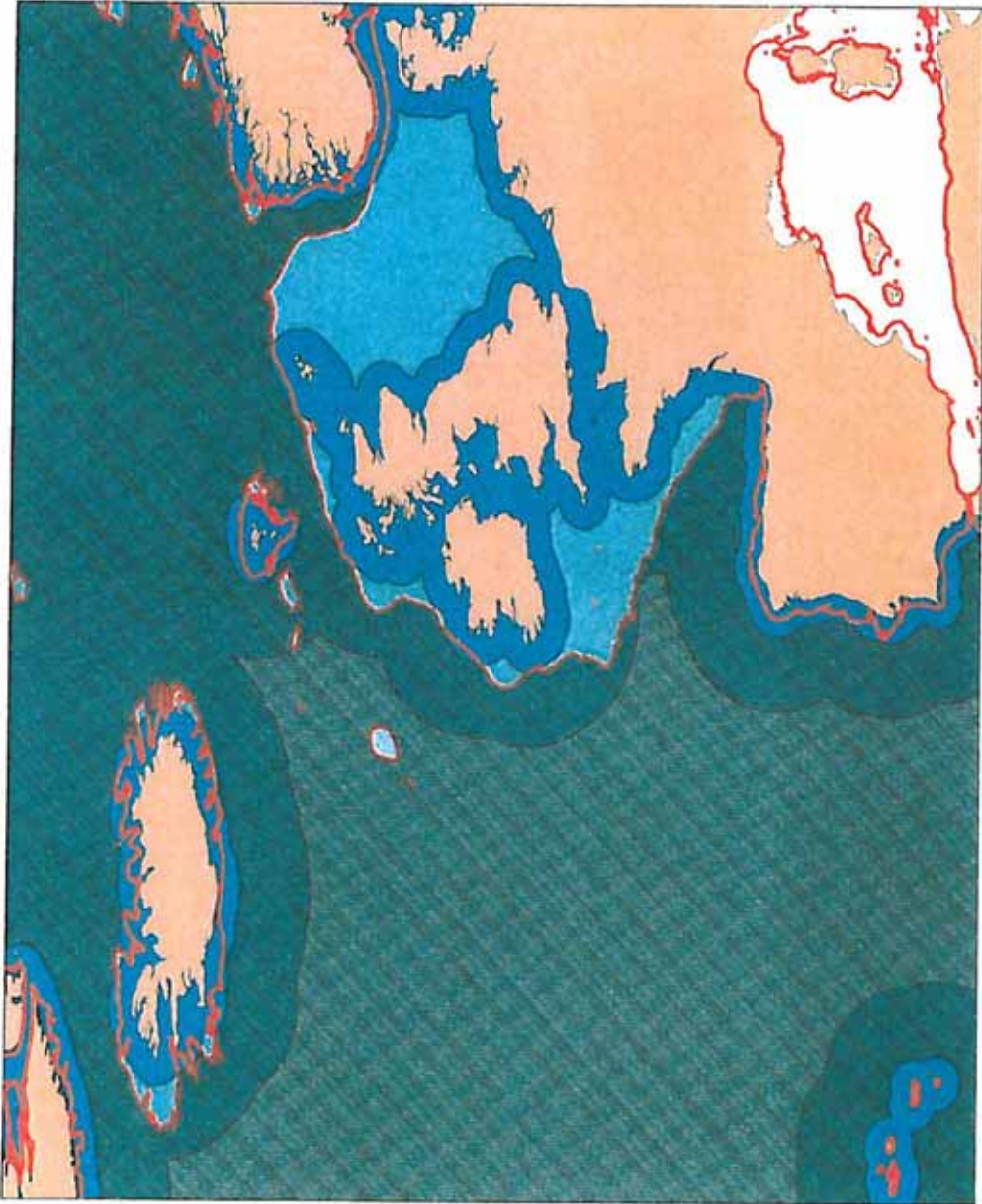
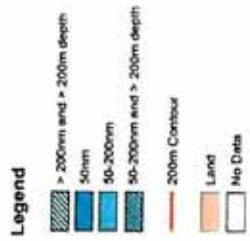


Figure 1: Map of North West Europe showing the 200nm and 50nm contours and the 200m depth contour.



Maritime and Coastguard Agency

MARINE GUIDANCE NOTE

MGN 363 (M+F)

The Control and Management of Ships' Ballast Water and Sediments

Notice to all Agents, Owners, Operators, Masters and Officers of Ships

This notice should be read with MGN 81, MIN 282 & MIN 283 and replaces MIN 305

PLEASE NOTE:-

Where this document provides guidance on the law it should not be regarded as definitive. The way the law applies to any particular case can vary according to circumstances - for example, from vessel to vessel and you should consider seeking independent legal advice if you are unsure of your own legal position.

Summary

- This note draws attention to the developments at the International Maritime Organization with respect to non-indigenous species being transported in ships ballast water.
- This MGN has been written due to the adoption of an International Convention in February 2004, and the development of new supporting Guidelines. The MGN provides information and interim guidance for use until the Convention has been implemented and the UK ratifies the Convention, after developing domestic legislation.

1. Introduction/ Background

1.1. Loading and discharging ballast water is an essential part of a ships operation, with large ships requiring many thousands of tonnes of water to maintain their stability, draft and manoeuvrability. Contained within this ballast water are hundreds of microscopic species that will be carried to new destinations by the ship. The vast majority of these species will not survive the journey; however, the species that do survive may establish themselves in a new environment if the biological and physical conditions are favourable. Such non-native species may cause serious ecological, economic and public health impacts, particularly when they become invasive.

1.2. In response to this the International Maritime Organization (IMO) through its Marine Environment Protection Committee (MEPC), has over many years, been developing international legislation to prevent the harmful effects of transporting aquatic organisms in ships ballast water.

2. IMO Convention

2.1. Over 9-13 February 2004 a Diplomatic Conference was held to adopt the "International Convention for the Control and Management of Ships' Ballast Water and Sediments". The Ballast Water Management (BWM) Convention puts in place international legislation for the first time and will enter into force 12 months (with a first application date of 2009) after it has been signed by 30 States, representing 35% of world merchant shipping tonnage.

2.2. As of 25th June 2007, ten countries have ratified the BWM Convention, amounting to 3.42% of world tonnage. Member States have been urged to ratify the instrument to facilitate its timely entry into force. The UK is intending to begin the process of ratifying the Convention as soon as it has been proved that technology is available to meet the water quality standards under Regulation D-2.

2.3 The Convention provides two ballast water discharge performance standards for the industry – the first providing a standard for ballast water exchange and the second based on ballast water treatment. These are set out below:

- **D1 Standard** - Ballast Water Exchange (at least 95% volumetric exchange) or if using the pump through method - pumping through three times the volume of each tank.
- **D2 Standard** - Ballast Water Treatment systems approved by the Administration which treat ballast water to an efficacy of:
 - less than 10 viable organisms per m³ \geq 50 micrometres in minimum dimension, and
 - less than 10 viable organisms per millilitre < 50 micrometres in minimum dimension and \geq 10 micrometers in minimum dimension.

Indicator Microbe concentrations shall not exceed: a) toxicogenic vibrio cholerae: 1 colony forming unit (cfu) per 100 millilitre or 1 cfu per gram of zooplankton samples; b) Escherichia coli: 250 cfu per 100 millilitre c) Intestinal Enterococci: 100 cfu per 100 millilitre.

These then apply to different vessels at different times as set out in the table below, depending on the ratification date of the Convention.

Ballast Capacity (m ³)	Construction Date	Application Dates of the D1 and D2 Standard									
		2009	2010	2011	2012	2013	2014	2015	2016	2017	
<1500	Before 2009*	D1 or D2							D2		
	In/After 2009	D2									
\geq 1500 \leq 5000	Before 2009*	D1 or D2					D2				
	In/After 2009	D2									
> 5000	Before 2012*	D1 or D2							D2		
	In/After 2012	D2									

* Needs to be applied by the First Intermediate or Renewal Survey, which ever occurs first after anniversary date of delivery in the year indicated.

Table 1: Implementation dates of the IMO Ballast Water Convention

2.4. The main requirements of the BWM Convention include the following principles:

- i). ships should carry and implement a ballast water management plan that has been approved by the Administration, which must detail safety procedures for the ship and crew, and provide a detailed description of the actions to be taken to implement the ballast water management requirements. It should be noted that for UK Flagged Ships this Ballast Water Management Plan approval will be delegated to Class Societies;
- ii). ships should carry a Ballast Water Record Book, which must be completed after each ballast water operation;
- iii). the phased implementation of two ballast water discharge performance standards (please see paragraph 2.3), the application dates of which are based on the ships ballast water capacity and its construction date. This approach means that ballast water exchange as a management method will be replaced by treatment to meet stringent water quality standards as suitable technologies become available;
- iv). ships undertaking ballast water exchange should conduct it at least 200 nautical miles from the nearest land and in water at least 200 metres in depth; or in cases where the ship is unable to conduct ballast water exchange in accordance with the above, as far from the nearest land as possible, and in all cases at least 50 nautical miles from the nearest land and in water at least 200 metres depth;
- v). ships performing ballast water exchange, should do so with an efficiency of at least 95% volumetric exchange of ballast water. For ships exchanging the ballast water by the pumping-through method, pumping through three times the volume of each ballast tank will be considered equivalent to meeting the 95% standard; and
- vi). ships treating ballast water should adhere to a specific performance standard (the D-2 Standard), which sets stringent levels of organisms by volume in ships' ballast water discharges.

2.5. Upon ratification the Convention and supporting Guidelines will supersede the IMO's Resolution A.868 (20) which adopted the 1997 "Guidelines for the Control and Management of Ships' Ballast Water to Minimize the Transfer of Harmful Aquatic Organisms and Pathogens" (the 1997 Guidelines), which are the subject of MGN 81.

2.6. As it will be 2009 at the earliest before the Convention comes into force and the Guidelines are fully developed and in place, shipping agents, ship owners and masters of UK Flag vessels are strongly urged to comply with the operational guidance in the 1997 Guidelines and begin preparing and implementing for the requirements the new IMO Convention and its supporting Guidelines. Specifically the interim D-1 Standard and the requirement to exchange ballast water 200 nautical miles from the coastline in waters 200m deep where possible (see 2.8 bullet 4). The 1997 Guidelines are available from the IMO website at: <http://globallast.imo.org/resolution.htm>

2.7. The overall objectives of the 1997 Guidelines are to assist Governments and appropriate authorities, ship masters, operators and owners, and port authorities in minimising the risk of introducing harmful aquatic organisms and pathogens from ships' ballast water and associated sediments while protecting ships' safety. Advice is given on the procedures for ships and port States, such as recording and reporting; ships' operational procedures, including precautionary practices; training and education; and enforcement and monitoring by port States.

2.8. Masters are advised to contact destination ports to ascertain any local requirements relating to ballast water discharge and to make themselves aware of different countries' ballast water management requirements (please see MIN 282 and MIN 283, which contain some of these requirements).

3. Convention Guidelines

3.1. Fourteen Guidelines are being developed in support of the Convention:

Guideline	Title
G1	Guidelines for Sediment Reception Facilities.
G2	Guidelines for Ballast Water Sampling.
G3	Guidelines for Ballast Water Management Equivalent Compliance.
G4	Guidelines for ballast water management and development of ballast water management plans.
G5	Guidelines for Ballast Water Reception Facilities.
G6	Guidelines for Ballast Water Exchange.
G7	Guidelines for Risk Assessment under Regulation A-4.
G8	Guidelines for approval of ballast water management systems.
G9	Procedure for Approval of Ballast Water Management Systems that make use of Active Substances.
G10	Guidelines for approval and oversight of prototype ballast water treatment technology programmes.
G11	Guidelines for ballast water exchange design and construction standards.
G12	Guidelines for sediment control on ships.
G13	Guidelines for additional measures including emergency situations.
G14	Guidelines on designation of areas for ballast water exchange.

Table 2: Guidelines developed to support the IMO Ballast Water Convention

3.2. These new Guidelines will provide Flag Administrations and Port State Authorities with guidance on procedures and principles to minimise the risk of transferring harmful aquatic organisms in ships' ballast water and sediments and how to be in compliance with the Convention. The progress of the Guidelines is high priority, as they are being developed for the uniform implementation of the Convention and the majority are now completed. All the finalised guidelines will be made available on the MCA Website: www.mcga.gov.uk

3.3. The two most significant guidelines – Guideline (G8) Approval of Ballast Water Management Systems and Procedure (G9) Procedure for Approval of Ballast Water Management Systems that make use of Active Substances, were adopted at Marine Environment Protection Committee (MEPC) 53 in July 2005. They provide guidance to manufacturers and/or ship owners on the type approval procedures for ballast water treatment systems.

3.4. Within the UK Type Approval of Ballast Water Management Systems and Ballast Water Management Plans will be delegated to the Class Societies and will be the subject of a separate MIN. As some countries already require vessels entering their waters to have approved Ballast Water Management Plans, the MCA recommends that ship owners should approach their Class Society to begin developing such plans at the earliest possible opportunity.

4. The Review of the Convention

4.1. Regulation D-5 of the Convention states that a review of the Convention must take place three years before Regulation D-2 (the discharge standard for treated ballast water) comes into effect.

As this date is 2009, the review took place during MEPC 53 in July 2005 to meet the 2006 deadline. At this meeting, a Review Group was established to determine whether appropriate treatment technologies will be available to achieve the performance standard by 2009.

4.2 The Review process was concluded at the IMO's Marine Environment Protection Committee (MEPC) meeting in July 2007 (MEPC 56). The review concluded that a limited number of technologies will be available for ship's that are required to meet the first dates of the Ballast Water Management Convention (as described in Regulation B3.3) and recognised a number of practical problems that may delay the availability of suitable technology. Furthermore, it concluded that the available technology may not be sufficient or technically appropriate, for all ships applying the Convention in 2009 to meet the D-2 Standard. Nevertheless, it was also concluded that there would be sufficient technology for all ships having to apply the Convention in 2009 and 2010, to meet the D-2 Standard in 2010 or 2011, if not sooner. The IMO are now considering whether this conclusion should effect the implementation dates of the Convention at BLG 12 and MEPC 57 and the conclusions of this debate will be the subject of a Marine Information Note (MIN) in due course.

5. Ballast Water Management in the North East Atlantic

5.1. Over the last three years the UK has been developing a regional Ballast Water Management Strategy for the North East Atlantic, as part of their commitments to the Fifth North Sea Ministerial Conference held in Bergen in March 2002, and the Sixth North Sea Ministerial Conference held in Göteborg in May 2006. The role of the Strategy is to enable interim procedures to reduce the risk of alien species invasion through ballast water to be implemented in the most efficient and sustainable way within the North East Atlantic prior to the IMO Convention coming into force. This strategy is aimed at risk reduction rather than risk elimination and has been developed through the Committee of North Sea Senior Officials (CONSSO) – Issue Group on Sustainable Shipping (IGSS) and the Biodiversity Committee of The Convention for the Protection of the Marine Environment of the North-East Atlantic (the "OSPAR Convention").

5.2. A scoping study has been undertaken as the 1st Phase of this Strategy. This document investigated how the problems and risks of alien species invasions through ballast water discharges could be managed in the OSPAR Region. It also looked at the difficulties in implementing a regional management plan in the North East Atlantic as well as the environmental data and monitoring strategies needed to do so.

5.3 It is planned that Phase 2 of the Strategy will be put into action in late 2007. This will involve further technical studies, baseline data collection and risk modelling, which will be based on the findings of the scoping study. It is envisaged that phase 2 will take place over a two year time scale from 2007-2008 and provide guidance for vessels in two tranches:

- **Tranche 1:** Developing and applying voluntary interim guidelines for shipping entering the North East Atlantic - that can be achieved through ballast water exchange. **Target Date: Autumn 2007.**
- **Tranche 2:** Identifying high risk voyages through a risk assessment based management approach to short sea shipping within distinct bioregions and providing guidance on appropriate management measures to reduce this risk. **Target Date: Autumn 2008** subject to obtaining funding for baseline technical studies.

5.4 Further information on these proposals can be found on the MCA website and will be the subject of a MIN in due course.

More Information

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