Table 1. Summary framework for collecting and compiling information for the review of implementation of the programme of work on marine and coastal biological diversity (to be applied on a voluntary basis)

Operational Objectives of the elaborated programme of work on marine and coastal biological diversity (annex I of decision VII/5)	Partners identified in the programme of work and national and regional partners	Progress made in implementation	Barriers to implementation	Priorities for capacity-building to address the barriers
1.1: To apply appropriate policy instruments and strategies, including building of capacity, for the effective implementation of Integrated Marine and Coastal Management (IMCAM)	Fisheries and Oceans Canada (DFO) Federal/Provincial/Territorial (FPT) ocean governance bodies	Existing federal statutory instruments (e.g. Oceans Act) and policy guidelines (Canada's Oceans Strategy) guiding national implementation of IMCAM approach are complemented by provincial policies and implementation strategies Established and are applying integrated oceans management in Five Large Oceans Management Areas Federal-Provincial-Territorial cooperation is facilitated by Oceans Task Group, established under the Canadian Council of Fisheries and Aquaculture Ministers Establishment of National Oceans Centres of Expertise with five year work plans focused on: integrated management in the coastal zone; use of traditional and local knowledge in integrated oceans management; and, State of the Oceans Reporting	Jurisdictional complexity in coastal area management Human and financial resource challenges Lack of cause-effect information as a scientific rationale to intervene to take action The size of Canada's coastline relative to capacity to detect and intervene	Federal-Provincial-Territorial collaborative work plan to address issues of common concern

Operational Objectives of the elaborated programme of work on marine and coastal biological diversity (annex I of decision VII/5)	Partners identified in the programme of work and national and regional partners	Progress made in implementation	Barriers to implementation	Priorities for capacity-building to address the barriers
1.1: To apply appropriate policy instruments and strategies,	Environment Canada	Environment Canada has established several Ecosystem	Monitoring and reporting on environmental results of specific	
including building of capacity, for the effective implementation of Integrated Marine and Coastal	Community Action Groups	Initiatives (EIs), which are place- based approaches to delivering on environmental results that focus	initiatives can be challenging in light of complexity of issues and multiple stressors	
Management (IMCAM)		on collaboration and promoting integrated, adaptive management.	multiple successors	
(CONT'D)		Two are focused on marine and coastal ecosystems: - Atlantic Ecosystem Initiative: resulted in reduced discharges of sewage water, and the reopening of shellfish growing areas - Georgia Basin Action Plan: resulted in the production of a water balance model, an internet based land use decision tool to reduce the impacts to aquatic ecosystems A results-focused management framework has been developed to ensure systematic selection, planning, delivery and evaluation of new or renewed ecosystem initiatives		

Operational Objectives of the elaborated programme of work on marine and coastal biological diversity (annex I of decision VII/5)	Partners identified in the programme of work and national and regional partners	Progress made in implementation	Barriers to implementation	Priorities for capacity-building to address the barriers
1.2: To undertake direct action to protect the marine environment from negative impacts	Fisheries and Oceans Canada (DFO) Federal-Provincial-Territorial and stakeholder involvement in advisory and governance bodies, status and trends assessments and integrated management and planning	In five Large Ocean Management Areas (LOMAs) established in Canada's three oceans, Integrated Oceans Management Governance and Advisory Bodies, comprehensive assessments of social, economic and ecological characteristics and their corresponding ecosystem-based conservation objectives identified, some integrated management plans completed or are underway Active implementation of s.35 of <i>Fisheries Act</i> to provide fish habitat	Understanding and acceptance of alternate regulatory approaches and instruments Transboundary jurisdictional complexities Human and financial resource challenges	

Operational Objectives of the elaborated programme of work on marine and coastal biological diversity (annex I of decision	Partners identified in the programme of work and national and regional partners	Progress made in implementation	Barriers to implementation	Priorities for capacity-building to address the barriers
VII/5)				
1.2: To undertake direct action to protect the marine environment from negative impacts (CONT'D)	Fisheries and Oceans Canada (DFO) Industry	Development and implementation of best practices and codes of conduct with and by ocean based industries to reduce risks associated with development and extraction activities		
		A number of components of fisheries sustainability checklist		
	Environment Canada /Provinces and Other Government Departments	Environment Canada has been leading a study on sources of marine debris in order to assist Transport Canada in their lead of a review to Annex V (garbage management) of MARPOL	Reaching a Government of Canada position so that Canada has influence on changes to the global convention to improve ship source waste management.	
		Under CEPA controls disposal of wastes at sea, promotes waste reduction, develops assessment tools, conducts representative disposal site monitoring.		
		Canada has been developing a national strategy for the management of contaminated marine and estuarine sediments	Reconciling different approaches by different provincial governments across Canada presents a challenge	

Operational Objectives of the	Partners identified in the	Progress made in	Barriers to implementation	Priorities for capacity-building
elaborated programme of work	programme of work and	implementation		to address the barriers
on marine and coastal biological	national and regional partners			
diversity (annex I of decision				
VII/5)				
1.2: To undertake direct action to	Environment Canada leads for	Under the London Convention	Global regulatory mechanism will	Development of an assessment
protect the marine environment	Canada, in cooperation with	and London Protocol, EC/DFO	require obtaining consensus	framework to determine what
from negative impacts	Fisheries and Oceans Canada,	has been leading efforts for	among international players	constitutes legitimate scientific
	Department of Foreign Affairs,	Canada to review the leading edge		research to allow for ocean
(CONT'D)	and Natural Resources Canada.	scientific research on ocean		fertilization experiments and to
		fertilization, and determining		determine what are the potential
		options for the potential regulation		impacts on the marine
		of this emerging activity.	Obtaining consensus between	environment
		Cooperation ongoing with	federal and provincial	
		biodiversity, climate change and	governments. Making changes to	
		research bodies at national and	CEPA Schedule 5 to allow	
		international levels	permits if needed.	
		Canada is investigating future		
		options for storage of carbon		Development of expertise for
		dioxide streams in sub-seabed		assessing sub-seabed formations
		geological formations to address		for long term storage and getting
		climate change and ocean		appropriate expertise to conduct
		acidification		monitoring when projects are
	Transport Canada with			proposed.
	Environment Canada advice	Canada (TC – with EC advice) is		For
		developing an approval process		
		for new ballast water treatment		
		technology		
	Environment Canada and			
	Transport Canada jointly for	Under the London		
	Canada working with	Convention/London Protocol and		
	International Maritime	MARPOL, Canada is leading a		
	Organization and London	joint working group to implement		
	Convention/London Protocol	guidelines for mariners to manage		
		spoilt cargos		

Operational Objectives of the elaborated programme of work on marine and coastal biological diversity (annex I of decision VII/5)	Partners identified in the programme of work and national and regional partners	Progress made in implementation	Barriers to implementation	Priorities for capacity-building to address the barriers
1.2: To undertake direct action to	Environment Canada leads for	Through work on the London		
protect the marine environment	Canada	Convention/London Protocol,		
from negative impacts		Canada led development of a		
	International Maritime	document on how to set action		
(CONT'D)	Organization in	levels for chemical contamination.		
		This is expected to be published		
		by the International Maritime		
		Organization in 2009		
	Environment Canada	Canada continues to work towards		
		reducing land-based sources of		
		marine pollution by developing		
		National Municipal Wastewater		
		Regulations to address effluent		
		discharges from sewage treatment		
		plants and monitoring and		
		regulating release of toxic		
		substances by industrial sectors		

Operational Objectives of the	Partners identified in the	Progress made in	Barriers to implementation	Priorities for capacity-building
elaborated programme of work	programme of work and	implementation		to address the barriers
on marine and coastal	national and regional partners			
biological diversity (annex I of				
decision VII/5)				
1.3: To develop guidelines for	Fisheries and Oceans Canada	Ecosystem overview and	Human and financial resource	
ecosystem evaluation and	(DFO)	assessment reports, the	challenges	
assessment, paying attention to		identification of biologically and		
the need to identify and select	Federal/Provincial/Territorial	ecologically significant areas,	Limited engagement of authorities	
indicators, including social and	governments and stakeholder	species and community properties	with social, economic mandates	
abiotic indicators that distinguish	involvement in advisory and	were completed for each of the	due to capacity issues	
between natural and human	governance bodies, status and	five Large Ocean Management		
induced effects	trends assessments and integrated	Areas under the guidance of		
	management and planning	documented national criteria and		
		procedures. These tools are		
		increasingly being applied by		
		government and non government		
		authorities in non Large Ocean		
		Management Areas		
		Similar guidance is being		
		developed and being implemented		
		in 5 Large Ocean Management		
		Areas with respect to		
		characterization of social,		
		ecological and cultural factors to		
		be considered as part of IMCAM		

Operational Objectives of the elaborated programme of work on marine and coastal biological diversity (annex I of decision VII/5)	Partners identified in the programme of work and national and regional partners	Progress made in implementation	Barriers to implementation	Priorities for capacity-building to address the barriers
1.3: To develop guidelines for ecosystem evaluation and	Fisheries and Oceans Canada (DFO)	Creation of Ecosystem Indicators Working Group		
assessment, paying attention to	(DIO)	Working Group		
the need to identify and select	Food and Agriculture	Canada is developing a national		
indicators, including social and	Organization (FAO)	guidance document on the		
abiotic indicators that distinguish		consideration of climate factors in		
between natural and human		the environmental assessment of		
induced effects		marine terminals		
(CONT'D)	Environment Canada	Development of Marine Pathways of Effects (POE) models as part of the risk-based oceans management Framework. POE serve to identify the risks associated with activities; highlight cumulative effects on ecosystem goods and services and provide a documented analysis to identify and communicate management priorities Development of Ecosystem Status		
		and Trends Reports on 9 marine ecozones		
		Identification of Ecologically and		
		Biologically Significant Areas, Species and Community		
		properties as well as associated		
		conservation objectives in 5 Large		
		Ocean Management Areas		

Operational Objectives of the elaborated programme of work on marine and coastal biological diversity (annex I of decision VII/5)	Partners identified in the programme of work and national and regional partners	Progress made in implementation	Barriers to implementation	Priorities for capacity-building to address the barriers
1.3: To develop guidelines for ecosystem evaluation and assessment, paying attention to the need to identify and select indicators, including social and abiotic indicators that distinguish between natural and human induced effects (CONT'D)	Fisheries and Oceans Canada (DFO)	Canadian Science Advisory Secretariat (CSAS) Inquiry on Conservation Objectives and Guidance on their use Development of Action Plan resulting from Dunsmuir 2- Technical Meeting on Ecosystem Objectives: Lessons Learned and Future Directions	Science, human and financial resource challenges - The vastness of Canada's three oceans environments presents a unique challenge for research and resource managers	Both Science Advisors and Fisheries Managers have been adjusting their programs to meet the needs of an ecosystem and the precautionary approaches. Some additional resources and the recognition that change will not happen overnight are key to moving forward

Operational Objectives of the	Partners identified in the	Progress made in	Barriers to implementation	Priorities for capacity-building
elaborated programme of work	programme of work and	implementation		to address the barriers
on marine and coastal biological	national and regional partners			
diversity (annex I of decision				
VII/5)				
1.3: To develop guidelines for	Fisheries and Oceans Canada	Development and Implementation		
ecosystem evaluation and	(DFO)	of the Resource Management		
assessment, paying attention to		Sustainable Development		
the need to identify and select		Framework. Fisheries & Oceans		
indicators, including social and		Canada has applied an ecosystem		
abiotic indicators that distinguish		approach in some fisheries & has		
between natural and human		implemented the precautionary		
induced effects		approach in the management of		
		some fisheries in Canada.		
(CONT'D)		Following on initiatives such as		
		the Atlantic Fisheries Policy		
		Review, the Wild Salmon Policy,		
		or through individual actions in		
		fisheries. For example, two coral		
		areas off the coast of Nova Scotia		
		were identified & have been		
		closed to all fishing since 2001:		
		the Northwest Channel Closure		
		(424 km ²) & the Stone Fence		
		Lophelia (15 km ²). On the west		
		coast, four sponge reef areas have		
		been identified in the eastern		
		Queen Charlotte Sound & Hecate		
		Strait areas, & are closed to		
		groundfish & shrimp trawling		

Operational Objectives of the elaborated programme of work on marine and coastal biological diversity (annex I of decision VII/5)	Partners identified in the programme of work and national and regional partners	Progress made in implementation	Barriers to implementation	Priorities for capacity-building to address the barriers
1.3: To develop guidelines for ecosystem evaluation and assessment, paying attention to the need to identify and select indicators, including social and abiotic indicators that distinguish between natural and human induced effects (CONT'D)	Fisheries and Oceans Canada (DFO)	Building on these existing fisheries management practices, Canada's Resource Management Sustainable Development Framework forms a foundation for implementing an ecosystem approach in the management of its fisheries. This includes using new policies and tools to implement the precautionary approach to fisheries management decision making, and manage the impacts of these fisheries on sensitive benthic areas and forage species. Over time, new national policies on other aspects of ecosystem management, such as the management of by-catch species, will be incorporated into this Framework. This will ensure that Canada continues to build a solid framework for applying an ecosystem approach to fisheries management		

Operational Objectives of the elaborated programme of work on marine and coastal biological diversity (annex I of decision	Partners identified in the programme of work and national and regional partners	Progress made in implementation	Barriers to implementation	Priorities for capacity-building to address the barriers
VII/5)	Environment Conside (EC)	Environment Conside has		
1.3: To develop guidelines for	Environment Canada (EC)	Environment Canada has		
ecosystem evaluation and		developed an Ecosystem		
assessment, paying attention to		Approach to guide its programs		
the need to identify and select		and activities, including those affecting coastal and marine		
indicators, including social and abiotic indicators that distinguish		ecosystems. This approach		
between natural and human		emphasizes research, monitoring,		
induced effects		and assessment as well as		
induced effects		integrated planning and decision-		
(CONT'D)		making		
		Canada is co-leading an Arctic		
		Council project to apply an		
		ecosystem approach in the Arctic		
		marine environment, and has		
		identified 17 large marine eco-		
		systems in the circumpolar Arctic.		
		Canada has also been leading in		
		the development of a		
		methodology for identifying areas		
		of ecological and biological		
		significance		

Operational Objectives of the elaborated programme of work on marine and coastal biological diversity (annex I of decision VII/5)	Partners identified in the programme of work and national and regional partners	Progress made in implementation	Barriers to implementation	Priorities for capacity-building to address the barriers
2.2: To make available to the Parties information on marine genetic resources in marine areas beyond national jurisdiction, and as appropriate, on coastal and marine genetic resources under national jurisdiction from publicly available information sources.	Fisheries and Oceans Canada (DFO)	Canadian scientists, like other scientists, have pre-existing mechanisms in place to share information gathered on genetic resources, these should be kept in mind when establishing steps to achieve operational objective 2.2. Publicly available free sites include the United States National Institutes of Health sites GenBank and Pubmed. These sites provide public access to genetic sequencing data for most known and available genes, including fish and marine derived proteins and nucleotides Canada supports the work of the United Nations Ad Hoc Working Group on Biodiversity Beyond National Jurisdiction, which is looking at the policy, scientific and legal angles of the management of biodiversity in areas beyond national jurisdiction, including marine genetic resources		

Operational Objectives of the elaborated programme of work on marine and coastal biological diversity (annex I of decision VII/5)	Partners identified in the programme of work and national and regional partners	Progress made in implementation	Barriers to implementation	Priorities for capacity-building to address the barriers
2.3: To gather and assimilate information on, build capacity to mitigate the effects of, & to promote policy development, implementation strategies and actions to address: (i) the biological & socio-economic consequences of physical degradation and destruction of key marine & coastal habitats including mangrove ecosystems, tropical & cold-water coral-reef ecosystems, seamount ecosystems and seagrass ecosystems including identification and promotion of management practices, methodologies and policies to reduce & mitigate impacts upon marine and coastal biological diversity and to restore mangrove forests and rehabilitate damaged coral reef; and in particular (ii) the impacts of mangrove forest destruction, coral bleaching & related mortality on coral-reef ecosystems and the human communities which depend upon coral-reef services, including through financial and technical assistance.	Fisheries and Oceans Canada (DFO)	Policy to Manage the Impact of Fishing on Sensitive Benthic Areas expected to be adopted by Fisheries and Oceans Canada in early 2009 to guide fisheries activities in sensitive benthic areas including but not limited to areas rich in corals and sponge reefs Establishment of a National Oceans Center of Expertise on Corals and Sponges Coral conservation initiatives include the existing Gully Marine Protected area, the newly established Bowie Seamount Marine Protected Area as well as fisheries-based coral/sponge conservation areas on Atlantic and Pacific coasts Establishment of a Centre of Expertise on Marine Habitats	Human and financial resource challenges	

Operational Objectives of the elaborated programme of work on marine and coastal biological diversity (annex I of decision VII/5)	Partners identified in the programme of work and national and regional partners	Progress made in implementation	Barriers to implementation	Priorities for capacity-building to address the barriers
2.3: To gather and assimilate information on, build capacity to mitigate the effects of, & to promote policy development, implementation strategies and actions to address: (i) the biological & socio-economic consequences of physical degradation and destruction of key marine & coastal habitats including mangrove ecosystems, tropical & cold-water coral-reef ecosystems, seamount ecosystems and seagrass ecosystems including identification and promotion of management practices, methodologies and policies to reduce & mitigate impacts upon marine and coastal biological diversity and to restore mangrove forests and rehabilitate damaged coral reef; and in particular (ii) the impacts of mangrove forest destruction, coral bleaching & related mortality on coral-reef ecosystems and the human communities which depend upon coral-reef services, including through financial and technical assistance.	Fisheries and Oceans Canada (DFO)	Preparations for and hosting the Convention on Biological Diversity (CBD) Expert Workshop on Scientific and Technical Guidance on the use of Biogeographic Classification Systems and Identification of Marine Areas Beyond National Jurisdiction in Need of Protection that will take place in Ottawa on September 29-October 2, 2009		
(CONT'D)				

Operational Objectives of the elaborated programme of work on marine and coastal biological diversity (annex I of decision VII/5)	Partners identified in the programme of work and national and regional partners	Progress made in implementation	Barriers to implementation	Priorities for capacity-building to address the barriers
2.4: To enhance the conservation and sustainable use of biological diversity of marine living resources in areas beyond the limits of national jurisdiction	Fisheries and Oceans Canada (DFO) Northwest Atlantic Fisheries Organization (NAFO) - Scientific Council Working Group on Ecosystem Approach to Fisheries Management (WGEAFM), and Ad Hoc Working Group of Fisheries Managers and Scientists on Vulnerable Marine Ecosystems (VMEs)	Support Biodiversity Beyond National Jurisdiction (BBNJ) forum Work on vulnerable marine ecosystems (VMEs) is closely linked to Convention on Biological Diversity commitments regarding Ecologically and Biologically Significant Areas (EBSAs) Development of criteria and methodologies to identify Ecologically and Biologically Significant Areas of world's oceans As a Regional Fisheries Management Organization, NAFO has adopted closures for five seamounts. Four closures have been implemented, fifth will be closed as of January 1, 2009 NAFO also adopted a Coral Protection Zone in Division 3O – closed to all fishing activity involving bottom contact gear as of January 1, 2008 until December 31, 2012	Complexities of managing international areas Undertaking research in difficult environment Human and financial resource challenges (limits to science capacity in various countries)	Complete analysis of regulatory and governance mechanisms relevant in areas beyond national jurisdiction CBD Expert Workshop, Sept 29-Oct 3, 2009 Report on Atlantic EBSAs, and NAFO action, Spring 2009 Bilateral Pacific Workshop with USA – Spring 2009 Liaison with IUCN/Germany on data availability and management Also consider value/use of biogeographic classification systems

Operational Objectives of the elaborated programme of work	Partners identified in the programme of work and	Progress made in implementation	Barriers to implementation	Priorities for capacity-building to address the barriers
on marine and coastal biological diversity (annex I of decision	national and regional partners			
VII/5)				
2.4: To enhance the conservation		During May 5-7, 2008, NAFO		
and sustainable use of biological		held intersessional meeting that		
diversity of marine living		reached consensus on suite of		
resources in areas beyond the		comprehensive and proactive		
limits of national jurisdiction		measures to protect Vulnerable		
		Marine Ecosystems in the NAFO		
		Regulatory Area		
		NAFO has undertaken the		
		identification and delineation of		
		corals and sponges in the NAFO		
		Regulatory Area. NAFO		
		Scientific Council completed		
		further work to identify corals in		
		the fall of 2008. Management		
		measures will be considered by a		
		working group during the first		
		quarter of 2009. Work on sponges		
		and corals and sponges in canyons		
		will take place by June 2009		
		NAFO annual meeting in		
		September 2009 is expected to		
		take decisions on additional		
		measures to protect Vulnerable		
		Marine Ecosystems		

Operational Objectives of the elaborated programme of work on marine and coastal biological diversity (annex I of decision VII/5)	Partners identified in the programme of work and national and regional partners	Progress made in implementation	Barriers to implementation	Priorities for capacity-building to address the barriers
2.4: To enhance the conservation and sustainable use of biological diversity of marine living resources in areas beyond the limits of national jurisdiction (CONT'D)		Development of the FAO International Guidelines for the Management of Deep Sea Fisheries in the High Seas – August 25-29, 2008, to be adopted/approved at Committee of Fisheries Issues (COFI) meeting in March 2009	FAO Global Ecosystem Fund (GEF) project starts in 2009 – time to review proposal and prepare for inputs, funding domestic work in 2010 VME/EBSA identification will be important preparation	Assist developing countries in the areas of: financial and technical assistance, technology transfer, training and scientific cooperation
		Progress on implementation of United Nations General Assembly (UNGA) Resolution 61/105 will be evaluated in 2009 (implementation of FAO Deep Sea Guidelines should contribute to positive evaluation)	Determine complete quantification of catch Develop life histories (basic biological attributes) of key bycatch species for assessment of sustainability	

Operational Objectives of the elaborated programme of work on marine and coastal biological diversity (annex I of decision	Partners identified in the programme of work and national and regional partners	Progress made in implementation	Barriers to implementation	Priorities for capacity-building to address the barriers
VII/5)				
2.4: To enhance the conservation and sustainable use of biological diversity of marine living resources in areas beyond the limits of national jurisdiction (CONT'D)	Canadian lead is Transport Canada, with contributions from Fisheries and Oceans Canada (DFO), Indian and Northern Affairs Canada (INAC), Environment Canada (EC), and the Department of Foreign Affairs and International Trade (DFAIT). Permanent Participants (various Indigenous groups) have also been involved in the process, as well as other Canadian experts.	Canada is co-leading an Arctic Marine Shipping Assessment with the United States and Finland. This comprehensive circumpolar assessment aims to increase understanding of current shipping activities and how these activities will develop in the future, as well as related environmental and socioeconomic implications. It covers a broad range issues and consists of findings and recommendations intended to influence policy makers and planning for the Arctic. Canada's involvement has been significant throughout the process		Recommendations arising from the Arctic Marine Shipping Assessment include to identify areas of ecological significance and explore the need for protected areas, enhance mutual cooperation in oil spill response and support research in prevention, assess the effects of shipping on marine mammals and develop mitigation strategies, improve Arctic marine infrastructure, continue to develop a circumpolar environmental pollution response capacity, and develop effective communication mechanisms to engage Arctic coastal
				communities.

Operational Objectives of the elaborated programme of work on marine and coastal biological diversity (annex I of decision VII/5)	Partners identified in the programme of work and national and regional partners	Progress made in implementation	Barriers to implementation	Priorities for capacity-building to address the barriers
3.1: To establish and strengthen national and regional systems of marine and coastal protected areas integrated into a global network and as a contribution to globally agreed goals	Fisheries and Oceans Canada (DFO) Environment Canada Parks Canada F/P/T governments, non-government organizations, stakeholders	In addition to the current 10 federal marine protected areas, and 8 in progress, the Government of Canada is committed to the designation of an additional nine federal Marine Protected Areas (MPAs) by 2012 These MPAs are being advanced in keeping with the collaborative process outlined in the Federal MPA Strategy which includes identification of the federal component of national network of MPAs Discussions with FPT authorities on the development of a national framework to guide the development of Canada's National Network of MPAs are proceeding on schedule	Human and financial resource challenges	
		Publication of national and international lessons learned and best practices on MPA network design as a result of DFO-ENGO partnership		

Operational Objectives of the elaborated programme of work	Partners identified in the programme of work and	Progress made in implementation	Barriers to implementation	Priorities for capacity-building to address the barriers
on marine and coastal biological	national and regional partners	1		
diversity (annex I of decision				
VII/5)				
3.1: To establish and strengthen		Workshop on what will constitute		
national and regional systems of		a "network" for spring 2009,		
marine and coastal protected		followed by regional/zonal		
areas integrated into a global		workshops on implementation		
network and as a contribution to				
globally agreed goals		Identification of regional MPA		
		networks within Large Ocean		
(CONT'D)		Management Area planning		
		areas and beyond ongoing		
	Northwest Atlantic Fisheries			
	Organization (NAFO)	As a Regional Fisheries		
		Management Organization, NAFO		
		adopted five seamount closures.		
		Four closures implemented, fifth		
		will be closed as of 2009		
	Environment Canada, Fisheries	Guidelines on Establishing a		
	and Oceans Canada (DFO), Parks	Federal Marine Protected Areas		
	Canada (PC)	Network were developed and are		
		now in the final stages of		
		completion		

Operational Objectives of the	Partners identified in the	Progress made in	Barriers to implementation	Priorities for capacity-building
elaborated programme of work	programme of work and	implementation		to address the barriers
on marine and coastal biological	national and regional partners			
diversity (annex I of decision				
VII/5)				
3.2: To enhance the conservation	Fisheries and Oceans Canada	NAFO has been involved in the		
and sustainable use of biological	(DFO)	identification and delineation of		
diversity of marine living		corals and sponges in the		
resources in areas beyond the	Northwest Atlantic Fisheries	Regulatory Area. Further work on		
limits of national jurisdiction	Organization (NAFO)	identification of corals has been		
		completed by the NAFO's		
		Scientific Council and		
		management measures will be		
		considered in Q1 of 2009. Work		
		on sponges and corals and		
		sponges in canyons will take place		
		by June 2009		
		See 2.4		

Operational Objectives of the elaborated programme of work on marine and coastal biological diversity (annex I of decision VII/5)	Partners identified in the programme of work and national and regional partners	Progress made in implementation	Barriers to implementation	Priorities for capacity-building to address the barriers
3.3: To achieve effective management of existing marine and coastal protected areas	Fisheries and Oceans Canada (DFO) Parks Canada (PC) F/P/T governments and stakeholder advisory committees	Management Plans and stakeholder advisory committees established or under development for the majority of National Marine Conservation Areas and <i>Oceans Act</i> Marine Protected Areas. Corresponding effectiveness monitoring and reporting plans are at various stages of development Regional involvement of science	Human and financial resource challenges Jurisdictional Complexity	
		expertise from governments, environmental non-government organizations, and academia to scope out a potential design of regional marine protected area networks NAFO manages its fisheries based on an ecosystem approach. NAFO continues to evaluate possible		
		significant adverse impacts (SAI) of current and proposed fisheries on vulnerable marine ecosystems. In NAFO, Canada has championed the effective protection of Vulnerable Marine Ecosystems (VMEs)		

Operational Objectives of the elaborated programme of work on marine and coastal biological diversity (annex I of decision VII/5)	Partners identified in the programme of work and national and regional partners	Progress made in implementation	Barriers to implementation	Priorities for capacity-building to address the barriers
3.4: To provide support for and facilitate monitoring of national and regional systems of marine and coastal protected areas	Fisheries and Oceans Canada (DFO), Parks Canada, Environment Canada	Assessment of existing federal MPA monitoring activities ongoing as part of the tridepartment federal MPA work plan to identify common indicators, monitoring and reporting efficiencies		
		Funds provided by Government of Canada investment in Health of the Oceans are being used to develop generic monitoring protocols and identification of common ecosystem based indicators		
	Parks Canada	The NAFO Fisheries Commission seeks to further develop knowledge on VMEs in order to effectively protect VMEs		
	Commission on Environmental Cooperation (CEC) NAMPAN (regional partner	Under the CEC, the North American Marine Protected Area Network (NAMPAN) has established a number of pilot sites amongst existing MPAs in the US, Mexico and Canada to develop indicators that can be used to monitor and evaluate a North American network of MPAs. Work is ongoing.		

Operational Objectives of the elaborated programme of work on marine and coastal biological diversity (annex I of decision	Partners identified in the programme of work and national and regional partners	Progress made in implementation	Barriers to implementation	Priorities for capacity-building to address the barriers
VII/5)				
3.5: To facilitate research and monitoring activities that reflect identified global knowledge gaps and priority information needs of management of marine and coastal protected areas	Fisheries and Oceans Canada (DFO) Northwest Atlantic Fisheries Organization (NAFO)-Scientific Council Canadian Healthy Ocean Network CHONe)	Canada participates in the NAFO Scientific Council (SC) through its delegates of scientific experts as well as via its financial contributions to the Organization which also support SC activities CHONe is a strategic partnership between university and government. CHONe was established in 2008 and will address a need for scientific criteria for conservation and sustainable use of marine biodiversity resources	Human and financial resource challenges	National program under renewal to address gaps Science and technology Engagement in regional and national outreach program Risk analysis
		Work with Pacific Marine Analysis Research Association (PacMARA) which is an organization that encourages the use of cross-disciplinary marine science in ecosystem-based decision-making		

Operational Objectives of the elaborated programme of work	Partners identified in the programme of work and	Progress made in implementation	Barriers to implementation	Priorities for capacity-building to address the barriers
on marine and coastal biological	national and regional partners	Implementation		to address the barriers
diversity (annex I of decision	Further than the second Particles			
VII/5)				
3.5: To facilitate research and	Fisheries and Oceans Canada	CAHR, established in 2008, is a		
monitoring activities that reflect	(DFO)	virtual centre with participation		
identified global knowledge gaps		from Science and Habitat		
and priority information needs of	Centre of Expertise on Aquatic	Management in all DFO Regions		
management of marine and	Habitat Research (CAHR)	to address habitat issues in support		
coastal protected areas		of the Department's mandate to		
		conserve and protect fish habitat		
(CONT'D)				
		The Centre of Expertise will		
		provide strategic leadership to		
		prioritize and address science		
		requirements in freshwater and		
		marine environments and facilitate		
		informed policy development at		
		regionally applicable scales		

Operational Objectives of the elaborated programme of work	Partners identified in the programme of work and	Progress made in implementation	Barriers to implementation	Priorities for capacity-building to address the barriers
on marine and coastal biological	national and regional partners			
diversity (annex I of decision				
VII/5)				
4.1: To promote use of techniques	Environment Canada	Canada undertakes ongoing		
which minimize adverse impact of		monitoring and assessment of		
mariculture on marine and		wild and aquiculture shellfish		
coastal diversity		growing areas through its Marine		
		Water Quality Monitoring		
		<i>Program</i> – these include		
		bacteriological assessments in the		
		overlying water, and identifying		
		and evaluating point and non-		
		point pollution sources impacting		
		on these areas		

Operational Objectives of the elaborated programme of work on marine and coastal biological diversity (annex I of decision VII/5)	Partners identified in the programme of work and national and regional partners	Progress made in implementation	Barriers to implementation	Priorities for capacity-building to address the barriers
5.1: To achieve better understanding of the pathways and the causes of the introduction of alien species and the impact of such introductions on biological diversity	Fisheries and Oceans Canada (DFO) Centre of Expertise for Aquatic Risk Assessment (CEARA) Canadian Aquatic Invasive Species Network (CAISN)	Establishment of Centre of Expertise for Aquatic Risk Assessment and 20 species have been or are being assessed for biological risk. These include: 5 species of Asian carps, northern snakehead, 5 tunicate species, bloody red shrimp, green crab, Chinese mitten crab, and 6 invasive fishes west of the Rockies CAISN will be the scientific lead that will result in the implementation of government policy ensuring regulation of preventative measures to minimize the spread of AIS in Canada's aquatic ecosystems. CAISN will provide the science- based results needed by aquaculture & shipping industries for the development of technical innovations to reduce new invasions in Canada's marine and freshwater ecosystems	Human and financial resource challenges	National Aquatic Invasive Species Program under renewal to address program gaps Science and technology Engagement in regional and national outreach program Risk analysis

Operational Objectives of the elaborated programme of work on marine and coastal biological	Partners identified in the programme of work and national and regional partners	Progress made in implementation	Barriers to implementation	Priorities for capacity-building to address the barriers
diversity (annex I of decision				
VII/5)				
5.1: To achieve better	Invasive Alien Species	Invasive Alien Species	Funding for existing program	The Interdepartmental Working
understanding of the pathways	Partnership Program (IASPP)	Partnership Program supports	expires in April 2010. Allocation	Group on Invasive Alien Species
and the causes of the introduction		projects by public groups and	for aquatic projects (~2M over 5	will seek continued and additional
of alien species and the impact of		individuals (e.g. NGOs, industry	years, 05 - 2010) is far less then	funding.
such introductions on biological		groups, provincial governments)	the amounts requested, leading to	
diversity		focusing on: (1) preventing	some negative reaction amongst	
		establishment of invasive species	applicants	
(CONT'D)		through public education; (2)		
		early detection of invasive		
		species; and, (3) management of		
		established populations of		
		invasive species		
	National Aquatic Invasive			
	Species Committee (NAISC)	NAISC is the national aquatic		
		invasive species coordination		
		body for all provincial and		
		territorial jurisdictions to discuss		
		with DFO and develop national		
		strategies and action plans to		
		address aquatic invasive species		

Operational Objectives of the elaborated programme of work on marine and coastal biological diversity (annex I of decision	Partners identified in the programme of work and national and regional partners	Progress made in implementation	Barriers to implementation	Priorities for capacity-building to address the barriers
5.1: To achieve better understanding of the pathways and the causes of the introduction of alien species and the impact of such introductions on biological diversity (CONT'D)	Fisheries and Oceans Canada DFO Transport Canada(TC) International Maritime Organization (IMO)	Canada is in the process of ratifying the IMO Ballast Water Convention. Canada is well-engaged in IMO working groups on these issues and applies modern measures to address invasive species Canada is chairing IMO's Review Group examining new treatment technologies and dealing with matters related to the 2004 Ballast Water Convention	Consecutive election periods have slowed the administrative processes.	Additional research is required to fully understand the potential and risk related to hull fouling and ballast induced invasive species

Partners identified in the programme of work and	Progress made in implementation	Barriers to implementation	Priorities for capacity-building to address the barriers
ational and regional partners			
ansport Canada(TC) ternational Maritime rganization (IMO)	Canada is in the process of ratifying the IMO Ballast Water Convention. Canada is wellengaged in IMO working groups on these issues and applies modern measures to address invasive species. Canada is chairing IMO's Review Group examining new treatment technologies and dealing with matters related to the 2004 Ballast	Consecutive election periods have slowed the administrative processes	Additional research is required to fully understand the potential and risk related to hull fouling and ballast induced invasive species
ate:	programme of work and tional and regional partners eries and Oceans Canada proport Canada(TC) rnational Maritime	implementation Canada is in the process of ratifying the IMO Ballast Water Convention. Canada is well-engaged in IMO working groups on these issues and applies modern measures to address invasive species. Canada is chairing IMO's Review Group examining new treatment technologies and dealing with	implementation Canada is in the process of ratifying the IMO Ballast Water Convention. Canada is wellengaged in IMO working groups on these issues and applies modern measures to address invasive species. Canada is chairing IMO's Review Group examining new treatment technologies and dealing with matters related to the 2004 Ballast Consecutive election periods have slowed the administrative processes Consecutive election periods have slowed the administrative processes

Operational Objectives of the elaborated programme of work on marine and coastal biological diversity (annex I of decision VII/5)	Partners identified in the programme of work and national and regional partners	Progress made in implementation	Barriers to implementation	Priorities for capacity-building to address the barriers
5.1: To achieve better understanding of the pathways and the causes of the introduction of alien species and the impact of such introductions on biological diversity (CONT'D)	Transport Canada (TC) Fisheries and Oceans Canada (DFO) State Governments of the United States United States Coast Guard and National Oceanographic and Atmospheric Administration (NOAA)	Ongoing cooperation between Transport Canada and Fisheries and Oceans to address ballast water from ships. This includes: - Regulations under the Canada Shipping Act (to be rolled under the Canada Shipping Act 2001) - Enforcement through boardings and sampling of all ships entering Great Lakes and to a smaller extent, ships on coastal ports - Research of treatment technology - Research and monitoring to detect further invasive species - Cooperation with US Coast Guard and National Oceanographic and Atmospheric Administration on enforcement and research - Advancing cooperation with US State Governments in the Great Lakes region for consistent rules to manage ships ballast water in the Great Lakes region		

Operational Objectives of the	Partners identified in the	Progress made in	Barriers to implementation	Priorities for capacity-building
elaborated programme of work	programme of work and	implementation		to address the barriers
on marine and coastal biological	national and regional partners			
diversity (annex I of decision				
VII/5)				
5.2: To put in place mechanisms	Fisheries and Oceans Canada	Sea lamprey population levels	No official regulations in the	Revised <i>Fisheries Act</i> is under
to control all pathways, including	(DFO)	have been decreased by about	Fisheries Act to address the threat	development and will be
shipping, trade and mariculture,		90%. Control efforts have had	of aquatic invasive species (AIS)	submitted in parliament for
for potential invasive alien	Sea Lamprey Control Program	significant economic benefits,		approval
species in the marine and coastal	(SLCP)	contributing to an estimated \$4B	No authority to screening aquatic	
environment		commercial and sport fishery	organisms in trade for invasive	
	Transport Canada (TC)	throughout the Great Lakes	purposes	
		General recommendations regarding ballast water and specific recommendations for regional alternative ballast water exchange zones were developed or will be developed for 5 regions in Canada under the auspices of the Canada Shipping Act	Numbers of different jurisdictions involved in the control of AIS - complex decision making	Management and mitigation measures Pursuing national and international cooperation Pursuing legislation, regulation and policy development

Operational Objectives of the elaborated programme of work on marine and coastal biological diversity (annex I of decision VII/5)	Partners identified in the programme of work and national and regional partners	Progress made in implementation	Barriers to implementation	Priorities for capacity-building to address the barriers
5.3: To maintain an incident list	Fisheries and Oceans Canada	The Aquatic Invasive Species	Specific regulations	Development of regulations is
on introductions of alien species	(DFO)	(AIS) database is an application		being considered as part of the
		for storing scientific observations		renewal of the Fisheries Act to
	Aquatic Invasive Species (AIS)	on AIS and to provide a		better monitor introductions of
	database	centralized location for all AIS		Aquatic Invasive Species
		data. The database will increase		
	The Wild Animal & Plant	communication of AIS monitoring		Pursuing information
	Protection & Regulation of	between scientists, strengthening		management and sharing
	International & Interprovincial	our ability to address this threat to		
	Trade Act (WAPPRIITA)	Canadian ecosystems. Canada		Pursuing National database
		benefits by sharing its data with		operations
		others in gaining access to other		
		sources of data (provinces, US,		
		the general public), providing a		
		more complete picture of AIS		
		status across Canada		

Operational Objectives of the elaborated programme of work on marine and coastal biological diversity (annex I of decision VII/5)	Partners identified in the programme of work and national and regional partners	Progress made in implementation	Barriers to implementation	Priorities for capacity-building to address the barriers
6.1: To assemble a database of initiatives on programme elements through a cooperative approach with relevant organizations and bodies, with special emphasis on integrated marine and coastal management	Approx. 20 federal government departments and agencies whose policies and/or programs affect or occur in Canada's coastal and marine areas; other jurisdictions, including provincial/territorial, and U.S government	In 2008, a work plan was developed to develop a comprehensive database of federal coastal and marine activities. This initiative is known as the Federal Oceans Activity Map (FOAM) Cross-boundary governance structures, such as Gulf of Maine Council (Can-US), will be involved as the initiative unfolds In a related initiative, Fisheries and Ocean Canada will be publishing an updated version of "The Role of the Federal Government in the Oceans Sector".	Human and financial resource challenges	Pursuing increased resourcing for Federal Oceans Activity Map Exploring informatics options to allow for sharing of information across federal departments /partners using a web-based platform A federal Communications Strategy for Oceans, currently in development through consultants, will also address tactics to overcome capacity and organizational barriers to more timely and accurate sharing of information

Operational Objectives of the elaborated programme of work on marine and coastal biological diversity (annex I of decision VII/5)	Partners identified in the programme of work and national and regional partners	Progress made in implementation	Barriers to implementation	Priorities for capacity-building to address the barriers
6.2: To undertake effective collaboration, cooperation and harmonization of initiatives with relevant conventions, organizations and agencies while recognizing their independent mandates	Fisheries and Oceans Canada (DFO) Approx. 20 federal departments and agencies whose policies and/or programs affect or occur in Canada's coastal and marine areas; other jurisdictions, including municipal, provincial/territorial, and international, as well as a broad range of oceans stakeholders including industry associations, corporations, nongovernmental and Aboriginal organizations	National and regional Oceans governance bodies involving federal, provincial and territorial authorities have been established and are active in all three coastal areas to coordinate national policy development, ocean program planning and delivery, and reporting back to Canadians The primary area of progress is the advancement of integrated oceans management (IOM), in the wake of the <i>Oceans Act</i> (1997). Through the Ocean Action Plan (2005-2007) five, initial Large Oceans Management Areas (LOMAs) were defined and regional governance structures established. In several cases, LOMA Management Plans have been published. In addition to LOMA committees of regulators, stakeholder advisory groups have been struck, affording stakeholders the opportunity to advise and also to access planning information, leading to enhanced certainty in support of business/program planning	Long-term funding for Integrated Oceans Management remains a challenge, with current efforts being managed through budget reallocation Further, there remain challenges to operationalizing Integrated Oceans Management at the LOMA level, translating national policy discussions into action in the regions	A strong focus has been given to enhanced flow of information between the national and regional (LOMA) governance structures. This has been set as a priority for DFO. For example, a web-based, shared workspace for these oceans committees is currently being piloted. Interdepartmental Committees have recently focused significantly on promoting the communications and consultative capacity available to federal organizations through the now well established LOMA committees.

Operational Objectives of the elaborated programme of work on marine and coastal biological	Partners identified in the programme of work and national and regional partners	Progress made in implementation	Barriers to implementation	Priorities for capacity-building to address the barriers
diversity (annex I of decision	national and regional partners			
VII/5) 6.2: To undertake effective	Fisheries and Oceans Canada	DFO has renewed a Collaborative		
collaboration, cooperation and	(DFO)	Agreement with the World		
harmonization of initiatives with		Wildlife Fund (first signed in		
relevant conventions,	The National Oceanic	April 2006; renewed and		
organizations and agencies while	Atmospheric Administration	enhanced in October 2008). This		
recognizing their independent	(NOAA)	has focused collaboration on areas		
mandates		of common concern related to		
(0.017717)	World Wildlife Fund (WWF)	biodiversity, including Large		
(CONT'D)		Ocean Management Area and		
		Marine Protected Area planning,		
		as well as specific priorities		
		(whale, coral, reduction of bycatch, etc.)		
		bycatch, etc.)		
		DFO has also signed a Joint Work		
		plan with the NOAA in the US, to		
		harmonize efforts with respect to		
		planning for boundary ocean and		
		coastal areas, and with respect to		
		MPA network planning. One joint		
		workshop has been conducted;		
		one remains; and the two		
		organizations have committed to		
		discuss renewal of joint efforts		
		into the future.		