

**REVISED 2009/10
COMMITTEE AND SUBCOMMITTEE
WORK PLANS**

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Climate Change Network

Goal 1	Coastal and marine habitats are in a healthy, productive, and resilient condition
Applicable Outcomes from 2006-11 GOMC Action Plan	Long-term <ul style="list-style-type: none"> • Adverse effect of invasive species on the coastal environment is minimized.
	Mid-term <ul style="list-style-type: none"> • Coastal policy makers enact effective regional policies and programs to minimize adverse effects. • Regulators develop and implement legal instruments to minimize adverse impacts.
	Short-term <ul style="list-style-type: none"> • Increase Provincial and State lawmaker knowledge about the threat posed by marine invasives.

Activity Narrative

<p>Activity #1.17 – Conduct risk analysis and prioritize the vectors of invasive species and understand the effects of climate change</p>
<p><u>Background/Context for Activity:</u> Many people are aware of the potential threat of invasive species to the Gulf of Maine. Unfortunately invasive species are assumed to arrive only by artificial means (e.g. by ship) and are limited in lifespan by inhospitable climate. As our climate warms, species may more frequently be able to migrate into the Gulf of Maine on their own and survive indefinitely. Consequently it is important to identify the most significant vectors for invasive plant and animal species as well as better understand how to mitigate their affect on the marine environment.</p>
<p><u>Activity Narrative:</u> Assessing the impacts of climate change on invasive species requires specialized knowledge of both climate change and biology. Therefore it is important to bring experts from both disciplines together to understand each other's area of expertise and how their own is related before this activity can be completed. The latter can likely be found among organizations such as the Northeast Aquatic Nuisance Species Panel, so it will be the role of the Climate Change Network Coordinator to connect these people with Climate Change Network members.</p>
<p><u>Council Role/Niche:</u> This is a shared activity, with which the Council will only play a minor role. The Council, through the Climate Change Network, will encourage those assessing the risk of marine invasive species to consider how a changing climate will affect the future spread of such species. (A-3)</p>
<p><u>Activity Leads:</u> Lead: Climate Change Network members, Northeast Aquatic Nuisance Species Panel Supporters: Climate Change Network</p>
<p><u>Crosscutting services:</u></p> <ul style="list-style-type: none"> • Gulf of Maine Times -- may be required to promote the concept to those undertaking assessments • Science translation -- may be required to explain to decision makers and/or public the relationship between invasive species and climate change.

Activity Measures

<p><u>Major tasks with completion dates:</u></p> <ul style="list-style-type: none"> • Prepare a background document on the relationship of climate change to invasive species, explaining how a changing climate will allow some species to migrate faster and thrive better – March 2009 • Present this material to those undertaking risk assessments of invasive species –

<p>October 2009</p> <ul style="list-style-type: none"> • Hold workshops with these groups to discuss more specifically how climate change will impact the species they've already identified and identify potential species that would not invade otherwise – December 2009 • Use risk assessment techniques to identify priority invasive species under a changing climate – April 2010
<p><u>Deliverables:</u></p> <ul style="list-style-type: none"> • background document on impacts of climate change on invasive species • presentations to, meetings/workshops with those undertaking invasive species assessments • list of priority invasive species
<p><u>Measures:</u></p> <ul style="list-style-type: none"> • follow up with assessors regarding their understanding of the issue • invasive species assessments address climate change issue

Activity Financing

Tasks	Cost Category*	Amount (US\$)
background document	CC Contractor	2500
	Printing/postage	500
Presentations, meetings, workshops	CC Contractor	2500
	Travel/lodging/meals	3000
	Facility rental	1500
Total		10000

*Allowable cost categories: Contractual, printing and publications, postage, travel, lodging, meals, facility rental; web hosting/maintenance

<p><u>Sources of funding:</u></p> <ol style="list-style-type: none"> 1. Secured sources and amounts: \$0

Climate Change Network

Goal 1	Coastal and marine habitats are in a healthy, productive, and resilient condition
Applicable Outcomes from 2006-11 GOMC Action Plan	Long-term <ul style="list-style-type: none"> Land-based activities are not adversely affecting regionally significant coastal habitats.
	Mid-term <ul style="list-style-type: none"> Provincial and state lawmakers enact, implement and evaluate legislation that prevents land-based activities from adversely affecting the coastal environment. Municipal governments are continuously improving local planning tools and making infrastructure investments that minimize adverse impacts on the coastal environment. Watershed residents and businesses seek to minimize the effect of their land use decisions on the coastal environment.
	Short-term <ul style="list-style-type: none"> Increase Provincial and State lawmaker knowledge about how to minimize adverse effects of land-based activities on the coastal environment.

Activity Narrative

<p>Activity #1.18 – Convene stakeholder workshops to identify and promote mitigative and adaptive strategies for dealing with sea-level rise and changes in water quality related to climate change</p>
<p>Background/Context for Activity: The coastal and marine environments of all jurisdictions in the Gulf of Maine are susceptible to the impacts of climate change to varying degrees. New reports from the Union of Concerned Scientists and GOMC indicate that sea level rise and extreme precipitation are likely to have considerable impact on the watershed and region. In order for local jurisdictions to deal effectively with these impacts and their effects on water quality, government officials at all levels need to be aware of the nature and extent of these issues. In 2001 the New England Governors Conference produced their Climate Change Action Plan (Action Item 7: The Reduction and/or Adaptation of Negative Social, Economic and Environmental Impacts of Climate Change) and in 2004 convened an adaptation strategy workshop. The Council will build on these and other regional efforts (e.g., Environment Canada, EPA, state coastal programs, etc.)</p>
<p>Activity Narrative: Task #1: Compile and assess existing reports and documents. Task #2: To assist in the creation of individual adaptation plans by local experts, the Climate Change Network will convene experts and stakeholders in two separate one-day workshops to address sea level rise and extreme precipitation and discuss and detail ways of addressing threats to freshwater, storm water and waste treatment systems, and clean water.</p>
<p>Council Role/Niche: The Council is a partner with other organization concerned about climate change and adaptation strategies.</p>
<p>Activity Leads: Lead: Climate Change Network/ members, Provincial/State/municipal agencies Supporters: Gulf of Maine Council, US EPA, Environment Canada (RARGOM, others?)</p>
<p>Crosscutting services: Science translation -- will be needed to communicate the concept of adaptation and the need for strategies to the jurisdictions.</p>

Activity Measures

<p>Major tasks with completion dates:</p> <ul style="list-style-type: none"> Determine knowledge and needs of state and provincial lawmakers & compile existing

information – March 2009 <ul style="list-style-type: none"> • Convene workshops – May 2009 • Administer post survey and evaluate events – June 2009
<u>Deliverables:</u> <ul style="list-style-type: none"> • Workshops convened • Adaptation strategies identified and education materials produced for state & provincial lawmakers • Pre and post workshop surveys
<u>Measures:</u> <ul style="list-style-type: none"> • better understanding of sea-level rise and water quality vulnerabilities and measures to protect water quality within the Gulf of Maine watershed. • (this connects to M-T) higher profile of climate change network among local officials

Activity Financing

Tasks	Cost Category*	Amount (US\$)
Compile workshop materials & recruit experts	Contractor	2000
Convene meetings/workshops & prepare post workshop materials	Contractor	4000
	Travel/lodging/meals	8000
	Facility rental	1500
Total		15500

*Allowable cost categories: Contractual, printing and publications, postage, travel, lodging, meals, facility rental; web hosting/maintenance

<u>Sources of funding:</u> <ol style="list-style-type: none"> 1. Secured sources and amounts: \$0 2. Prospective sources and amounts:

Climate Change Network

Goal 1	Coastal and marine habitats are in a healthy, productive, and resilient condition
Applicable Outcomes from 2006-11 GOMC Action Plan	Long-term <ul style="list-style-type: none"> • Land-based activities are not adversely affecting regionally significant coastal habitats.
	Mid-term <ul style="list-style-type: none"> • Provincial and state lawmakers enact, implement and evaluate legislation that prevents land-based activities from adversely affecting the coastal environment. • Municipal governments are continuously improving local planning tools and making infrastructure investments that minimize adverse impacts on the coastal environment. • Watershed residents and businesses seek to minimize the effect of their land use decisions on the coastal environment.
	Short-term <ul style="list-style-type: none"> • Increase Provincial and State lawmaker knowledge about how to minimize adverse effects of land-based activities on the coastal environment.

Activity Narrative

<u>Activity #1.20</u> – Enhance the climate change module of the Council's on-line KnowledgeBase by compiling programs, best practices, and other information
<u>Background/Context for Activity:</u> Many land based activities may be adversely affecting coastal habitat by contributing to climate change through greenhouse gas emissions and by increasing vulnerability to impacts of climate change. Other activities may be lessening emissions and reducing impacts and vulnerability. The latter need to be identified and shared.
<u>Activity Narrative:</u> Much of this activity involves compiling and sharing existing knowledge rather than generating new knowledge. An initial survey of stakeholders could identify existing best practices and knowledge gaps. Further research can locate additional best practices, which can then in turn be promoted among stakeholders through a workshop or similar format. Standard climate change education programs can be delivered to stakeholders through the same workshop. As this approach could be very costly and time consuming to implement all across the Gulf Of Maine, a pilot study approach would be best. One community could be chosen and if successful the results could be duplicated in other communities as resources permit or entirely by other organizations or network members.
<u>Council Role/Niche:</u> This is a regional activity, which is relevant to the entire Gulf of Maine Region. The Council needs to partner with other organizations to accomplish this.
<u>Activity Leads:</u> Lead: Climate Change Network Supporters:
<u>Crosscutting services:</u> Web services -- will be needed to maintain and expand the Knowledge-base (I/A)

Activity Measures

<u>Major tasks with completion dates:</u> <ul style="list-style-type: none"> • Choose a community for pilot study -- August 2009 • Survey stakeholders in community -- December 2009 • Assess existing resources and good practices by surveying stakeholders in community - -February 2010
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<ul style="list-style-type: none"> • Further research good practices and knowledge elsewhere that is applicable -- April 2010 • Compile information and disseminate to stakeholders by workshop – July 2010
<u>Deliverables:</u> <ul style="list-style-type: none"> • inventory of existing resources and good practices • inventory of other resources and good practices • compilation of all relevant resources and good practices
<u>Measures:</u> <ul style="list-style-type: none"> • identification of previously unknown resources and good practices • increased use of resources and good practices

Activity Financing

Tasks	Cost Category*	Amount (US\$)
research/survey	Contractor	9000
	Printing/mailing	1000
production of compilation	Contractor	1500
	printing	500
Organize meetings/workshops	Contractors	7000
	Travel/lodging/meals	8000
	Facility rental	1000
Total		28000

*Allowable cost categories: Contractual, printing and publications, postage, travel, lodging, meals, facility rental; web hosting/maintenance

<u>Sources of funding:</u> <ol style="list-style-type: none"> 1. Secured sources and amounts:
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Climate Change Network

Goal 1	Coastal and marine habitats are in a healthy, productive, and resilient condition
Applicable Outcomes from 2006-11 GOMC Action Plan	Long-term <ul style="list-style-type: none"> Land-based activities are not adversely affecting regionally significant coastal habitats.
	Mid-term <ul style="list-style-type: none"> Provincial and state lawmakers enact, implement and evaluate legislation that prevents land-based activities from adversely affecting the coastal environment. Municipal governments are continuously improving local planning tools and making infrastructure investments that minimize adverse impacts on the coastal environment. Watershed residents and businesses seek to minimize the effect of their land use decisions on the coastal environment.
	Short-term <ul style="list-style-type: none"> Increase Provincial and State lawmaker knowledge about how to minimize adverse effects of land-based activities on the coastal environment.

Activity Narrative

Activity #1.21 – Investigate and propose regional climate change adaptation strategies
Background/Context for Activity: The coastal and marine environments of all jurisdictions in the Gulf of Maine are susceptible to the impacts of climate change to varying degrees. Individual adaptation plans need to be prepared in each jurisdiction by local experts.
Activity Narrative: A pilot study location will be chosen based on an analysis of vulnerability assessed in preceding tasks. Using a workshop format, an adaptation strategy could be developed with stakeholders in the targeted community. The results could then be promoted to other communities to encourage them to undertake similar efforts.
Council Role/Niche: This is a common activity, which can be implemented on a jurisdiction by jurisdiction basis. The council only needs to play a minor role.
Activity Leads: Lead: Climate Change Network/members, Provincial/State agencies Supporters: Marine-dependent industries, NEGC/ECP
Crosscutting services: <ul style="list-style-type: none"> Outreach -- offer advice (I/A) Science translation -- to communicate the concept of adaptation and the need for strategies to the jurisdictions (I/A)

Activity Measures

Major tasks with completion dates: <ul style="list-style-type: none"> Choose a location for a pilot study -- July 2009 Run a workshop with stakeholders to develop specific adaptation strategies – September 2009 Meet with planning officials in each jurisdiction to present results of workshop and encourage them to undertake similar exercises -- October 2009
Deliverables: <ul style="list-style-type: none"> general list of vulnerabilities examples of adaptation strategies elsewhere presentations to government agencies

Measures:

- better understanding of different vulnerabilities around the Gulf
- production and implementation of adaptation strategies at state, provincial, and local levels

Activity Financing

Tasks	Cost Category*	Amount (US\$)
research	Contractor	2000
Convene meetings/workshops	Contractor	4000
	Travel/lodging/meals	3500
	Facility rental	500
Total		10000

*Allowable cost categories: Contractual, printing and publications, postage, travel, lodging, meals, facility rental; web hosting/maintenance

Sources of funding:

1. Secured sources and amounts:

Climate Change Network

Goal 1	Coastal and marine habitats are in a healthy, productive, and resilient condition
Applicable Outcomes from 2006-11 GOMC Action Plan	Long-term <ul style="list-style-type: none"> Land-based activities are not adversely affecting regionally significant coastal habitats.
	Mid-term <ul style="list-style-type: none"> Provincial and state lawmakers enact, implement and evaluate legislation that prevents land-based activities from adversely affecting the coastal environment. Municipal governments are continuously improving local planning tools and making infrastructure investments that minimize adverse impacts on the coastal environment. Watershed residents and businesses seek to minimize the effect of their land use decisions on the coastal environment.
	Short-term <ul style="list-style-type: none"> Increase Provincial and State lawmaker knowledge about how to minimize adverse effects of land-based activities on the coastal environment.

Activity Narrative

<u>Activity #1.22</u> – Initiate Climate Change Network and coordinate Climate Change Action Plan activities
<u>Background/Context for Activity:</u> A network of climate change experts and professionals whose work is affected by climate change is needed to promote and distribute information on climate impacts and strategies for mitigation and adaptation.
<u>Activity Narrative:</u> A list of individuals who need or who can provide accurate, timely information about climate change and mitigation and adaptation strategies in the Gulf of Maine region will be a critical first step to establish the climate change network envisioned in the Mach 2006 meeting in Dartmouth, Nova Scotia. In order to most effectively develop the list and inaugurate the network, a network coordinator should be hired early in this activity. The coordinator will take over and/or supervise the climate change activities being conducted by contractors up until this point. The coordinator position is envisioned to last the duration of the five year work plan.
<u>Council Role/Niche:</u> This task builds the capacity of the Council to interact with Climate Change stakeholders.
<u>Activity Leads:</u> Lead: Climate Change Network Supporters: Working Groups
Crosscutting services: NA

Activity Measures

<u>Major tasks with completion dates:</u> <ul style="list-style-type: none"> Hire a climate change network coordinator -- July 2009 Maintain network -- July 2009 Undertake network activities and participate in other action plan items as warranted -- July 2009
<u>Deliverables:</u> <ul style="list-style-type: none"> email contact lists, divided by areas of need and expertise 'snail mail' contact lists, divided by areas of need and expertise

Measures:

- 'buy-in' from key individuals
- participation in Council activities by individuals
- increases awareness of measures, strategies, impacts by Council
- increased awareness of measures, strategies, impacts by key stakeholders in region
- potential for more effective outreach/communications and events

Activity Financing

Tasks	Cost Category*	Amount (US\$)
Research and compile lists	CCN Coordinator	\$2500
Hire coordinator for 12 months	CCN Coordinator	\$47500
Total		\$50000

*Allowable cost categories: Contractual, printing and publications, postage, travel, lodging, meals, facility rental; web hosting/maintenance

Sources of funding:

1. Secured sources and amounts: \$0
2. Prospective sources and amounts: \$50000 salary for Coordinator from EC.

Climate Change Network

Goal 1	Coastal and marine habitats are in a healthy, productive, and resilient condition
Applicable Outcomes from 2006-11 GOMC Action Plan	Long-term <ul style="list-style-type: none"> Impaired regionally significant coastal habitats (RSCH) are restored to support the desired functions and values of those habitats.
	Mid-term <ul style="list-style-type: none"> Practitioners are implementing regional restoration monitoring standards. Government agencies (e.g., States, provinces & federal) incorporate RSCH priorities into restoration plans. The technical and financial capacity of public agencies and NGOs to undertake restoration of RSCH is increased.
	Short-term <ul style="list-style-type: none"> Increase the awareness of non-profit organizations working to conserve coastal lands about the need to restore and monitor regionally significant coastal habitats.

Activity Narrative

<u>Activity #1.5</u> – Prepare regional criteria to identify coastal habitats at risk from sea-level rise and other climate change impacts; integrate into habitat restoration decision-making
<u>Background/Context for Activity:</u> Traditionally, decisions on restoring coastal habitats and watersheds in the Gulf of Maine depended on an assumption that future climates would support the same ecological functions as before they were degraded. Knowing what sort of ecological functions can be supported in the future will contribute to a decision as to whether restoration is worthwhile in the long term or not.
<u>Activity Narrative:</u> Regional criteria to identify coastal habitats at risk from sea level rise, extreme precipitation and other climate change impacts will have been prepared. The results will then be presented to decision makers responsible for coastal habitat restoration as one way to increase their knowledge about the need to restore and monitor coastal habitats.
<u>Council Role/Niche:</u> This is a high priority activity affecting the entire Gulf of Maine coastline, which the council needs to initiate (A-1).
<u>Activity Leads:</u> Lead: Climate Change Network Supporters: HCSC, HRSC, NBDE, GOMMI, EPA, EC
<u>Crosscutting services:</u> Science translation -- assistance in framing the issues will be needed to explain those habitats at risk to decision makers.

Activity Measures

<u>Major tasks with completion dates:</u> <ul style="list-style-type: none"> Habitat Restoration Subcommittee and Climate Change Network members to meet and discuss next steps -- May 2009
<u>Deliverables:</u> <ul style="list-style-type: none"> Meeting of proponents
<u>Measures:</u> <ul style="list-style-type: none"> restoration of priority sites use of methodology by decision makers in several jurisdictions

Activity Financing

Tasks	Cost Category*	Amount (US\$)
Convene meeting	Contractor	2000
	Travel/lodging/meals	2000
	Facility rental	1000
Total		5000

*Allowable cost categories: Contractual, printing and publications, postage, travel, lodging, meals, facility rental; web hosting/maintenance

Sources of funding:

1. Secured sources and amounts: \$0

Climate Change Network

Goal 1	Coastal and marine habitats are in a healthy, productive, and resilient condition
Applicable Outcomes from 2006-11 GOMC Action Plan	Long-term <ul style="list-style-type: none"> • Adverse effect of invasive species on the coastal environment is minimized. • Impaired regionally significant coastal habitats (RSCH) are restored to support the desired functions and values of those habitats.
	Mid-term <ul style="list-style-type: none"> • Coastal policy makers enact effective regional policies and programs to minimize adverse effects. • The technical and financial capacity of public agencies and NGOs to undertake restoration of RSCH is increased.
	Short-term <ul style="list-style-type: none"> • Increase Provincial and State lawmaker knowledge about the threat posed by marine invasives. • Increase the awareness of non-profit organizations working to conserve coastal lands about the need to restore and monitor regionally significant coastal habitats.

Activity Narrative

Activity #1.6 – Compile and disseminate information on coastal habitats and watersheds at risk due to climate change
Background/Context for Activity: Coastal habitats and watersheds in the Gulf of Maine may be at risk from climate change induced sea level rise, coastal erosion, increased flooding, changes in temperature and precipitation, etc.
Activity Narrative: A contractor will identify existing research on significant habitats and watersheds and climate change impacts mapping, and bring them together using geographic information systems (GIS) to produce maps of vulnerable areas. An outreach strategy will then be developed and implemented to convey this information to provincial and state lawmakers and non-profit organizations.
Council Role/Niche: This is a high priority activity affecting the entire Gulf of Maine coastline, which the Council needs to initiate.
Activity Leads: Lead: Climate Change Network Supporters: EC, EPA, NOAA, NBDNR, GOMMI, HCSC, HMSC, and HRSC, Sewage Subcommittee
Crosscutting services: <ul style="list-style-type: none"> • Web services -- facilitate communication among various groups undertaking activity (I/A) • Outreach – work with the Network to develop and implement the outreach strategy

Activity Measures

Major tasks with completion dates: <ul style="list-style-type: none"> • Identify significant coastal habitats and watersheds around the Gulf of Maine – March 2009 • Superimpose risk maps for the various impacts of climate change -- October 2009 • Evaluate overall level of risk for each location based on sensitivity to individual impacts and likelihood or severity of such impacts -- December 2009 • Produce risk maps -- February 2010
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<ul style="list-style-type: none"> Communicate results to decision makers -- July 2010
<u>Deliverables:</u> <ul style="list-style-type: none"> list of significant coastal habitats and watersheds maps of areas at risk from climate change Outreach strategy
<u>Measures:</u> <ul style="list-style-type: none"> Lawmakers are more aware and managers of important coastal habitats and watersheds incorporate climate change impacts into their management and protection plans

Activity Financing

Tasks	Cost Category*	Amount (US\$)
Conduct research and compile data	CC Contractor	3000
	G.I.S. services	4000
Complete maps	CC Contractor	3500
	G.I.S. services	1000
	printing	500
Total***		12000

*Allowable cost categories: Contractual, printing and publications, postage, travel, lodging, meals, facility rental; web hosting/maintenance

***Possible to reduce amount of cost if incorporate lists and mapping created in Activity 1.5.

<u>Sources of funding:</u> <ol style="list-style-type: none"> Secured sources and amounts: \$0

Ecosystem Indicator Partnership (ESIP)

Goal	
Applicable Outcomes from 2006-11 GOMC Action Plan	Long-term - <ol style="list-style-type: none"> 1. The impact of land-based activities on regionally significant coastal habitats is minimized. 2. Regionally significant marine habitats are managed in a way that maintains ecological integrity. 3. Environmental conditions of the marine environment improve as contaminant releases are reduced.
	Mid-term - <ol style="list-style-type: none"> 1. Watershed residents and businesses seek to minimize the effect of their land use decisions on the coastal environment. 2. Managers and regulators implement effective marine management initiatives and programs. 3. Watershed residents demonstrate increased stewardship of the marine environment. 4. Coastal lawmakers enact consistent standards and guidelines to reduce contaminant releases.
	Short-term - <ol style="list-style-type: none"> 1. Increase coastal lawmakers knowledge about how to minimize adverse effects of land-based activities on the coastal environment. 2. Increase understanding of coastal lawmakers, decision-makers and managers working at the Gulf of Maine scale about how to apply ecosystem-based management to conserve and protect GOM habitats and resources. 3. Coastal lawmakers have increased knowledge about the need to reduce releases of priority pollutants that may affect the Gulf of Maine.

Activity Narrative

<p><u>Activity #1 – Ecosystem Indicators and State of the Environment Reporting</u></p> <p><u>Background/Context for Activity:</u> The Ecosystem Indicator Partnership (ESIP) was formed as part of the Gulf of Maine Council in 2006 in response to a regional and nationwide acknowledgement of the need to utilize sound data in the decision making process for ecosystem management. To achieve this goal, ESIP is in part tasked with developing indicators for the Gulf of Maine and integrating data into a web-based reporting system for indicator use with ecosystem based management.</p>
<p><u>Activity Narrative:</u> ESIP is completed a web-based tool designed for reporting on a suite of environmental indicators. The tool is designed to display and graph indicators selected by ESIP subcommittees (Aquatic Habitats, Eutrophication, Coastal Development, Climate Change, Contaminants, and Fisheries/Aquaculture). Data discovery and data analysis are required for each of the indicators and sources of data. Priority focus is on eutrophication and climate change indicators. ESIP is fostering capacity building within the jurisdictions to provide the data necessary for Gulf of Maine-wide reporting on the selected indicators.</p>
<p><u>Council Role/Niche: (2-3 sentences)</u> ESIP is a crosscutting committee that utilizes a large volunteer network of scientists and managers to fulfill the Council need of delivering scientific information into the hands of coastal lawmakers and decision makers.</p>
<p><u>Activity Leads:</u></p> <p>Lead: ESIP Program Manager, Steering Committee, and Subcommittee Chairs (5 member Steering Committee is composed of Department of Fisheries and Oceans, Environment Canada, NOAA, EPA, and Department of the Interior).</p>

Supporters: Over 100 volunteer members from a wide variety of organizations

Crosscutting services:

1. Jim Cradock (IT) - Support for ESIP Webpage, online collaboration site (www.gulfofmaine.org/esiplanning), ESIP Monitoring Map, and ESIP Indicator Reporting Tool
2. Funds Development - Assistance in procuring necessary funds

Activity Measures

Major tasks with completion dates:

- (1) **1. Complete First Tier Indicators**
 - a. Complete data acquisition and assessment for climate change and eutrophication - September 2009
 - b. Accelerate data acquisition and assessment for aquaculture/fisheries and contaminants -begin October 2009; completed within 10 months
 - c. Begin data acquisition for coastal development – begin February 2010
- (2) **Promote use of Indicator Reporting Tool**
 - a. Conduct hands-on and web-enabled workshops for decision makers and planners in Nova Scotia, New Brunswick, Maine, New Hampshire and Massachusetts - April 2010
 - b. Present papers, posters, webinars and demonstrations at regional meetings to increase awareness of the ESIP and the Indicator Reporting Tool - ongoing
 - c. Make ESIP Journal Entries on a monthly basis, if possible. - ongoing
- (3) **Produce ESIP materials for the 2010 Gulf of Maine Summit**
 - a. Discuss the indicators and process to select them – July 2009
 - b. Provide a tutorial on the Indicator Reporting Tool incorporating case examples from users – August 2009
 - c. Synthesize climate change indicators, aquatic habitats, and eutrophication (as a companion to the 2004 Tides of Change Across the Gulf report) February 2010
 - d. Present voices of the Gulf of Maine – selected essays from Council members and partners – December 2010

Deliverables:

Workshop/training materials on ESIP Indicator Reporting Tool – January 2010
 ESIP report on indicators is drafted for 20th anniversary publication – February 2010
 Prototype of ESIP Indicator Reporting Tool is presented target audiences at workshops, webinars, etc- April 2010

Measures:

Evaluation forms from site presentations and user assessments are favorable.
 On-line tools are used by a diverse group as identified as .gov, .edu, etc.

Activity Financing

Tasks	Cost Category*	Amount (US\$)
ESIP Program Manager	Contractual	\$ 76,800
Annual ESIP Steering Committee/Chairs Meeting	In Kind	
Web/Database Manager	Contractual	\$ 16,850
Total		\$ 93,650

Allowable cost categories: Contractual, printing and publications, postage, facility rental; web hosting/maintenance Note: Additional budget items have been requested in grants, but not essential to ESIP operations.

Sources of funding:

2. Secured sources and amounts: Environment Canada (estimates \$16,000 CND)
3. Prospective Sources of Funds: Grants
 - a. NOAA SARP \$ \$47,040 [also \$19,900 for US Gulf of Maine Association grant and contract management]
 - b. MA Environmental Trust Fund \$17,700

Statement of Basis for Development of a Business Plan

for the

Gulfwatch Contaminants Monitoring Program

by the

Gulf of Maine Council Gulfwatch Contaminants Monitoring Subcommittee

November 21, 2008

Introduction

The Gulf of Maine Council on the Marine Environment (GOMC: the Council) was established in 1989 by the governments of Nova Scotia, New Brunswick, Maine, New Hampshire, and Massachusetts to foster cooperative actions within the Gulf watershed in order to maintain and enhance environmental quality in the Gulf of Maine to allow sustainable resource use by existing and future generations. As part of this mission, the Council recognized that information was needed to describe the scope and extent of certain contaminants entering the Gulf of Maine to better provide coastal managers with the ability to maintain and, where practicable, enhance the ecological integrity of the Gulf. To accomplish this task, the Council created the Environmental Quality Monitoring Program to monitor the spatial extent and temporal trends of contaminants in the coastal region of all five jurisdictions within the Gulf. The Council created the Environmental Quality Monitoring Committee (EQMC) to oversee this effort with the following mission statement:

"It is the mission of the Gulf of Maine Environmental Quality Monitoring Program to provide environmental resource managers with information to support sustainable use of the Gulf and allow assessment and management risk to public and environmental health from current and potential threats."

For over a decade the EQMC conducted the Gulfwatch Program to obtain and disseminate contaminant information to the public. This was accomplished by collecting samples of the blue mussel (*Mytilus edulis*) at coastal locations around the Gulf from all five member jurisdictions and analyzing tissue samples for an extensive suite of analytes. In doing so the Gulfwatch Program was able to provide coastal managers with information on the status and trends of contaminant exposure to aid in their assessments of and potential management needs for risks that may be posed to the Gulf of Maine marine environment and those who live in the region.

In 2007, the Council changed the name of the EQMC to the Gulfwatch Contaminants Monitoring Subcommittee (GCMSC: the Committee), and began the process of reviewing the scope of monitoring work and services of the Gulfwatch Program. This was necessary so that the purpose of Gulfwatch remained effective and responsive to the needs of the Council. The Council -appointed Gulfwatch Program Peer Reviewer Panel provided several suggestions to improve the program in 2008 while endorsing the program and Council for its continued contribution to monitoring of the Gulf of Maine.

"The Gulf of Maine Council's Gulfwatch Program is, to our knowledge, the only ongoing long-term monitoring program measuring contaminants of environmental concern in both US and Canadian coastal waters of the Gulf.....The Council is to be commended for its commitment to this unique effort in assessing water quality in the Gulf."

Program Description

Gulfwatch Core Services

The Gulfwatch program is based on a core set of activities that include specific participants and addresses the basic components of the Gulf-wide monitoring effort.. Components of the current program are described below. Future aspects for the program are discussed under Three-Year Business Plan Development.

Participants in Gulfwatch include volunteer/in-kind sampling collection and processing teams, contracted analytical laboratories, a contracted coordinator overseeing field collection, sample processing, shipment, and interface with the laboratories (Gulfwatch Program Coordinator), and a contracted coordinator that handles database management and reporting (Environmental Monitoring Coordinator). The entire program is overseen by the Gulfwatch Contaminants Monitoring Subcommittee (GCMSC) on behalf of the GOMC.

Field Operations and Site Selection

Blue mussels are collected by volunteer participants organized by state and province. These individuals are typically environmental and public health agency personnel who are providing in-kind services to the program. The same participants or another group of agency personnel process the mussels to isolate and freeze tissue samples. Transportation costs to and from sample sites, much of the required supplies and personnel time for both sample collection and processing have all been covered by in-kind contributions of participating agencies.

The Gulfwatch Program Coordinator works with each jurisdiction to transport the prepared frozen samples to the two analytical laboratories. At this point some of the transportation and supplies and all shipping costs require support.

Mussel samples are collected during September and October each year. The two-month time frame ensures completeness for sample collection to occur on favorable (low tides) dates. The sites sampled each year are scheduled on a rotating basis. This sampling scheme is appropriate for the resources available to the program, and the expected time frame within which changes in most contaminant concentrations can be measured. The annual sampling sites are grouped according to location to enable efficient use of sampling efforts each year.

The sites chosen for the Gulfwatch program reflect relatively comprehensive geographical coverage of the coastal ecosystem where blue mussels are present. The sites also represent areas exposed to contaminants, such as urban harbors, and places in locations away from contaminant sources. The number of sites in each jurisdiction is generally in proportion to size of coastline. New Hampshire is an exception because, beginning in 1998, the New Hampshire Department of Environmental Services (NHDES) adds to the Gulfwatch program by supporting added sites and associated analytical costs in order to increased the sampling intensity in NH. . Four Gulfwatch sites are also sampled as part of the NOAA National Status and Trends Mussel Watch program that enables intercomparison between the two programs, which is another significant strength of the Gulfwatch Program.

The continuation of sites for sampling within the Gulfwatch Program is based on periodic review of contaminant analysis results and management agency input on the significance of the sites relative to ongoing issues. New sites are occasionally included on a one-time basis, or added to the long-term program based on recommendations from jurisdiction managers and scientists, and a GCMSC-wide review.

Analytical Operations

Samples are sent to Battelle Laboratories in Sequim, WA, for metal contaminants analysis, and the Environment Canada Laboratory in Moncton, NB, for organic contaminants analysis. These two labs have provided analytical services for the program for 5 and 17 years, respectively. Maintaining long-term relationships with the same analytical labs adds strength to the program by providing consistently high quality data results using the same analytical methods. This enables comparisons of results over time with confidence. Mussel tissue samples are analyzed at the Battelle lab for a suite of ten trace metal contaminants: aluminum, silver, cadmium, chromium, copper, iron, mercury, nickel, lead and zinc. Separate, split samples are analyzed at the Environment Canada lab for organic contaminants: 24 PCB congeners, 16 chlorinated pesticides and 20 PAH compounds, with the latter including an additional 51 alkylated compounds. Analytical results for all sample analyses are returned to the Gulfwatch Program Coordinator who initiates the quality control/quality assurance phase of data review and management for the program (see below).

Samples analyzed for metal contaminants are returned and archived at the University of New Hampshire Jackson Estuarine Laboratory in Durham, NH. Samples analyzed for organic contaminants are returned and archived at the Bedford Institute of Oceanography in Dartmouth, NS. The storage and maintenance of archived samples is provided as in-kind services to the program.

Data Management

The review process for analytical results and their associated quality control/quality assurance information is conducted by the Gulfwatch Program and Environmental Monitoring contractors. Once data have passed QA review, it is forwarded to GCMSC members and partners, such as NHDES, for further review.

The Environmental Monitoring Coordinator (EMC) prepares data that was reviewed for quality assurance for uploading to the Gulfwatch Program's relational database. Prior to final data upload, the EMC prepares an annual report, complete with internal program review for further quality assurance. Report preparation, GCMSC review, and final draft are prepared usually within 2 months after all data (including field notes and morphological information from each jurisdiction) are received. The final data and annual report are then served to the GOMC website. As of 2007, the GOMC server hosts the Gulfwatch Program's relational database. This database contains all the individual sample analyses of program analytes inclusive from 1993-2006, as well as station information and a draft of the quality assurance schemes. To date, the relational database is poised to receive annual updates of Gulfwatch data.

Database management for the program is an on-going core service requiring periodic loading of annual data, continued development of relational schemes (e.g., quality assurance display, data normalization) and protocols created in cooperation with the Council's web master to update and assist with informational web-based products for data reporting, publication, and management queries. This Gulfwatch Program function requires periodic maintenance to the relational structure and the development of new relational files so that Gulfwatch data products remain accessible and current with evolving protocols for online data access and use. The Program anticipates supporting a database management effort that will interact with the GOMC server management to meet the above elements of the Gulfwatch relational database.

Cost of Gulfwatch core service program

It costs approximately \$140,000 USD per year to operate the Gulfwatch Program as currently described. Approximately \$62,000 is used to pay for contracted services. The remainder is the estimated in-kind contribution from the five participating jurisdictions that accounts for agency personnel time and materials to collect, process, and transport samples, participation at committee meetings, contributions to write, review and revise documents, manage the program, and interface with the GOMC and its staff.

Program Development Goals

A key suggestion from the Peer Review Panel Gulfwatch Program is to develop a plan to guide Gulfwatch Program development over the next three years as it continues to implement program improvements and modifications to expand and enhance the services provided by this important contaminant monitoring effort. For the program to be effective it must have clearly stated and realistically achievable goals that take into consideration the resources that are available within any given planning period.

In this regard the Gulfwatch Program maintains its goals are:

To support the Gulf of Maine Council's Action Plan and overall mission by serving in the capacity as a regional contaminant monitoring program in the combined US and Canada coastal waters of the Gulf of Maine.

To conduct a coordinated and harmonized sampling and chemical contaminant analysis program that serves the regional and, where possible, localized needs of coastal managers and academic researchers, and to conduct the program in a scientifically justified approach through comprehensive QA/QC procedures, periodic updating of sampling and analytical techniques, and peer review of the program and results.

To maintain capacity for Gulfwatch to be flexible and responsive to regional and jurisdictional concerns by incorporating sampling and analyses that support local and regional decision making.

To effectively communicate and provide direct access to program results to the Council, Gulf of Maine community, and beyond, and

Within this framework the Gulfwatch Program three-year plan provides services for field sampling, chemical analysis, and database management available to the Council and for integration with other programs within its member jurisdictions.

Three-Year Business Plan Development

During the next three years the Gulfwatch program would add capacity for sampling and analysis to respond to user needs, i.e. concerning contaminants of emerging concern and/or focused surveys. In order for the Gulfwatch Program to move towards an integrated science-based service for the Council and other interested parties, we propose to adopt a process that allows the Program to retain the core services while planning for incorporating expanded services, subject to available funding. These services may be a combination of new analytes, new sites, an expansion of sample frequency, new ecosystem matrices, new species, etc. This is an iterative process, as the Gulfwatch program evolves to a new funding model with the lessons learned from previous years and incorporates into each following year. It is important to emphasize that all of the field sampling, processing, and transport to laboratories depends on the continued donation of volunteers from Council member agencies in all five jurisdictions. A critical component of any program expansion or the continuation of core services is contingent upon the commitment of support from each member jurisdiction of the Council to provide personnel and support resources (reagents, supplies, gas, vehicles, etc.) to the Gulfwatch field effort.

First Year: 2008-2009

In June, 2008, The Council directed Gulfwatch to follow-up with their peer review panel to work towards incorporating recommendations to improve the program and prepare to use other funds to support the program. The Council recognized the important services Gulfwatch provides and, designated the program as a fund development priority. The Council provided the services of their Funding Development

Coordinator to assist the Program with the development of a business plan and to help identify and secure potential funding sources. The goal is to secure non-Council support funding. An example of non-Council support is the New Hampshire Department of Environmental Services (NHDES) funding of Gulfwatch that provides NHDES with mussel, oyster and soft shell clam contaminant data from additional sites deemed important for several of their program(s). With the assistance of the Fund Development Coordinator for identifying sources of funding, similar opportunities from agencies such as US EPA, NOAA, Environment Canada, DFO, state/provincial programs, i.e. MWRA, NHDES, ME-SWAT, NS-Environment, NS-Fisheries and Aquaculture, and NB-Fisheries and Aquaculture will be explored.

Second Year: 2009-2010

In the second year, based on the commitment of external support, the Gulfwatch Program will integrate expanded and/or increased frequency of sample collection, processing, and chemical analysis of mussels and/or other bivalves from existing and potentially new sites. Therefore, the goal for the second year will be to secure funding support from outside the Council by expanding core services to other agencies/projects or within the member jurisdictions

Third Year: 2010-2011

By the third year of the expanded Gulfwatch Program, efforts will be made to incorporate expanded collections and analysis of other matrices and/or organisms for chemical analysis, i.e. water, sediment. With support from agencies within the Council member jurisdictions, Gulfwatch will be in the position to use field samplers to collect other matrices and process these for shipment while maintaining the core program of mussel tissue contaminant monitoring. Program expansion may also include expanding the type of analytes that may be deemed important, i.e. contaminants of emerging concern, in response to managers needs around the Gulf.

Projected Development Timeline

2008-09

Conduct (modified) core operations Sept. '08 - March '09

2008 Gulfwatch Report , database upload Oct. '09

Create business plan - January '09 - engage services of Funding Development Coordinator

Secure external funding - July '09

2009-2010

Conduct Gulfwatch core operations with integrated expansion of sites/analytes/species Sept. 09 - March '10

2009 Gulfwatch Report , database upload Oct. '10

Secure external funding - July '10

2010-2011

Conduct Gulfwatch core operations with integrated expansion of sites/analytes/species and/or matrices/analytes Sept. '10 - March '11

2010 Gulfwatch Report ,database upload Oct. '11

Secure external funding - July '11

Sustainable Industries and Communities

Goal: 3	Support Vibrant Communities
Applicable Outcomes from GOMC 2006-2011 Action Plan	Long-term: <ul style="list-style-type: none"> Coastal communities are supportive of marine-dependent industries, and the industries are implementing innovative, sustainable best practices that position them favourably for the future. Marine-dependent industries are sustainable and competitive in global markets
	Mid-term: <ul style="list-style-type: none"> Marine-dependent industries are utilizing renewable and non-renewable resources in ways that maintain ecosystem integrity. Marine-dependent industries accelerate the adoption of practices to become even more sustainable Government and marine-dependent industries are working collaboratively to address social, cultural, environmental and economic concerns.
	Short-term Each year, between 2006 and 2011, the level of participation in Council activities by marine-dependent industry representatives (e.g., sustainable tourism, alternate energy generation, finfish aquaculture and bivalve shellfish) will increase by 10%.

Activity Narrative

Activity #2 – Outreach and Engagement
<u>Background/Context for Activity:</u> The Council views marine-dependent industries as key decision-makers in ensuring a healthy and productive Gulf of Maine. Thus it needs their active participation in Council subcommittees, forums, periodic web-based inquiries and other activities to develop effective regional initiatives.
<u>Activity Narrative:</u> <ul style="list-style-type: none"> Increase visibility of the Council among targeted industry sectors Work with Gulf of Maine Times editor to incorporate industry-relevant articles Committee and Working Group members will opportunistically distribute GoMC flyer at relevant industry forums (e.g. trade shows, conferences, workshops, etc.)
<u>Council Role/Niche:</u> (build on current Council matrix description (e.g., A-1, etc.) The Council will champion this work, which will be lead by the SIC Committee. Council Role: A-1
<u>Activity Leads:</u> Lead: SIC Chairs, Justin Huston NSFA and Liz Hertz MESPO Supporters: NBDF, MEDMR, MADMR, NHDMR
<u>Crosscutting services:</u> (Describe need for Outreach, Science Translation, Gulf of Maine Times or Web services) <ul style="list-style-type: none"> Council Coordinator in regard to internal and external Council policy Web/IT (e.g. information on website) Gulf of Maine Times for dissemination of information

Activity Measures

<u>Major Milestones:</u> <ul style="list-style-type: none"> Council information flyer distributed at a minimum of 10 industry events, 2 per state/province – June 2010 At least one industry relevant article in each issue of the Times
<u>Deliverables</u> <ol style="list-style-type: none"> Summary report on outreach at industry events, and articles in the Times
<u>Measures:</u> <ol style="list-style-type: none"> Increase in website visits Increase in industry enquiries about the Council to Council Coordinator, WG and Committees

Activity Financing

Tasks	Cost Category	Amount (US\$)
Printing	In-kind	2,000
Attendance-travel to industry events	In-kind	2,000
Total	In-kind	\$4,000

Sources of funding:

4. Secured sources and amounts: in-kind
5. Prospective sources and amounts:

Sustainable Industries and Communities

Goal: 3	Support Vibrant Communities
Applicable Outcomes from 2006-11 GOMC Action Plan	Long-term: <ul style="list-style-type: none"> Coastal communities are supportive of marine-dependent industries, and the industries are implementing innovative, sustainable best practices that position them favourably for the future. Marine-dependent industries are sustainable and competitive in global markets
	Mid-term: <ul style="list-style-type: none"> Marine-dependent industries are utilizing renewable and non-renewable resources in ways that maintain ecosystem integrity. Marine-dependent industries accelerate the adoption of practices to become even more sustainable Government and marine-dependent industries are working collaboratively to address social, cultural, environmental and economic concerns.
	Short-term: Each year, between 2006 and 2011, the level of participation in Council activities by marine-dependent industry representatives (e.g., sustainable tourism, alternate energy generation, finfish aquaculture and bivalve shellfish) will increase by 10%.

Activity Narrative

Activity #3.2 – Industry Sustainability Awards
<u>Background/Context for Activity:</u> The Council views marine-dependent industries as key decision-makers in ensuring a healthy and productive Gulf of Maine. Thus it needs their active participation in Council subcommittees, forums, periodic web-based inquiries and other activities to develop effective regional initiatives.
<u>Activity Narrative:</u> Develop and award annual Gulf of Maine Council Sustainability Awards for marine-based industries that demonstrate commitment to sustainability in the way that they do business
<u>Council Role/Niche:</u> (build on current Council matrix description (e.g., A-1, etc.) The Council will champion this work, which will be lead by the SIC Committee. Council Role: A-1
<u>Activity Leads:</u> Lead: SIC Chairs, Justin Huston NSFA and Liz Hertz MESPO Supporters: NBDF, MEDMR, MADMR, NHDMMR
<u>Crosscutting services:</u> (Describe need for Outreach, Science Translation, Gulf of Maine Times or Web services) <ul style="list-style-type: none"> Expertise and services from Web/IT (e.g. information on website, etc.) Gulf of Maine Times in regard to dissemination of information

Activity Measures

<u>Major Milestones:</u> <ul style="list-style-type: none"> Call for nominations – March 2010 Awards granted – June 2010
<u>Deliverables</u> <ol style="list-style-type: none"> Awarding of Sustainability Awards Press coverage for recipients
<u>Measures:</u> <ol style="list-style-type: none"> One Sustainability Award awarded annually Number of nominations/applications increases by 25% between 2009 and 2010.

Activity Financing

Tasks	Cost Category	Amount (US\$)
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<u>Call for Nominations</u> (SIC Committee, Web IT, GoM Times)	Advertising in industry publications	\$2,000
<u>Granting of Awards</u> (Council, SIC Committee, Web IT, GoM Times)	Award Advertising of awardee in relevant industry publications	\$200 \$1,000
Total		\$3,200

Allowable cost categories: Contractual, printing and publications, postage, travel, lodging, meals, facility rental; web hosting/maintenance

<u>Sources of funding:</u> 6. Secured sources and amounts: none 7. Prospective sources and amounts: <ul style="list-style-type: none"> • Contributions from industry related departments and agencies on Council • Contributions from private sector representatives on the Council

Sustainable Industries and Communities

Goal: 3	Support Vibrant Communities
Applicable Outcomes from 2006-11 GOMC Action Plan	<p>Long-term:</p> <ul style="list-style-type: none"> • Coastal communities are supportive of marine-dependent industries, and the industries are implementing innovative, sustainable best practices that position them favourably for the future. • Marine-dependent industries are sustainable and competitive in global markets
	<p>Mid-term:</p> <ul style="list-style-type: none"> • Marine-dependent industries are utilizing renewable and non-renewable resources in ways that maintain ecosystem integrity. • Marine-dependent industries accelerate the adoption of practices to become even more sustainable • Government and marine-dependent industries are working collaboratively to address social, cultural, environmental and economic concerns.
	<p>Short-term:</p> <ul style="list-style-type: none"> • By 2011 at least 20% of provincial and state lawmakers are aware of creative approaches to protecting and managing the working waterfront infrastructure that marine-dependent industries require to remain competitive.

Activity Narrative

Activity #3.3 – Working Waterfront Awareness
<p><u>Background/Context for Activity:</u> The Gulf's working waterfronts consist of sites or facilities that provide physical access to the sea for commercial use, as well as related infrastructure and services. These areas are essential to our marine-dependent industries and often define the character of coastal communities. Provincial and state lawmakers, local officials (town councilors, selectmen, municipal, local service district representatives, etc.) and planning authorities are often searching for creative ways to protect and maintain these working fronts.</p>
<p><u>Activity Narrative:</u> The SICC committee, under the leadership of NB Environment will develop a downloadable presentation illustrating the importance of working waterfronts in the Gulf of Maine region, the challenges they face, and innovative approaches underway to address these challenges.</p>
<p><u>Council Role/Niche:</u> (build on current Council matrix description (e.g., A-1, etc.) The Council will champion the regional aspect of this work, which will be lead by the SIC Committee. Council Role: B-2</p>
<p><u>Activity Leads:</u> Lead: SIC Committee Supporters: NBDF, MEDMR, MESPO, MADMR, NHDMR, NSFA, ACOA, DFO SCH, NSOED, Island Institute, Maine Working Waterfront Coalition</p>
<p><u>Crosscutting services:</u> (Describe need for Outreach, Science Translation, Gulf of Maine Times or Web services)</p> <ul style="list-style-type: none"> • Web / IT (e.g. information on website, etc.)

Activity Measures

<p><u>Major Milestones:</u></p> <ul style="list-style-type: none"> ▪ Presentation developed ▪ Presentation up on web page
<p><u>Deliverables</u></p> <p>4. Presentation</p>
<p><u>Measures:</u></p> <p>5. Number of unique downloads from the web page</p>

Activity Financing

Tasks	Cost Category	Amount (US\$)
<u>Presentation Development</u> SICC		N/A
<u>Presentation on web page</u> Web/IT(4 hrs)		\$
Total		\$

Allowable cost categories: Contractual, printing and publications, postage, travel, lodging, meals, facility rental; web hosting/maintenance

Sources of funding:

1. Secured sources and amounts: NONE
2. Prospective sources and amounts: Relevant state, provincial, and federal agencies

Gulf of Maine Mapping Initiative (GOMMI)

1.12 Support the mapping of priority areas identified in the Gulf of Maine Mapping Initiative's 2-year work plan

(Gulf of Maine Mapping Initiative Subcommittee)

Applicable Outcomes from 2007-2012 GOMC Action Plan

- Long-term –
 - Managers and stakeholders will have seafloor maps of the entire Gulf of Maine for use in maintaining a healthy, productive ecosystem.
- Mid-term –
 - Public agencies and non-government organizations have technical and financial capacity to undertake seafloor mapping of the Gulf of Maine annually.
- Short-term –
 - Government and non-profit sources become aware of the need to provide funding for seafloor mapping of the Gulf of Maine.
 - Public agencies and non-government organizations become aware of the need for and applications of seafloor maps to improve ocean management.

Background and Context for Activity

The Gulf of Maine Mapping Initiative (GOMMI) is a partnership of organizations in the U.S. and Canada whose goal is to map the Gulf of Maine basin for better management of its uses. We aim to create a significant regional habitat mapping program in order to coordinate ongoing efforts, stimulate new mapping projects, and make maps and data widely available to managers and stakeholders. To this end, we have been building partnerships, conducting outreach and education, and identifying sources of logistical and financial support.

Activity Narrative

The Gulf of Maine Mapping Initiative (GOMMI) aims to create a significant seafloor mapping program for the region. Our strategy is to facilitate communication and collaboration within the mapping community, build logistical and financial support for new projects in priority areas, and make maps and data widely available to users and stakeholders. GOMMI's top mapping priority is to complete a pilot project that began in 2005 with the collection of acoustic imagery on Cashes Ledge and surrounding areas. Geological and biological data are required to produce maps of benthic habitat. Logistical and financial support must be secured for fieldwork, data analyses, production of maps and reports, and public outreach regarding availability and applications of mapping products.

Since holding a Planning Workshop in February 2006, GOMMI has been working toward meeting four main objectives laid out in its 2006-2008 Work Plan:

- Broaden base of support for GOMMI
- Coordinate mapping efforts in the GOM
- Complete a pilot mapping project on Cashes Ledge
- Map priority areas

These objectives will continue to guide the GOMMI Coordinator's work next fiscal year. In addition to the specific objectives described above, the GOMMI Coordinator will also continue to perform core administrative duties such as coordinating Steering Committee conference calls, and tracking and facilitating progress on action items.

Council Role/Niche

The funds required to fully support this work (roughly estimated at \$2.8 million) are considerably more than the Council can provide. However the Council may be able to help secure logistical and financial support through its endorsement of GOMMI, and through cross-cutting services such as fund development, and web hosting and maintenance.

Activity Leads and Supporters

Lead: GOMMI Coordinator and GOMMI Steering Committee

Supporters: Massachusetts CZM, Maine Department of Marine Resources, NH Dept. of Environmental Services Coastal Program, Northeast Fisheries Science Center, US Geological Survey, Geological Survey of Canada, UNH Center for Coastal and Ocean Mapping/Joint Hydrographic Center, NOAA's National Ocean Service, Gulf of Maine Research Institute, University of Ulster, Massachusetts Division of Marine Fisheries, Cape Cod National Seashore, Gulf of Maine Census of Marine Life

Cross-cutting Services

GOMMI will require continued cross-cutting service from the Fund Development Contractor to facilitate our legislative outreach strategy and to secure funds for mapping work; and from the Web Services Contractor to post articles, newsletters, hyperlinks, and outreach materials on the web that will be provided by the GOMMI Coordinator.

Activity Measures Major Tasks Between July 2009 and June 2010

I. Broaden base of support for GOMMI

<u>Workplan Item</u>	<u>Proposed Completion Date</u>	<u>Cash or in-kind that GOMMI may be able to secure</u>	<u>From what sources</u>	<u>Potential expansion of the project with additional resources</u>
Continue to write and distribute e-newsletters	Fall 2009	\$1800-- GOMMI Coordinator Time Offer of in-kind support from Susan Russell-Robinson USGS for distribution	None identified	With time/interest from Jim Cradock: explore RSS (really simple syndication)
Continue the legislative outreach strategy developed in 2007	Ongoing	\$1750 GOMMI Coordinator	None identified	Request for continued in-kind support from David Keeley; additional funding would allow travel related to outreach strategy
Establish GOMMI office space in the new Integrated Ocean and Coastal Mapping Data Processing Center at UNH's Coastal and Ocean Mapping/Joint Hydrographic Center (CCOM/JHC)	Spring 2010	\$1000 GOMMI Coordinator (coordination time for agreements, contracts, etc.)	UNH CCOM in-kind offer of office space, furnishings	
Work with partners to establish a liaison between NE Fisheries Science Center and IOCM Data Processing Center to process Gulf of Maine data.	Spring 2010	Requires commitment from NOAA NEFSC for part of staff member's time to go toward data processing and collaboration w/IOCM \$250 GOMMI Coordinator time	None identified	
Print web-based brochure	July 2009	\$2000+ for printing	None	Susan

		\$1200 Coordinator time	identified	Russell-Robinson suggests potential for USGS to pay for printing & distribution.
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II. Coordinate mapping efforts in the GOM

<u>Workplan Item</u>	<u>Proposed Completion Date</u>	<u>Cash or in-kind that GOMMI may be able to secure</u>	<u>From what sources</u>	<u>Potential expansion of the project with additional resources</u>
<p>Help plan, coordinate and fund other regional seafloor mapping projects:</p> <p>a) Work with GMRI, University of Ulster, UNH CCOM, Census of Marine Life and others to secure funding to expand acoustic surveys, groundtruthing, and map development for development of ecosystem services maps & ecosystem comparisons between GOM & other areas</p> <p>b) Explore and coordinate mapping opportunities as they become available (e.g. Provincetown Center for Coastal Studies seafloor mapping funding, MA Cod Conservation Zone map development)</p>	<p>Ongoing</p> <p>Ongoing</p>	<p>Proposals would be at the level of several hundred thousand dollars</p> <p>Tens to hundreds of thousands</p>	<p>Interested in a federal funding source.</p> <p>Other : Alfred P. Sloan Found. or Munson</p> <p>None identified</p>	<p>Request for David Keeley's time to guide proposals and identify sources.</p> <p>Request for David Keeley's time to guide proposals and identify sources.</p>
Update coverage map to include 2009 multibeam data and identification/posting of links to LIDAR mapping data and side-scan sonar survey projects	November 2009	\$1000 for staff time; in-kind from Seth Ackerman at MA CZM and Jim Cradock	None identified	With time/interest from Jim Cradock: explore/ implement RSS (really simple syndication)
Assist or coordinate data integration efforts (e.g. marine cadastre effort to integrate seafloor benthic data, Massachusetts Ocean Partnership, Gulf of Maine Biogeographical Information Systems, etc.)	Ongoing	\$1500 GOMMI Coordinator time	None identified	
Update and improve website by updating the coverage map and including links to LIDAR/sidescan/ongoing mapping projects; adding/updating links to benthic sites; add 3-D fly through map, etc.	June 2010	\$750 GOMMI Coordinator time Web-manger in-kind	<p>None identified</p> <p>Intern at NPS & UNH CCOM dataperson can research benthic sites.</p> <p>UNH CCOM/JHC and GMBIS</p>	<p>Request for in-kind contribution for Jim Cradock's time for monthly link updates. W/addt'l resources could develop capacity to track website hits by type of institution to determine who the web site is serving.</p> <p>Request outreach services from the GOMC Outreach Committee to</p>

			offer to assist w/ 3-D interactive Fledermaus maps	develop a web outreach and online survey idea to ID what users looking for and suggest website changes to raise GOMMI profile
Promote mapping standards directly & through mapping coordination, which will encourage increased similarity in design, reporting and analysis. Follow-up/proceedings for spring 2009 workshops discussing sampling strategies, methods etc. (e.g. NPS (DOI) workshop on shallow water mapping)	Ongoing June 2009	?? \$1,500+ Coordinator time (depending on # of workshops)	None identified National Park Service??	

III. General support of GOMMI

<u>Workplan Item</u>	<u>Proposed Completion Date</u>	<u>Cash or in-kind that GOMMI may be able to secure</u>	<u>From what sources</u>	<u>Potential expansion of the project with additional resources</u>
Convene and summarize Steering Committee conference calls (~every 1-2 months)	ongoing	\$2250 (ten calls)	None identified	
Write grant proposals to support GOMMI and regional mapping projects, as well as reports to funding agencies	Ongoing (2 proposals to support general GOMMI activities; 2 proposals to support specific projects)	\$6000+ Coordinator time	None identified to fund grant writing. See "GOMMI List of Potential Grants" and grants.gov for potential sources of project grants Request for David Keeley's time/in-kind support	In-kind support in the form of David Keeley's time to address long-term goals. Long-term goal of GOMMI is to coordinate high-resolution for the entire Gulf of Maine Basin at an estimated cost of several million/yr for ten years.
Solicit corporate funding (ongoing)	ongoing	Would seek thousands to tens of thousands of \$s Multibeam equipment loans from manufacturers following UNH CCOM example	Approach multibeam sonar manufacturers who participated in the UNH CCOM Shallow Water Survey Conf.	In-kind support in the form of David Keeley's time would allow us to identify other corporate sponsor ideas and plan of action
Solicit private donors?	ongoing	??	??	\$1,000-\$5,000 Provide Gulf of Maine Seacoast science center w/outreach materials in exchange for public donations. UNH CCOM may be able to provide in-kind donation of time to promote the idea.
Gulf of Maine Council Working Group Briefing Packets	3/yr	\$550 Coordinator time	None identified	

Develop 2010-2011 Workplan	December 2009	\$675 Coordinator time	None identified	
Update database of Gulf of Maine Mapping Activities	December 2009	\$750 Coordinator time	None identified	
Coordinate GOMMI 2-yr Planning Meeting	Fall 2009	\$1000 Coordinator	None identified	
Progress Reports to funding agencies	Ongoing	\$2500 Coordinator time	None identified	

Measures

- Amount of financial support raised for benthic habitat mapping in the GoM region
- Extent of areas mapped by a) high-resolution bathymetry, and b) benthic habitat
- Number of partners collaborating on regional mapping efforts that are coordinated by GOMMI

Activity Financing

<u>Tasks</u>	<u>Cost Category*</u>	<u>Amount (US\$)</u>
GOMMI Coordinator	Contractor	\$45,000
Web maintenance	Web services contractor	2,500
Fundraising	Devt. & Policy Coordinator	5,000
Total		\$52,500