

EVALUATION STRATEGIES FOR SHORT-TERM OUTCOMES IN THE GULF OF MAINE COUNCIL ON THE MARINE ENVIRONMENT'S 2007-2012 ACTION PLAN

FINAL

Submitted to:

**Gulf of Maine Council on the Marine Environment
Evaluation Committee**

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EXECUTIVE SUMMARY

Purpose, Scope, and Approach

The purpose of this document is to provide the Gulf of Maine Council for the Marine Environment (GOMC) with strategies for measuring its progress at attaining its short-term outcomes as specified in its *2007-2012 Action Plan* (hereafter, the *Action Plan*). Strategies are provided for seven of the short-term outcomes in the *Action Plan*. The selection of these seven short-term outcomes is based on funding for the activities associated with these outcomes. GOMC’s *Work Plan, January 2007 to June 2008* (hereafter, the *Work Plan*) lists 36 activities designed to attain the *Action Plan* outcomes. ERG’s discussions with GOMC’s Evaluation Committee indicated that not all of the activities are funded. Thus, only outcomes that were associated with funded activities were included in this strategy document. Table ES-1 provides a list of the seven short-term outcomes that are covered in this document.

TableES-1. Short-term Outcomes from GOMC Action Plan that are At Least Partially Funded

Outcome Number ^[a]	Outcome Statement
1B	Coastal lawmakers have a greater understanding of how to minimize adverse effects of land-based activities on the coastal environment.
1C(i)	Organizations ^[b] working to conserve coastal lands have an increased understanding of the need to restore and monitor regionally significant coastal habitats.
1C(ii)	Local, non-profit, and corporate sources are aware of the need to increase funding for the restoration of regionally significant coastal habitats on public and private lands.
1D	Costal lawmakers, decision-makers, and managers working at the Gulf of Maine scale have an increased understanding of how to apply ecosystem-based management to conserve and protect Gulf of Maine habitats and resources.
2A	Coastal lawmakers have increased knowledge about the need to reduce releases of priority pollutants that affect the Gulf of Maine
2B	Adults living in coastal communities of the Gulf of Maine have increased awareness abut how their lifestyle choices affect the condition of the marine environment.
3	The level of participation in Council activities by marine-dependent industry representatives is increased.

^[a] ERG has added a numbering scheme to help facilitate discussion. The first numeral indicates the goal that the outcome is connected with. For outcomes in goal 1, the letter indicates the track the outcome is associated with. The roman numeral indicates the order of the outcomes. For example, 1C(ii), indicates goal 1, track: habitat restoration, second outcome.

^[b] The Committee modified “non-governmental organizations” to “organizations” to better encompass activities that are targeting local governments also.

For each of the seven strategies, we suggest a five-step approach to measuring outcomes:

- **Step 1—Identify funded activities within each short-term outcome.** This step involves linking the short-term outcomes to funded activities. This step essentially defined the scope of this document by identifying which outcomes had funded activities associated with them.
- **Step 2—Define key terms.** This step helps to define the scope of the measurement process. Many of statements of GOMC’s short-term involve terms that need further definition before measurement can occur. This step involves identifying and defining those terms.

- **Step 3—Develop a more complete link between activities and short-term outcome.** A key aspect of evaluating outcomes is to understand the linkages between the outcomes on the one hand and the activities designed to generate those outcomes on the other hand. This step involves developing those linkages.
- **Step 4—Identify key metrics.** In this step we identify what we expect to be a good outcome measure for GOMC to focus on for each short-term outcome.
- **Step 5—Collect data and measure results.** In the final step, we provide ideas for measuring each outcome.

The strategies contained in this document represent a starting point for GOMC to measure the outcomes contained in the *Action Plan*. All of the strategies will require additional work by GOMC to fully define and implement. For example, ERG has provided some initial ideas on how to link the activities and the outcomes, but further work by the GOMC Committees and activity leads will be needed to fully explore and define these linkages. The extent to which further action is required for each step can be described as follows:

Step	Level of Completion In This Strategy Document
1	This step is complete.
2	This document identifies terms needing definition and provides some initial ideas for definition in some cases.
3	This document provides tables that begin to sketch out the linkage between the outcomes and the activities. Further work by GOMC, its Committees, and the activity lead is needed to fully define the linkages.
4	This document provides a recommended outcome measure for each short-term outcome covered in this document.
5	This document provides a recommended approach to measuring the outcome measure from Step 4 for each outcome in this document.

Recommendations

As noted above, this document provides recommendations on the measurement approach and the outcome measures for each of the seven short-term outcomes covered in this document. Table ES-2 provides a summary of ERG’s recommended approaches for measurement and the associated recommended outcome measures. Table ES-3 provides a suggested prioritization for GOMC to use in deciding what outcomes to measure first. The prioritization also takes into account that some measurement projects being recommended can be combined, leveraging GOMC’s resources. Appendix C of this report provides details on the resources needed to implement these measurement strategies.

Table ES-2. ERG’s Recommended Approach to Measuring the Short-Term Outcomes Covered In This Strategy Document and ERG’s Proposed Outcome Measures for Each Short-Term Outcome.

Outcome Number ^[a]	Outcome Statement	ERG’s Recommended Approach to Measuring the Outcome	ERG’s Proposed Outcome Measure
1B	Coastal lawmakers have a greater understanding of how to minimize adverse effects of land-based activities on the coastal environment.	Perform a web-based (e-mail) survey of coastal lawmakers that would measure lawmakers’ understanding of how to minimize the adverse affects of land-based activities on the coastal environment. GOMC would develop a set of questions that can be used to gauge lawmakers’ understanding. Each question asked would have a “correct” answer (defined by GOMC). GOMC would need to perform an initial survey and then annual follow-up surveys to measure increases in understanding. GOMC should define a target level of the outcome measure (see next column) to assess the extent to which it is reaching its targets each year.	<ul style="list-style-type: none"> Percentage of questions that are answered correctly by coastal lawmakers who respond to a web-based survey.
1C(i)	Organizations working to conserve coastal lands have an increased understanding of the need to restore and monitor regionally significant coastal habitats.	ERG has recommended that measurement for this outcome focus on two of the associated <i>mid-term outcomes</i> from the Action Plan: (1) partners leverage and invest funds in the restoration of regionally significant coastal habitats (RSCHs) and (2) non-governmental organizations (NGOs) increase funding for restoration. This would involve dividing the measurement between “partners” and “non-governmental organizations” (NGOs). ^[b] For both groups, GOMC should identify a “core group” and then obtain agreements from the core group to supply information on funding of RSCH restoration projects. GOMC should obtain initial (baseline) data and then track the changes in funding annually from the core group.	<p>For mid-term outcome: “Partners leverage and invest funds in the restoration of regionally significant coastal habitats (RSCHs)”:</p> <ul style="list-style-type: none"> The amount of funding for RSCH restoration projects reported by a core set of partners <p>For mid-term outcome: “NGOs increase funding for restoration”:</p> <ul style="list-style-type: none"> The amount of funding (and the increase over time in that funding) for RSCH restoration projects reported by a core set of NGOs.
1C(ii)	Local, non-profit, and corporate sources are aware of the need to increase funding for the restoration of regionally significant coastal habitats on public and private lands.	Perform a survey (phone or mail) of in-scope local, non-profit, and corporate sources that asks these sources a set of questions that can be used to gauge their awareness of the need for increased funding for the restoration of RSCHs. Section 5.5 of this report provides guidance on the number of sources that will need to be contacted (based on the number that are identified as in-scope). GOMC will define the responses to each question that exhibit awareness of the issue. GOMC would need to perform an initial survey and then annual follow-up surveys to measure increases in awareness. GOMC should define a target level of the outcome measure (see next column) to assess the extent to which it is reaching its targets each year.	<ul style="list-style-type: none"> Percentage of questions that exhibit an awareness of the need for increased funding for restoration of RSCHs measured across all respondents to the survey.

Outcome Number ^[a]	Outcome Statement	ERG's Recommended Approach to Measuring the Outcome	ERG's Proposed Outcome Measure
1D	Coastal lawmakers, decision-makers, and managers working at the Gulf of Maine scale have an increased understanding of how to apply ecosystem-based management to conserve and protect Gulf of Maine habitats and resources.	ERG has recommended that GOMC perform two surveys: a web-based survey of coastal lawmakers and another survey (mode to be determined) of another group (besides coastal lawmakers) that would fit the definition that GOMC develops under Step 1 of this measurement activity. Each survey would involve developing a set of true/false questions regarding ecosystem-based management (EBM). GOMC would determine the "correct" answers to each question and understanding would be measured by the percentage of questions that are answered correctly across all respondents. GOMC would need to perform an initial survey and then annual follow-up surveys to measure increases in understanding. GOMC should define a target level of the outcome measure (see next column) to assess the extent to which it is reaching its targets each year.	<p>For coastal lawmaker survey:</p> <ul style="list-style-type: none"> Percentage of questions that are answered correctly by lawmakers who respond to the web-based survey.
			<p>For survey of other group fitting definition:</p> <ul style="list-style-type: none"> Percentage of questions that are answered correctly by respondents to the survey.
2A	Coastal lawmakers have increased knowledge about the need to reduce releases of priority pollutants that affect the Gulf of Maine	Perform a web-based survey of coastal lawmakers that would be used to gauge their understanding of "need to reduce releases of priority pollutants that affect the Gulf of Maine." The survey would consist of a set of true/false questions and GOMC would determine a "correct" answer for each question. Understanding would be measured by the percentage of questions that are answered correctly. GOMC would need to perform an initial survey and then annual follow-up surveys to measure increases in understanding. GOMC should define a target level of the outcome measure (see next column) to assess the extent to which the Council is reaching its targets each year.	<ul style="list-style-type: none"> Percentage of questions that are answered correctly by coastal lawmakers who respond to the web-based survey.
2B	Adults living in coastal communities of the Gulf of Maine have increased awareness about how their lifestyle choices affect the condition of the marine environment.	Perform a phone survey of adults living in coastal communities and measure the extent to which those adults are aware of how their lifestyle choices impact the marine environment. To measure awareness, GOMC should develop a set of true/false questions and define the "correct" answer for each question. Awareness would then be measured by the percentage of correct answers across all respondents. GOMC would need to perform an initial survey and then annual follow-up surveys to measure increases in understanding. GOMC should define a target level of the outcome measure (see next column) to assess the extent to which it is reaching its targets each year.	<ul style="list-style-type: none"> Percent of questions that are answered correctly by adults living in coastal communities that respond to the survey.

Outcome Number^[a]	Outcome Statement	ERG's Recommended Approach to Measuring the Outcome	ERG's Proposed Outcome Measure
3	The level of participation in Council activities by marine-dependent industry representatives is increased.	GOMC should track nominations/applications for the sustainability awards program.	<ul style="list-style-type: none"> • Increase by 10 percent annually for the first 5 years, the number of nominations/applications for the sustainability award program.^[c]

^[a] ERG has added a numbering scheme to help facilitate discussion. The first numeral indicates the goal that the outcome is connected with. For outcomes in goal 1, the letter indicates the track the outcome is associated with. The roman numeral indicates the order of the outcomes. For example, 1C(ii), indicates goal 1, track: habitat restoration, second outcome.

^[b] Further work would need to be done by GOMC to define each category.

^[c] This was defined in the GOMC Work Plan.

Table ES-3. ERG's Recommended Prioritization For Measuring GOMC Short-Term Outcomes.

ERG's Recommended Priority	Outcome Number ^[a]	Outcome Statement	Comments
1	1B	Coastal lawmakers have a greater understanding of how to minimize adverse effects of land-based activities on the coastal environment.	These three measurement projects can be accomplished with one web-based survey of coastal lawmakers that covers all three short-term outcomes. Thus, performing this first would allow for measurement of three short-term outcomes at once and would effectively leverage GOMC resources.
	1D	Coastal lawmakers, decision-makers, and managers working at the Gulf of Maine scale have an increased understanding of how to apply ecosystem-based management to conserve and protect Gulf of Maine habitats and resources. <ul style="list-style-type: none"> • Measurement associated with <i>coastal lawmakers</i>. 	
	2A	Coastal lawmakers have increased knowledge about the need to reduce releases of priority pollutants that affect the Gulf of Maine	
2	3	The level of participation in Council activities by marine-dependent industry representatives is increased.	This is a relatively straight-forward measurement task and requires little expenditure of resources.
3	1C(i)	Organizations working to conserve coastal lands have an increased understanding of the need to restore and monitor regionally significant coastal habitats. <ul style="list-style-type: none"> • Measurement associated with mid-term outcome focused on <i>partners</i> (The amount of funding for RSCH restoration projects reported by a core set of partners). 	Outcomes 1C(i) and 1C(ii) both relate to funding for projects. ERG recommends including one of these measurement projects in the top three priorities to increase the likelihood that that funding-related issues are covered in the measurement work. Of the three funding-related measurement projects, ERG expects that this would be the most cost-effective for GOMC to perform.
4	2B	Adults living in coastal communities of the Gulf of Maine have increased awareness about how their lifestyle choices affect the condition of the marine environment.	Performing this after having performed the three above would increase the breadth of the measurement activities of GOMC. Specifically, this outcome deals with adults' awareness rather than organizations. Additionally, it adds another outcome under Action Plan Goal 2 to the measurement work.
5	1C(i)	Organizations working to conserve coastal lands have an increased understanding of the need to restore and monitor regionally significant coastal habitats. <ul style="list-style-type: none"> • Measurement associated with mid-term outcome focused on <i>NGOs</i> (The amount of funding (and the increase over time in that funding) for RSCH restoration projects reported by a core set of NGOs). 	ERG has grouped these two together because we feel that resources can be leveraged by doing both at the same time. However, we have ranked these low on the list because we expect the ones above represent more cost-effective use of resources.
	1C(ii)	Local, non-profit, and corporate sources are aware of the need to increase funding for the restoration of regionally significant coastal habitats on public and private lands.	

ERG's Recommended Priority	Outcome Number ^[a]	Outcome Statement	Comments
7	1D	Coastal lawmakers, decision-makers, and managers working at the Gulf of Maine scale have an increased understanding of how to apply ecosystem-based management to conserve and protect Gulf of Maine habitats and resources. <ul style="list-style-type: none"> • Measurement associated with <i>other group that meets in-scope definition</i>. 	This is ranked last because it requires the most up-front work by GOMC. GOMC will need to determine what groups would meet the in-scope criteria and then identify those groups.

1.0 INTRODUCTION

The Gulf of Maine Council on the Marine Environment (hereafter, GOMC or “the Council”) *2007-2012 Action Plan* (hereafter, the *Action Plan*) lays out the goals and intended short-, mid-, and long-term outcomes associated with those goals. The three goals in the *Action Plan* are:

- Goal #1: Coastal and marine habitats are in a healthy, productive, and resilient condition.
- Goal #2: Environmental conditions in the Gulf of Maine support ecosystem and human health.
- Goal #3: Gulf of Maine coastal communities are vibrant and have marine-dependent industries that are healthy and globally competitive.

To meet these three goals, the Council has developed a *Work Plan, January 2007 to June 2008* (hereafter, the *Work Plan*). The *Work Plan* lists 36 activities segregated by the goals (25 under Goal 1, 5 under Goal 2, and 6 under Goal 3). Each of the activities has identified short-, mid-, and long-term goals.

In this document, Eastern Research Group, Inc. (ERG), a contractor to the Council, provides strategies to assist the Council in measuring its progress at meeting the short-term outcomes under its three goals.

2.0 SCOPE AND APPROACH

This section provides a general overview of the steps that ERG takes in developing an evaluation strategy.

2.1 Scope of this Document

During the kickoff discussion, the GOMC Evaluation Committee indicated that not all activities in the *Work Plan* are being funded. The strategies reflected in this document focus on selected short-term outcomes with *at least one partially funded activity*. Table 2-1 provides a list of the outcomes that we consider in this document.

Additionally, during the Committee’s November 5, 2007 conference call with ERG, the GOMC Evaluation Committee asked ERG to modify how it considers Goal 1C(i) (Non-government organizations working to conserve coastal lands have an increased understanding of the need to restore and monitor regionally significant coastal habitats). Specifically, we were asked to modify the focus from “non-governmental organizations” to “organizations” (in general) to better encompass activities that are targeting local governments also.¹

Appendix A includes the table of funded activities that are considered within the scope of this document. The appendix table also is a translation of activities and outcomes from the Council’s draft logic model (dated July 2006) to the published activities and outcomes in the *Action Plan*.

The Evaluation Committee recognized that the published wording of activities and outcomes in the *Work Plan* were not as detailed as they might be and that as a result they should be further elaborated by the appropriate committees at some point.

¹ Based on discussions during that meeting, this focus would better take into account how the activities leading to that outcome have been implemented.

Table 2-1. Short-term Outcomes from GOMC Action Plan that are Partially Funded

Outcome Number^[a]	Outcome
1B	Coastal lawmakers have a greater understanding of how to minimize adverse effects of land-based activities on the coastal environment.
1C(i)	Organizations ^[b] working to conserve coastal lands have an increased understanding of the need to restore and monitor regionally significant coastal habitats.
1C(ii)	Local, non-profit, and corporate sources are aware of the need to increase funding for the restoration of regionally significant coastal habitats on public and private lands.
1D	Coastal lawmakers, decision-makers, and managers working at the Gulf of Maine scale have an increased understanding of how to apply ecosystem-based management to conserve and protect Gulf of Maine habitats and resources.
2A	Coastal lawmakers have increased knowledge about the need to reduce releases of priority pollutants that affect the Gulf of Maine
2B	Adults living in coastal communities of the Gulf of Maine have increased awareness about how their lifestyle choices affect the condition of the marine environment.
3	The level of participation in Council activities by marine-dependent industry representatives is increased.

^[a] ERG has added a numbering scheme to help facilitate discussion. The first numeral indicates the goal that the outcome is connected with. For outcomes in goal 1, the letter indicates the track the outcome is associated with. The roman numeral indicates the order of the outcomes. For example, 1C(ii), indicates goal 1, track: habitat restoration, second outcome.

^[b] The Committee modified “non-governmental organizations” to “organizations” to better encompass activities that are targeting local governments also.

2.2 Analytical Approach

In developing a strategy for evaluating GOMC’s success at obtaining aspects of the short-term outcomes that are funded, ERG has identified a set of steps that should be followed. Most of these steps will need to be performed by GOMC committees; therefore ERG has provided as much guidance in these steps as is possible. The first step (identifying funded activities) was completed under Section 2.1 above, but should include additional review by the relevant GOMC committees.

The approach for evaluating GOMC’s progress at obtaining its short-term outcomes is a five-step process.

Step 1—Identify funded activities within each short-term outcome. Under this step, we link the activities with funding to GOMC’s short-term outcomes. This process formed Section 2.1 above and Appendix A of this report. In each section that follows, we provide lists of the funded activities associated with each short-term outcome in Table 2-1.

Step 2—Define key terms. This step helps to define the scope of the measurement process. Many of GOMC’s short-term outcomes relate to increasing the understanding of a particular audience (e.g., policy maker, non-governmental organizations). Breaking down the outcome into key phrases to define the terms will help GOMC develop targeted evaluation questions.

Step 3—Develop a more complete link between activities and short-term outcome. A key aspect of evaluating outcomes is to understand the linkages between the outcomes on the one hand and the activities designed to generate those outcomes on the other hand. GOMC’s *Action Plan* contains a high-level logic model

that primarily links short-, mid-, and long-term outcomes to the three GOMC goals. The *Action Plan* also provides some information on the activities that will contribute to each outcome, but does not provide details on those activities or how those activities would contribute to each outcome.² The *Work Plan* lists the activities that GOMC has planned for the 18-month period starting January 2007 and provides an indication of what activities in the *Work Plan* relate to which short-term outcomes from the *Action Plan*. In developing strategies for the short-term outcomes, GOMC should develop linkages between the “Major tasks/milestones” and the “Deliverables” identified for each activity in the *Work Plan* to the associated short-term outcomes. In other words, GOMC should identify *how* the outputs, products, and outcomes from the activities will contribute to the realization of short-term outcomes. In developing these strategies, ERG has provided a table under each short-term outcome to provide a starting point for developing these more detailed linkages.

Step 4—Identify key metrics. The statements of some of GOMC’s short-term outcomes still reflect concepts that need further refinement before they can be measured. For example, a number of the outcomes refer to “an increase in understanding.” For this to be measured, “increased understanding” would need to be defined in measurable terms. For example, “understanding” could be defined as the percentage of targeted individuals that answer a question (or set of questions) correctly. Thus, an “increased understanding” would be a measurement of the increase in the as-defined understanding over time. In each section that follows, ERG provides some ideas on how the metrics should be formulated.

Step 5—Collect data and measure results. Finally, GOMC will need a plan to collect the data and measure its results. ERG provides ideas for each outcome in the sections that follow.

3.0 SHORT-TERM OUTCOME 1B: COASTAL LAWMAKERS HAVE A GREATER UNDERSTANDING OF HOW TO MINIMIZE ADVERSE EFFECTS OF LAND-BASED ACTIVITIES ON THE COASTAL ENVIRONMENT

3.1 Step 1—Funded Activities

Based on our review of GOMC’s logic model and funding information, ERG determined that only one *funded* activity feeds into this outcome:

- *Activity 1.8: Implement the Council’s Strategy for Gulf of Maine (GOM) Ecosystem Indicators and State of the Environment Report.* [Committee: Ecosystem Indicator Partnership Committee (ESIP)]. This cross-cutting task includes six supporting subcommittees that are working to develop indicators (Some data discovery, analysis tasks and creation of web tools are being conducted through the current GeoConnections initiative.).

3.2 Step 2—Define Key Terms

The first step in developing a strategy for evaluating outcome 1B is to define the scope and the key terms for the outcome. Based on our reading of the outcome wording, ERG suggests that the following terms should be defined:

- *Coastal lawmaker*—The *Action Plan* defines them as “legislators and elected officials at the federal, state, and provincial levels who have financial and legislative responsibility for coastal and marine

² Review of the GOMC’s draft logic model indicates that the GOMC identified additional short-term outcomes that were not included in the published logic model of the *Action Plan* (e.g., cumulative impacts are understood and factored into upland, coastal, and marine planning and management processes). Development of more detailed linkages between outcomes and activities would allow GOMC to incorporate those “new” outcomes into GOMC’s overall logic model framework.

issues.” GOMC can further refine this definition by determining whether this would include only applicable legislative committee members and/or those whose districts border the GOM.

- *Land-based activities*—What are the particular land-based activities that GOMC wants lawmakers to learn about?
- *Greater Understanding*—What is GOMC’s goal in increasing the understanding of coastal lawmakers? How do we measure an increase in understanding?
- *Adverse effects*—What are the most important adverse effects that should be tracked under this measurement process? There are too many adverse effects to reasonably consider all.

3.3 Step 3—Develop More Complete Links Between Activities and Outcomes

The purpose of this step is to link funded activities and the short-term outcomes more explicitly by focusing on how the task/milestones and deliverables/outputs accomplish the short-term outcome. Table 3-1 below provides a starting point for this by linking the funded activities, their major tasks/deliverables (from the *Work Plan*), and their deliverables/outputs (also from the *Work Plan*). Additionally, ERG has provided some issues to consider in developing these connections to short-term outcome 1B. GOMC should consider the linkages in Table 3-1 not as a final statement of how the linkages occur, but rather as a starting point for development of a more detailed link to the outcome.

The GOMC Evaluation Committee has initiated a discussion with the ESIP Committee co-chairs and staff regarding current activities. Presently there is very limited funding to support ESIP data output and the education of lawmakers. It may be advisable for the Evaluation Committee and the ESIP Committee to determine some “bridge” outcomes. For example, the Committee has discussed measuring education materials dissemination and the lawmakers’ intent to act based on receiving the materials. These measures are more immediate and attainable within a 1-2 year timeframe.

Table 3-1. Review of Funded Activities, Tasks, and Outputs that Link to the Short-term Outcome 1B
(Coastal lawmakers have a greater understanding of how to minimize adverse effects of land-based activities on the coastal environment)

Funded Activity	Major tasks/milestone	Deliverables/outputs	Issues to Consider in Developing the Connection
1.8: Implement the Council’s Strategy for GOM Ecosystem Indicators and State of the Environment Report	<ul style="list-style-type: none"> Task 1: Focus Groups 		<ul style="list-style-type: none"> Regional resource managers will learn about trends in the focus areas – how does this outcome connect results of indicators with land-based activities and outreach to lawmakers?
	<ul style="list-style-type: none"> Create and support Indicator Focus Groups 	<ul style="list-style-type: none"> Formalization of focus groups List of priority regional indicators 	
		<ul style="list-style-type: none"> Published framework for regional reporting 	
	<ul style="list-style-type: none"> Task 2: Climate Change 		<ul style="list-style-type: none"> Intermediate steps
	<ul style="list-style-type: none"> Identify habitats of interest and relevant indicators for each 	<ul style="list-style-type: none"> List of potential indicators to track 	
	<ul style="list-style-type: none"> Convene workshop to identify priority climate change indicators 	<ul style="list-style-type: none"> List of priority indicators to track 	<ul style="list-style-type: none"> GOMC recognized as a clearing house for regional indicator development – how does this task connect results with land-based activities and outreach to lawmakers. Would it be more appropriate to link to a funding development goal?
<ul style="list-style-type: none"> Develop suite of priority climate change indicators and determine trends on a regional and local scale 	<ul style="list-style-type: none"> Preliminary report on indicator trends 		
<ul style="list-style-type: none"> Produce final report and recommendation to Council 		<ul style="list-style-type: none"> ERG identified no issues for this task/milestone. 	

3.4 Step 4—Identify Key Metrics and Goals for Those Metrics

The next step will be to specify the metrics that will be used to gauge an increase in lawmakers’ understanding. ERG suggests that GOMC ask the following questions of coastal lawmakers:

“From the list that follows, please identify the top three threats to coastal marine environments:”

GOMC would need to generate a list for the lawmakers to choose from. Examples of items that could populate the list include:

- The effect of climate change and rising sea levels
- Land-based pollutants that drain into ocean waters

- Sewage dumped into ocean waters
- Oil tanks and other ships transporting hazardous materials

GOMC should identify what the “correct” answer is ahead of time. In developing the list, GOMC should make the list challenging to lawmakers (i.e., it should not be easy to identify the top three threats). Additionally, the list should be related to materials that GOMC has distributed. The measure of awareness in this context is the percentage of lawmakers that can correctly identify all three of the top three threats. An implication of this approach, however, is that GOMC is only one entity that provides relevant information. Thus, it might not be possible for GOMC to claim credit for all of the increased in knowledge. Nevertheless, if the follow-up survey instruments also ask about use and usefulness of GOMC materials, then GOMC would have some basis for claiming that its materials contributed to an increased understanding if respondents indicated that they both used the GOMC materials and found them useful.

3.5 Step 5—Collect Data and Measure Results

To measure lawmakers’ understanding, ERG recommends that GOMC undertake a survey of coastal lawmakers. The survey would involve asking the question defined in Section 3.4 above, as well as other questions that GOMC would want to ask of coastal lawmakers.³ GOMC will need to develop a list of coastal lawmakers and their e-mail addresses.⁴ We expect that this e-mail list can be developed through publicly available sources.

In terms of implementation, ERG recommends GOMC perform a *web-based* survey (i.e., hosted on a web-site and distributed via e-mail).⁵ We suggest conducting a baseline survey during 2008 and then performing follow-up surveys annually. Ideally, GOMC would have targeted some materials or activities at lawmakers between the baseline and follow-up surveys.⁶ Thus, the follow-up surveys would reflect, to some degree, the impact of those materials/activities on lawmakers’ awareness.⁷ The questions that are asked should not change between the baseline and follow-up surveys.

ERG recommends using the following implementation approach:

- *Send a pre-notification e-mail.* GOMC should send a pre-notification e-mail to let each potential respondent know that a survey will be coming that emphasizes the importance of their participation.
- *Send an e-mail with a link to the survey.* GOMC should send an e-mail with a link to the survey to each respondent.⁸ This announcement would be sent approximately 3-5 days following the pre-notification e-mail.

³ Increased understanding of lawmakers is also covered under short-term outcome 1D and 2A. One survey that covers each of these outcomes would be the best approach.

⁴ This would be done using the definition of coastal lawmakers under Step 2.

⁵ There are a number of low-cost and reputable survey-hosting sites available. ERG has had good experience using Survey Monkey (<http://www.surveymonkey.com/>), which GOMC may already have a license for. ERG also hosts more advanced web surveys using a product called WebSurveyor.

⁶ To account for this, the survey should ask about what GOMC materials that lawmakers have seen, as well as materials from other sources that the lawmakers have seen.

⁷ However, it may not be possible to fully attribute changes in awareness to GOMC activities and materials. The reason for this is that we have no way of know what other information lawmakers are receiving.

⁸ Once GOMC has developed an e-mail list, the process of sending the survey e-mail out to multiple recipients would be handled by the online survey site/software.

- *Send reminders to each respondent that have not responded.* After 7 days, GOMC should send a reminder e-mail to non-respondents.⁹ Another reminder should be sent 7 days following the first reminder.

Once baseline data have been collected the survey software can tabulate the responses, especially those that deal with the metric that will be used to gauge performance. Once follow-up data have been collected, GOMC should calculate the increase in the percentage of lawmakers that correctly identify the top three land-based threats to coastal marine environments from the baseline to the follow-up survey. Additionally, GOMC should perform a statistical test to determine whether the increase in understanding is statistically significant. Appendix B, Section B.1 provides formulas that can be used to calculate this difference. Appendix C of this report provides details on the resource needs for this type of survey.

4.0 SHORT-TERM OUTCOME 1C(i): ORGANIZATIONS WORKING TO CONSERVE COASTAL LANDS HAVE AN INCREASED UNDERSTANDING OF THE NEED TO RESTORE AND MONITOR REGIONALLY SIGNIFICANT COASTAL HABITATS (RSCH)

In developing an evaluation strategy for this short-term outcome, ERG’s concern is that the wording of the outcome may not lend itself easily to outcome measurement. Specifically, the outcome is concerned with an “increased understanding.” This term may be hard to define for measurement purposes. The mid-term outcomes related to this short-term outcome, however, may present better measurement opportunities. The mid-term outcomes are:

- Partners leverage and invest funds in restoration of identified RSCH.
- NGOs increase funding for restoration.
- Public agencies and NGOs have better technical and financial capacity to undertake restoration.

ERG suggests that the first two are more amenable to outcome measurement due to their focus on funding. The third would need a definition of “technical and financial capacity.” For this reason, ERG suggests that the first two mid-term outcomes are better oriented towards measurement.

Additionally, ERG reviewed GOMC’s *Gulf of Maine Baseline Data Information: A Survey of the Science, Policy, and Management Communities in the Gulf of Maine* (September 1998) to determine if it would be feasible to use its data as baseline information in the evaluation strategy. We do not believe the information can be used due to:

- The specific questions asked are not available, which makes exact replication difficult.
- The *Gulf of Maine Almanac*, from which the survey population was drawn, is no longer current, making it difficult to survey the same population.
- The age of data is almost 10 years.

Therefore, ERG recommends GOMC use the summarized results of the 1998 survey as part of anecdotal discussions in future evaluations when relevant.

⁹ Many online survey programs are able to tell which e-mail addresses have completed the survey.

4.1 Step 1—Funded Activities

Based on our review of GOMC’s logic model and funding information, ERG determined that the following funded activities feed into this outcome:

- *Activity 1.1: Continue to offer competitive Habitat Restoration Grant.* [Committee: Habitat Restoration Subcommittee (HRSC)]. This activity has historically awarded \$1.5 million for habitat restoration, which has leveraged significant matching funds. Specific tasks include development of a request for proposals, assistance to potential grant applicants, review of letters of intent and applications, and grant management.
- *Activity 1.2: Improve the Habitat Restoration Web Portal and increase users visiting the site.* [Committee: HRSC]. Under this task, a contractor is hired to develop the capacity and content of the web portal with assistance from HRSC regarding database information (e.g., web-based mapping and project descriptions). Additionally, this activity includes outreach via the *GOM Times* and other tools to notify people about the site.
- *Activity 1.3: Complete production of report from 2006 barrier removal monitoring workshop; develop dissemination strategy to include limited hardcopies and web-based access to report.* [Committee: HRSC]. Last year GOMC held a workshop to develop a standardized monitoring protocol for river barrier removals. This year’s work plan is to develop the final document and disseminate the information.
- *Activity 1.5: Prepare regional criteria to identify coastal habitats at risk from sea level rise, extreme precipitation, and other climate change impacts, and integrate into restoration decision-making.* [Committee: CCN]. This activity is designed to develop information that will help decision makers with coastal habitat restoration based on the future environment.
- *Activity 1.6: Compile and disseminate information on coastal habitats and watersheds at risk due to climate change.* [Committee: CCN]. The CCN Coordinator is tasked with identifying existing research on significant habitats and watersheds and climate change impacts. The Coordinator will work with other Committees to map those impacts and to develop an outreach strategy to convey this information to lawmakers and non-profit organizations.
- *Activity 1.16: Educate about the importance and value of salt marshes and American eels.* [Committee: HRSC]. Two primers, and associated brochures, are being refined for target audiences in order to educate them about the importance of salt marshes and the American eel. An outreach strategy for the materials will be developed and implemented.

4.2 Step 2—Define Key Terms

The first step in developing a strategy for evaluating outcome 1C(i) and/or its associated mid-term outcomes is to first define the scope and definition of phrases in the stated outcome. In particular:

- *Organizations*—During the November 5, 2007 Evaluation Committee Conference Call, the group decided to focus on organizations that had received GOMC grant money under Activity 1.1. The *Work Plan* does not indicate that Activity 1.1 feeds into this short-term outcome, but the evaluation committee felt there is a strong relationship between the Activity and this short-term outcome.¹⁰

¹⁰ According to the Work Plan, Activity 1.1. feeds into the short-term outcome, “Local, non-profit, and businesses are aware of the need to increase funding for the restoration of regionally significant coastal habitats on public and private

- *Regionally Significant Coastal Habitats (RSCHs)*—A term used by GOMC for habitats that the Council has identified as regional priorities for management, protection, and restoration. In the early 1990’s the Council and its partners conducted several pilot mapping efforts to locate RSCH. These maps are now dated and need to be reviewed by the HRSC to determine if they are still valid. Further, whether new mapping is needed or if other approaches will suffice.
- *Partners, NGOs, and public agencies*—What organizations would fit within these categories?
- *Restoration*—What activities constitute restoration activities?
- *Better technical and financial capacity*—What constitutes “better” capacity?
- *Increased understanding*—GOMC should define what it means by increased understanding under this short-term outcome. Is GOMC looking to measure whether these organizations can define the need for or understand the importance of restoration? Or does increased understanding mean something else in this context?

4.3 Step 3—Develop More Complete Links Between Activities and Outcomes

The purpose of this step is to link funded activities and the short-term outcomes more explicitly by focusing on how the task/milestones and deliverables/outputs accomplish the short-term outcome. Table 4-1 below provides a starting point for this by linking the funded activities, their major tasks/deliverables (from the *Work Plan*), and their deliverables/outputs (also from the *Work Plan*). Additionally, ERG has provided some issues to consider in developing these connections to the short-term outcome 1C(i). GOMC should consider the linkages in Table 4-1 not as a final statement of how the linkages occur, but rather as a starting point for development of a more detailed link to the outcome.

Table 4-1. Review of Funded Activities, Tasks, and Outputs that Link to the Short-term Outcome 1C(i) (Organizations working to conserve coastal lands have an increased understanding of the need to restore and monitor regionally significant coastal habitats)

Funded Activity	Major tasks/milestone	Deliverables/outputs	Issues to Consider in Developing the Connection
1.1: Continue to offer competitive Habitat Restoration Grant	<ul style="list-style-type: none"> • Development of an RFP, assistance to potential grant applicants, review of LOIs and applicants, grant management 	<ul style="list-style-type: none"> • Funded restoration projects • GOMC should establish press releases/fact sheets and other outreach output goals 	<ul style="list-style-type: none"> • Weak connection to short-term outcome without explicit, outcome oriented outreach strategy

lands.” However, during our discussions, it was clear that GOMC feels that there is a stronger relationship with the short-term outcome

Funded Activity	Major tasks/milestone	Deliverables/outputs	Issues to Consider in Developing the Connection
1.2: Improve the Habitat Restoration Web Portal and increase users visiting the site.	<ul style="list-style-type: none"> • Update web portal 	<ul style="list-style-type: none"> • Accessible and complete web portal 	<ul style="list-style-type: none"> • Describe how measuring statistics from the website supports increased understanding and funding?
	<ul style="list-style-type: none"> • Strategy to maintain the site and for on-going updates 		<ul style="list-style-type: none"> • How does assessment of updating needs over time support increased understanding and funding?
1.3 Complete production of report from 2006 barrier removal monitoring workshop; develop dissemination strategy to include limited hardcopies and web-based access to report.	<ul style="list-style-type: none"> • Prepare document 	<ul style="list-style-type: none"> • Final barriers protocols 	<ul style="list-style-type: none"> • Intermediate step
	<ul style="list-style-type: none"> • Complete outreach strategy 	<ul style="list-style-type: none"> • Outreach strategy 	<ul style="list-style-type: none"> • Document in the hands of restoration practitioners and is being applied–It would be more appropriate to evaluate both the short-term increase in understanding and the related mid-term outcome.
1.5: Prepare regional criteria to identify coastal habitats at risk from sea level rise, extreme precipitation, and other climate change impacts, and integrate into restoration decision-making.	<ul style="list-style-type: none"> • Research existing restoration plans for degraded coastal habitats and watersheds and estimate cost 	<ul style="list-style-type: none"> • Criteria for identifying coastal habitats at risk 	<ul style="list-style-type: none"> • ERG sees these as intermediate steps in a logic model framework that sets the foundation for increasing understanding of the need to restore and monitor RSCH
	<ul style="list-style-type: none"> • Estimate whether restored habitat will be viable for short-, mid-, or long-term 	<ul style="list-style-type: none"> • Methodology for evaluating climate change risk and restoration difficulty 	
	<ul style="list-style-type: none"> • Compare cost against viability to identify highest priority restoration projects 	<ul style="list-style-type: none"> • List and/or maps of priority restoration projects 	
	<ul style="list-style-type: none"> • Develop criteria for coastal habitats at risk 		
	<ul style="list-style-type: none"> • Work with decision makers to incorporate these criteria into their restoration decision making process 	<ul style="list-style-type: none"> • Outreach strategy, including presentations to decision makers 	
1.6: Compile and disseminate information on coastal habitats and	<ul style="list-style-type: none"> • Identify significant coastal habitats and watersheds 	<ul style="list-style-type: none"> • List of significant coastal habitats 	<ul style="list-style-type: none"> • Data to disseminate to coastal lawmakers and NGOs

Funded Activity	Major tasks/milestone	Deliverables/outputs	Issues to Consider in Developing the Connection
watersheds at risk due to climate change.	<ul style="list-style-type: none"> • Superimpose risk maps for various impacts of climate change 	<ul style="list-style-type: none"> • Map of areas at risk from climate change 	<ul style="list-style-type: none"> • Graphic demonstration of impact of climate change
	<ul style="list-style-type: none"> • Evaluate overall level of risk for each location based on sensitivity to individual impacts and likelihood or severity of such impacts 		
	<ul style="list-style-type: none"> • Produce risk maps 	<ul style="list-style-type: none"> • Outreach strategy 	<ul style="list-style-type: none"> • None identified
	<ul style="list-style-type: none"> • Communicate results to decision makers 		
1.16: Educate about the importance and value of salt marshes and American eels.	<ul style="list-style-type: none"> • Identify target audience, develop campaign strategy, and finalize documents 	<ul style="list-style-type: none"> • Final primer and fact sheets 	<ul style="list-style-type: none"> • None identified
	<ul style="list-style-type: none"> • Disseminate and distribute final products 	<ul style="list-style-type: none"> • Distribution/campaign strategy to increase awareness and funding 	<ul style="list-style-type: none"> • Number of target audience receives primers and fact sheets

4.4 Step 4—Identify Key Metrics and Goals for Those Metrics

As noted above, ERG expects that two of the mid-term outcomes are better oriented toward measurement due to their wording. The following table provides suggestions for metrics that could be used for both of the mid-term outcomes. Tracking these two metrics will provide an indication of how well GOMC is attaining its mid-term outcomes.

Mid-Term Outcome	Proposed Metric to Measure Outcome
Partners leverage and invest funds in restoration of identified RSCH.	The amount of funding for RSCH restoration projects reported by a core set of partners. [a]
NGOs increase funding for restoration.	The amount of funding (and the increase over time in that funding) for RSCH restoration projects reported by a core set of NGOs. [a]

[a] The concept of a core set of partners and NGOs is discussed in Section 4.5 below.

4.5 Step 5—Collect Data and Measure Results

The process for collecting data from organizations that fit the definition that will be established under Step 2 above will involve contacting those organizations and obtaining information on the metrics that will be defined under Step 4. ERG expects the best way to do this will be to perform the following steps:

- Identify a set of organizations that form the “core group” of organizations involved in this area. This should be done immediately following the development of a definition of organizations under Step 2 above.

- GOMC should contact the “core group” and obtain agreements with the organizations to supply information over time. GOMC should explain why it is collecting the information (i.e., for performance measurement purposes). ERG expects that some organizations will refuse to be involved. If so, GOMC should focus its data collection and measurement on organizations that have agreed to supply the information to GOMC.¹¹ Furthermore, it may be necessary to limit the number of organizations from which data are collected to ensure that data can be collected within resource constraints.
- At the time GOMC obtains agreements from the organizations to supply data, GOMC should also obtain data for a baseline year. GOMC should ensure that the data are measured over the same time frame for each organization (e.g., over calendar years).¹²
- GOMC should collect the same data from the organizations that agreed to supply information each year. One issue that GOMC should deal with each year is to ensure that the data being collected from each organization are comparable over time.

Using this approach, GOMC will be able to collect baseline and follow-up data to measure progress toward the mid-term outcomes listed in Step 2. Appendix C of this report provides details on the resource needs for this type of measurement project.

5.0 SHORT-TERM OUTCOME 1C(ii): LOCAL, NON-PROFIT, AND CORPORATE SOURCES ARE AWARE OF THE NEED TO INCREASE FUNDING FOR THE RESTORATION OF REGIONAL SIGNIFICANT COASTAL HABITATS ON PUBLIC AND PRIVATE LANDS

5.1 Step 1—Funded Activities

Based on our review of GOMC’s logic model and funding information, ERG determined that the following funded activities feed into this outcome:

- *Activity 1.1: Continue to offer competitive Habitat Restoration Grant.* [Committee: HRSC]. This activity has historically awarded \$1.5 million for habitat restoration, which has leveraged significant matching funds. Specific tasks include development of a request for proposals, assistance to potential grant applicants, review of letters of intent and applications, and grant management.
- *Activity 1.2: Improve the Habitat Restoration Web Portal and increase users visiting the site.* [Committee: HRSC]. Under this task, a contractor is hired to develop the capacity and content of the web portal with assistance from HRSC regarding database information (e.g., web-based mapping and project descriptions). Additionally, this activity includes outreach via the *GOM Times* and to non-profit organizations to notify people about the site.
- *Activity 1.4: Collaborate with foundation community to accelerate support of local restoration activities.* [Committee: HRSC]. This task requires the Committee to update foundations about the recent successes and remaining habitat restoration challenges.

¹¹ GOMC should guarantee confidentiality to organizations that agree to supply information.

¹² This last aspect, ensuring that data are measured over the same time period, may be a challenge given that some organizations will be state and local government organizations which may have fiscal years that differ from the calendar year. If information on when (i.e., in what month) monies were allocated is not available, ERG suggests using a simple adjustment to the numbers: assume that any money allocated within a certain year is equally distributed across months.

- *Activity 1.16: Educate about the importance and value of salt marshes and American eels.* [Committee: HRSC]. Two primers, and associated brochures, are being refined for target audiences to educate about the importance of restoration of salt marshes and eels, which has been petitioned to be added to threaten species status. An outreach strategy for the materials will be developed and implemented.

5.2 Step 2—Define Key Terms

The first step in developing a strategy for evaluating outcome 1C(ii) is to first define the scope and definition of phrases in the stated outcome. In particular:

- *Local, non-profit, and corporate sources*—GOMC may identify a number of smaller target audiences for this outcome (e.g., organizations applying for restoration grants; foundations engaged under Activity 1.4; recipients of the HRSC products under Activity 1.16; firms identified in Activity 3.1 (industrial sector engagement)).
- *Regionally Significant Coastal Habitats (RSCHs)* — A term used by GOMC for habitats that the Council has identified as regional priorities for management, protection, and restoration. There is a dated list of the types of RSCH so evaluations can focus specially on these habitats of interest.

5.3 Step 3—Develop More Complete Links Between Activities and Outcomes

The purpose of this step is to link funded activities and the short-term outcomes more explicitly by focusing on how the task/milestones and deliverables/outputs accomplish the short-term outcome. Table 5-1 below provides a starting point for this by linking the funded activities, their major tasks/deliverables (from the *Work Plan*), and their deliverables/outputs (also from the *Work Plan*). Additionally, ERG also provided a set of issues to consider in developing connections to short-term outcome 1C(ii). GOMC should consider the linkages in Table 5-1 not as a final statement of how the linkages occur, but rather as a starting point for development of a more detailed link to the outcome.

Table 5-1. Review of Funded Activities, Tasks, and Outputs that Link to the Short-term Outcome 1C(ii) (*Local, non-profit, and corporate sources are aware of the need to increase funding for the restoration of regional significant coastal habitats on public and private lands*)

Funded Activity	Major tasks/milestone	Deliverables/outputs	Issues to Consider in Developing the Connection
1.1: Continue to offer competitive Habitat Restoration Grant	<ul style="list-style-type: none"> • Development of an RFP, assistance to potential grant applicants, review of LOIs and applicants, grant management 	<ul style="list-style-type: none"> • Funded restoration projects • GOMC should establish press releases/fact sheets and other outreach output goals 	<ul style="list-style-type: none"> • Weak connection to short-term outcome without outreach strategy or is it more appropriate for midterm outcomes?[a]
1.2: Improve the Habitat Restoration Web Portal	<ul style="list-style-type: none"> • Update web portal 	<ul style="list-style-type: none"> • Accessible and complete web portal 	<ul style="list-style-type: none"> • Measure statistics from website use

Funded Activity	Major tasks/milestone	Deliverables/outputs	Issues to Consider in Developing the Connection
and increase users visiting the site.	<ul style="list-style-type: none"> • Strategy to maintain the site and for on-going updates 		<ul style="list-style-type: none"> • GOMC will need to determine how to link maintaining the site and performing on-going updates explicitly to the short-term outcome
1.4: Collaborate with foundation community to accelerate support of local restoration	<ul style="list-style-type: none"> • Convene a working meeting to develop a strategy for accelerating the engagement of local interests, in collaboration with foundation community, in habitat restoration. 	<ul style="list-style-type: none"> • Meeting with foundations 	<ul style="list-style-type: none"> • Increase in knowledge about GOM restoration
		<ul style="list-style-type: none"> • Strategy for connecting foundations with habitat restoration 	<ul style="list-style-type: none"> • Amount of funds and in-kind support offered by foundations
1.16: Educate about the importance and value of salt marshes and American eels.	<ul style="list-style-type: none"> • Identify target audience, develop campaign strategy, and finalize documents 	<ul style="list-style-type: none"> • Final primer and fact sheets 	<ul style="list-style-type: none"> • Number of primers and fact sheets
	<ul style="list-style-type: none"> • Disseminate and distribute final products 	<ul style="list-style-type: none"> • Distribution/campaign strategy to increase awareness and funding 	<ul style="list-style-type: none"> • Number of target audience receives primers and fact sheets

[a] Partners leverage and invest funds in restoration; Organizations increase funding for restoration

5.4 Step 4—Identify Key Metrics and Goals for Those Metrics

This short-term outcome focuses on awareness. Specifically, the metric will need to measure the collective awareness of organizations’ about the need for increased funding for restoration of RSCHs. To do this, we suggest that GOMC develop a set of questions that can be used to measure awareness among a group of local, non-profit, and corporate sources. For example, GOMC should develop a set of questions that asks respondents to rate their agreement with a series of statements. These statements would reflect issues related to RSCHs funding issues. For example, one potential question could be:

To what extent do you agree with the following statement: RSCHs¹³ are in significant peril?

Strongly agree
 Somewhat agree
 Somewhat disagree
 Strongly disagree

Additional questions could be included to ask respondents about funding and other related issues for restoration. GOMC should also determine what responses to the questions exhibit respondents’ awareness of the need for increased funding for RSCHs. For example, for the above question, a response that exhibits awareness might be

¹³ If this term is presented to respondents, it would need to be defined for them.

“strongly agree.” Alternatively, a response exhibiting awareness might also be “strongly agree” or “somewhat agree.” Furthermore, the criteria for what constitutes an “aware” response might vary from question to question.¹⁴ To assess awareness, GOMC should calculate the percentage of questions answered by respondents that exhibited awareness. For example, if 20 respondents were asked 3 questions, then what percentage of the 60 questions asked (20 respondents multiplied by 3 questions each) exhibited awareness. GOMC would need to perform the survey annually to assess changes over time.

Prior to performing the first survey, GOMC should define a target level of awareness. For example, GOMC may target 80 percent awareness. The first survey may show that baseline awareness is much lower. Subsequent surveys would then track GOMC’s progress toward increasing awareness toward the goal level. Furthermore, GOMC’s actions and priorities in this area should be influenced by the difference between the baseline level of awareness and the targeted level. For example, if baseline awareness is 20 percent and the targeted level is 80 percent, then GOMC should be undertaking significant actions to increase awareness. If, on the other hand, baseline awareness is 75 percent (with a target of 80 percent), then GOMC may need to do less to reach the goal.

5.5 Step 5—Collect Data and Measure Results

Collecting data for this outcome will require performing a survey of “local, non-profit, and corporate sources” as defined under Step 2 above. ERG expects that measuring results for this outcome will be challenging for two reasons:

1. Identifying a set of “local, non-profit, and corporate sources” that are in-scope will be difficult.
2. The cost of performing the survey may be higher than the other suggested data collections that have been discussed above.

Nevertheless, we expect the most reliable and valid source of information for measuring this outcome will be a survey. Furthermore, we expect that a survey of approximately 50 in-scope organizations would provide sufficient data to measure the metric discussed in Step 4 above.¹⁵ Based on our experience, a small phone survey such as this performed by a reputable telephone survey firm would cost approximately \$45 per complete response, or somewhere under \$3,000 to have this implemented.¹⁶ A mail survey would cost significantly less than this. However, in ERG’s experience phone surveys tend to be more reliable in reaching a targeted number of responses (i.e., 50 organizations in this case) than a mail survey. As noted by GOMC evaluation committee members, however, a mail survey may be more appropriate for this audience and may cost significantly less.

In this sense, the bigger issue becomes developing a list of in-scope potential respondents. GOMC should take this into account when developing its definition under Step 2. One approach to implementation is to focus the survey on a subset of organizations that fit the definition and that are easily identified. This alternative, however, would imply that GOMC’s performance under this outcome would be measured only for the group where the focus of the survey was placed.¹⁷

¹⁴ That is, for some questions, both “strongly agree” and “somewhat agree” constitute an aware response while for other questions, only a “strongly agree” response constitutes an aware responses. Furthermore, questions can also be phrased so that the “disagree” responses also constitute an aware response.

¹⁵ This estimate is based on some general statistical criteria as well as ERG’s best professional judgment. The pure statistical criteria that we used generated an estimate of 45 respondents. However, we expect that additional data should be obtained to increase the validity of the responses also.

¹⁶ Alternatively, GOMC could budget funding each year and have GOMC staff perform the survey.

¹⁷ For example, if GOMC used a very limited focus for this and surveyed just local governments, then GOMC’s progress under this goal could only be assessed for local governments.

The steps in performing this data collection (as a phone survey) include the following:

1. Identify a set of local, non-profit, and corporate sources that will be the target of the data collection.
2. Determine whether to survey all or just a subset of the identified local, non-profit, and corporate sources. ERG suggests that GOMC use the following table to determine how many sources to survey using a phone survey. GOMC should attempt to obtain *completed surveys* from the number of sources identified in the table below.

Number of sources identified	Number of completed surveys that should be obtained
Less than 20	All sources identified
20-100	20 sources
More than 100	One-fifth of the sources identified

Note: These sample sizes represent a rule of thumb approach to collecting data from a sample. That is, we have provided a simple approach to calculating sample size given the total number of sources. Assuming that sources are selected randomly from the list, data collected using this approach will be statistically valid.

3. If less than all sources will be surveyed, select a random sample of the sources to contact. This can be done using the instructions in Appendix B, Section B.2.
4. Perform a phone survey of the sources using either GOMC staff to ask the questions or hiring a reputable telephone survey company.

In the event that GOMC would rather perform this as a mail survey, GOMC should perform the following steps:

1. Identify a set of local, non-profit, and corporate sources that will be the target of the data collection.
2. Determine whether to survey all or just a subset of the identified local, non-profit, and corporate sources. ERG suggests that GOMC use the following table to determine how many sources to survey using a mail survey. The numbers in the table below reflect the number of surveys that should be mailed out.

Number of sources identified	Number of sources to send out mails surveys to
Less than 50	All sources identified
50-100	50 sources
More than 100	One half of the sources identified

Note: These sample sizes represent a rule of thumb approach to collecting data from a sample. That is, we have provided a simple approach to calculating sample size given the total number of sources. Assuming that sources are selected randomly from the list, data collected using this approach will be statistically valid.

3. If less than all sources will be mailed survey, select a random sample of the sources to contact. This can be done using the instructions in Appendix B, Section B.2.
4. Perform a mail survey of the sources using GOMC staff to send out, collect, and then tabulate the questions or hiring a reputable survey data collection company.

Appendix C of this report provides details on the resource needs for these surveys.

6.0 SHORT-TERM OUTCOME 1D: COSTAL LAWMAKERS, DECISION-MAKERS, AND MANAGERS WORKING AT THE GULF OF MAINE SCALE HAVE AN INCREASED UNDERSTANDING OF HOW TO APPLY ECOSYSTEM-BASED MANAGEMENT TO CONSERVE AND PROTECT GULF OF MAINE HABITATS AND RESOURCES

6.1 Step 1—Funded Activities

Based on our review of GOMC's logic model and funding information, ERG determined that the following funded activities feed into this outcome:

- *Activity 1.11: Complete documentation of existing coastal/marine managed areas in Canadian portion of the GOM that build on existing inventories.* [Committee: Habitat Conservation Subcommittee (HCSC)]. The purpose of this activity is to fill in gaps in current inventories, particularly Canadian portions of the GOM, in order to develop a comprehensive manual of marine managed areas for use by public and non-profit decision makers.
- *Activity 1.12: Support the mapping of priority areas identified in the Gulf of Maine Mapping Initiative 2-year work plan.* [Committee: Gulf of Maine Mapping Initiative Subcommittee (GOMMI)]. Under this activity, GOMMI plans to build partnerships, identify support, and coordinate efforts to produce seafloor maps. These maps are important tools in increasing awareness of the diverse marine habitats of the GOM ecosystem.
- *Activity 1.5: Prepare regional criteria to identify coastal habitats at risk from sea level rise, extreme precipitation, and other climate change impacts, and integrate into restoration decision-making.* [Committee: CCN]. This activity is designed to develop information that will help decision makers with coastal habitat restoration based on the future environment.
- *Activity 1.6: Compile and disseminate information on coastal habitats and watersheds at risk due to climate change.* [Committee: CCN]. The CCN Coordinator is tasked with identifying existing research on significant habitats and watersheds and climate change impacts. The Coordinator will work with other Committees to map those impacts and to develop an outreach strategy to convey this information to lawmakers and non-profit organizations.
- *Activity 1.8: Implement the Council's Strategy for Gulf of Maine (GOM) Ecosystem Indicators and State of the Environment Report.* [Committee: Ecosystem Indicator Partnership Committee (ESIP)]. This cross-cutting task includes six supporting subcommittees that are working to develop indicators (Some data discovery, analysis tasks and creation of web tools are being conducted through the current GeoConnections initiative.).
- *Activity 1.10: Develop framework for ecosystem characterization that integrates existing chemical, physical, and biological knowledge as well as human use activities. Integrate sub-regional efforts and commence in 2007 with a region-wide workshop.* [Committee: Ad-hoc Steering Committee (Council, COMPASS, MOPF, etc.)]. Work conducted for this activity includes working in partnership to create a conceptual and operational EBM framework. .
- *Activity 1.13: Facilitate communication about sub-tidal habitat classification methodologies in the Gulf of Maine and work toward a consistent approach and communicate with decision-makers.* [Committee: HCSC]. The purpose of this activity is to discover the classification methodologies that are in development and those that have been used outside GOM. GOMC will then convene experts to discuss the various classification schemes and build toward a consensus on which methodology is preferred for use in GOM.

6.2 Step 2—Define Key Terms

The GOMC *Action Plan* describes ecosystem-based management as an integrated approach to management that considers the entire ecosystem, including humans. In the past, management strategies typically have focused exclusively on single species, which often has not been successful because of complex interactions of species and environmental processes result in ecosystem changes. GOMC will need to define other wording in the outcome, such:

- *Coastal lawmaker, decision-maker, and managers working at the GOM scale*—The GOMC *Action Plan* indicates that these individuals include commercial fisherman and marine trade organizations, environmental organizations, in addition to governments. Based on our understanding of GOMC’s objectives, these individuals should be ones that make decisions that impact the GOM.¹⁸ Furthermore, some consideration will need to be given to what the “GOM scale” means.
- *Increased understanding*—GOMC should better define what it is looking for in terms of increased understanding under this short-term outcome.
- *Ecosystem-based management*—GOMC should identify a set of EBM principles and focus this measurement under this goal on one or more of them as it is unlikely that anyone is practicing all EBM principles in the same project/program.

As will be discussed below under Section 6.4, GOMC should consider limiting scope in terms of targeted audience of any data collection associated with this short-term outcome. Specifically, the set of individuals that fall into the category of “coastal lawmaker, decision-maker, and managers” can be quite large. Some options to limit the scope of data collection could be to focus on just coastal lawmakers, commercial fisherman, and marine trade organizations.

6.3 Step 3—Develop More Complete Links Between Activities and Outcomes

The purpose of this step is to link funded activities and the short-term outcomes more explicitly by focusing on how the task/milestones and deliverables/outputs accomplish the short-term outcome. Table 6-1 below provides a starting point for this by linking the funded activities, their major tasks/deliverables (from the *Work Plan*), and their deliverables/outputs (also from the *Work Plan*). Additionally, ERG also provided a set of issues to consider in developing connections to short-term outcome 1D. The logic model would detail the link between each of the activities (funded and unfunded) in GOMC’s *Work Plan* to outcomes for those activities and ultimately outcome 1D.¹⁹ GOMC should consider the linkages in Table 6-1 not as a final statement of how the linkages occur, but rather as a starting point for development of a more detailed link to the outcome.

¹⁸ The mid-term outcome associated with this short-term outcome is “Managers and regulators implement effective marine management initiatives and programs.”

¹⁹ Review of the GOMC’s July 2006 draft logic model indicates that the GOMC identified additional short-term outcomes that were not included in the published logic model of the *Action Plan* (e.g., Partners know the suite of management/conservation options available to help protect marine habitats). Development of a more detailed logic model for short-term outcome 1D would allow GOMC to incorporate those “new” outcomes into GOMC’s overall logic model framework.

Table 6-1. Review of Funded Activities, Tasks, and Outputs that Link to the Short-term Outcome 1D (Costal lawmakers, decision-makers, and managers working at the Gulf of Maine scale have an increased understanding of how to apply ecosystem-based management to conserve and protect Gulf of Maine habitats and resources)

Funded Activity	Major tasks/milestone	Deliverables/outputs	Issues to Consider in Developing the Connection
1.11: Complete documentation of existing coastal/marine managed areas in Canadian portion of the GOM that build on existing inventories.	<ul style="list-style-type: none"> • Create and distribute a manual of Canadian marine managed areas and habitats 	<ul style="list-style-type: none"> • Manual and maps 	<ul style="list-style-type: none"> • Identify intermediate steps
	<ul style="list-style-type: none"> • Create and implement a dissemination plan 	<ul style="list-style-type: none"> • Outreach strategy 	<ul style="list-style-type: none"> • Survey public and NGOs decision makers to determine how marine managed area manual is being used
1.12: Support the mapping of priority areas identified in the Gulf of Maine Mapping Initiative 2-year work plan	<ul style="list-style-type: none"> • Create and implement sea mapping outreach and education plan 	<ul style="list-style-type: none"> • Presentations 	<ul style="list-style-type: none"> • Outreach plan needs to link how these education efforts will increase understanding
	<ul style="list-style-type: none"> • Produce semi annual e-newsletter 	<ul style="list-style-type: none"> • 4 e-newsletters over 2 years 	
	<ul style="list-style-type: none"> • Create educational seafloor mapping kiosks 	<ul style="list-style-type: none"> • 1 kiosk installed 	
	<ul style="list-style-type: none"> • Conduct groundtruthing field work on Cashes Ledge 	<ul style="list-style-type: none"> • Groundtruthing data 	<ul style="list-style-type: none"> • ERG identified no issues for this task/milestone.
	<ul style="list-style-type: none"> • Conduct data analysis and map production 	<ul style="list-style-type: none"> • Data analysis and maps 	<ul style="list-style-type: none"> • Percent of GOM for which benthic maps exist
	<ul style="list-style-type: none"> • Develop press releases regarding ongoing work and availability of new maps 	<ul style="list-style-type: none"> • Press releases 	<ul style="list-style-type: none"> • ERG identified no issues for this task/milestone.
	<ul style="list-style-type: none"> • Convene a workshop on applications and limitation of new benthic habitat maps 	<ul style="list-style-type: none"> • Workshop 	<ul style="list-style-type: none"> • The strength of the linkage will depend on the amount of logistical and financial support applied to benthic habitat mapping
	<ul style="list-style-type: none"> • Post GOM habitat mapping coverage map on web 	<ul style="list-style-type: none"> • New information on web 	<ul style="list-style-type: none"> • ERG identified no issues for this task/milestone.

Funded Activity	Major tasks/milestone	Deliverables/outputs	Issues to Consider in Developing the Connection
<p>1.5: Prepare regional criteria to identify coastal habitats at risk from sea level rise, extreme precipitation, and other climate change impacts, and integrate into restoration decision-making.</p>	<ul style="list-style-type: none"> • Research existing restoration plans for degraded coastal habitats and watersheds and estimate cost 	<ul style="list-style-type: none"> • Criteria for identifying costal habitats at risk 	<ul style="list-style-type: none"> • Intermediate step that sets the foundation of information for increasing understanding of the need to restore and monitor RSCH
	<ul style="list-style-type: none"> • Estimate whether restored habitat will be viable for short, medium, or long term 	<ul style="list-style-type: none"> • Methodology for evaluating climate change risk and restoration difficulty • List and/or maps of priority restoration projects 	<ul style="list-style-type: none"> • ERG identified no issues for this task/milestone.
	<ul style="list-style-type: none"> • Compare cost against viability to identify highest priority restoration projects 	<ul style="list-style-type: none"> • To be determined 	<ul style="list-style-type: none"> • ERG identified no issues for this task/milestone.
	<ul style="list-style-type: none"> • Develop criteria for coastal habitats at risk 	<ul style="list-style-type: none"> • To be determined 	<ul style="list-style-type: none"> • ERG identified no issues for this task/milestone.
	<ul style="list-style-type: none"> • Work with decision makers to incorporate these criteria into their restoration decision making process 	<ul style="list-style-type: none"> • Outreach strategy, including presentations to decision makers 	<ul style="list-style-type: none"> • Use of methodology by decision makers in several jurisdictions
<p>1.6: Compile and disseminate information on coastal habitats and watersheds at risk due to climate change</p>	<ul style="list-style-type: none"> • Identify significant coastal habitats and watersheds 	<ul style="list-style-type: none"> • List of significant coastal habitats 	<ul style="list-style-type: none"> • Data to disseminate to coastal lawmakers and non-profit organizations
	<ul style="list-style-type: none"> • Superimpose risk maps for various impacts of climate change 	<ul style="list-style-type: none"> • Map of areas at risk from climate change 	<ul style="list-style-type: none"> • Graphic demonstration of impact of climate change
	<ul style="list-style-type: none"> • Evaluate overall level of risk for each location based on sensitivity to individual impacts and likelihood or severity of such impacts 	<ul style="list-style-type: none"> • To be determined 	<ul style="list-style-type: none"> • ERG identified no issues for this task/milestone.
	<ul style="list-style-type: none"> • Produce risk maps 	<ul style="list-style-type: none"> • To be determined 	<ul style="list-style-type: none"> • ERG identified no issues for this task/milestone.
<ul style="list-style-type: none"> • Communicate results to decision makers 	<ul style="list-style-type: none"> • Outreach strategy 	<ul style="list-style-type: none"> • ERG identified no issues for this task/milestone. 	

Funded Activity	Major tasks/milestone	Deliverables/outputs	Issues to Consider in Developing the Connection
1.8: Implement the Council's Strategy for GOM Ecosystem Indicators and State of the Environment Report	• Task 3: GeoConnections Initiative		
	• Complete data discovery, user requirements, web development RFP	• To be determined	• Intermediate step where select monitoring data providers will know how to register metadata and data sets
	• Register metadata, data services, report on sensor web enablement	• Registered metadata and data sets with documented procedures	
	• Develop/test web-based display of synthesized nutrient and contaminant data	• Web tools	• Web services is recognized as the means for exchange and synthesis of GOM data – how does this task connect with land-based activities and outreach to lawmakers?
	• Develop report, presentations to user community, press releases	• Report and user outreach	• Target audience use of materials
	• Task 4: Habitat		
	• Identify priority indicators for regional reporting within a tiered monitoring framework	• To be determined	• GOMC recognized as a clearing house for regional indicator development – how does this task connect results with land-based activities and outreach to lawmakers. Would it be more appropriate to link to a funding development goal?
	• Populate the habitat monitoring web tool with existing data on salt marsh and seagrass vegetation indicators	• On-line web tool with existing data on salt marsh and seagrass vegetation indicators	• An outreach strategy to make users aware of the tool
	• Expand the habitat monitoring web tool to include additional indicators	• To be determined	• None identified
	• Publish framework for regional reporting of habitat and climate change indicators	• To be determined	• None identified

Funded Activity	Major tasks/milestone	Deliverables/outputs	Issues to Consider in Developing the Connection
<p>1.10: Develop framework for ecosystem characterization that integrates existing chemical, physical, and biological knowledge as well as human use activities. Integrate sub-regional efforts and commence in 2007 with a region-wide workshop</p>	<ul style="list-style-type: none"> • Develop workshop objectives and agenda 	<ul style="list-style-type: none"> • Workshop proceedings document including recommendations 	<ul style="list-style-type: none"> • Diversity and commitment of workshop organizers to making the event successful
	<ul style="list-style-type: none"> • Convene workshop 		<ul style="list-style-type: none"> • Specific and actionable workshop recommendations
	<ul style="list-style-type: none"> • Produce a report and recommendations 		
<p>1.13: Facilitate communication about sub-tidal habitat classification methodologies in the Gulf of Maine and work toward a consistent approach and communicate with decision-makers</p>	<ul style="list-style-type: none"> • Identify emerging classification methodologies 	<ul style="list-style-type: none"> • Description of methodologies/preliminary assessment 	<ul style="list-style-type: none"> • Survey public and NGO decision makers prior to meeting to document how many are aware of habitat classification projects and how they may improve management
	<ul style="list-style-type: none"> • Convene experts to approach consensus on a preferred methodology for GOM, identify variables that are most essential to decision makers, determine what minimum info must be available for the preferred classification methodology to be implemented 	<ul style="list-style-type: none"> • Workshop and proceedings 	<ul style="list-style-type: none"> • None identified
	<ul style="list-style-type: none"> • Complete proceeding, provide online and publicize outcomes to decision makers and agencies 	<ul style="list-style-type: none"> • Materials in <i>GOM Times</i> 	<ul style="list-style-type: none"> • Survey public and NGO decision makers to see method of accessing the proceedings and consider ways to use products from the preferred habitat classification methodologies in their decision making and planning.
	<ul style="list-style-type: none"> • Public outreach on methodology 		

6.4 Step 4—Identify Key Metrics and Goals for Those Metrics

The next step will be to specify the metrics that will be used to gauge an increased in understanding of the target audience defined in Step 2.²⁰ As with short-term outcome 1B (Section 3), this outcome deals with increased understanding. Thus, GOMC should formulate questions that can gauge the target audience’s understanding of how to apply ecosystem-based approaches to management. We expect that the best approach here will be to formulate a set of true/false questions related to GOM ecosystem management issues. GOMC would then gauge understanding by counting the percentage of correct answers from among those that are surveyed. For example, if 50 respondents were asked 10 true/false questions, then GOMC should calculate what percentage of the 500 questions (50 respondents multiplied by 10 questions each) were answered correctly.

Prior to performing the first survey, GOMC should define a target level of understanding. For example, GOMC may determine that “costal lawmakers, decision-makers, and managers working at the Gulf of Maine scale” are able to answer more than 90 percent of the questions correctly in the survey. The first survey would provide a level of baseline awareness. Subsequent surveys would then track GOMC’s progress toward increasing understanding toward GOMC’s goal. Furthermore, GOMC’s actions and priorities in this area should be influenced by the difference between the baseline level of understanding and the targeted level. For example, if the baseline survey indicates that respondents only answer 50 percent of the questions correctly and the targeted level is 90 percent, then GOMC should be undertaking significant actions to increase understanding. If, on the other hand, the baseline survey shows that respondents are able to answer 75 percent of the questions correctly, then GOMC may need to do less to reach the goal.

6.5 Step 5—Collect Data and Measure Results

To measure understanding for this outcome, ERG recommends that GOMC undertake a survey of coastal lawmakers and one other group of individuals that would fit the definition GOMC develops under Step 1 above. This would limit the scope of the measurement from “costal lawmakers, decision-makers, and managers” to just a subset of those individuals. However, limiting the scope of the measurement would allow GOMC to leverage its resources better and would be more affordable and repeatable over time. We divide our discussion among coastal lawmakers and a second (undefined) group.

Coastal Lawmakers

For coastal lawmakers, this survey should be combined with the survey being proposed under short-term outcome 1B and 2A, both of which involve increased understanding of coastal lawmakers. This would allow GOMC to meet the measurement requirements for all three outcomes in one survey. As with short-term outcome 1B, GOMC should first develop a list of coastal lawmakers and their e-mail addresses. We expect that this e-mail list can be developed through publicly available sources.

Implementation of the survey should follow the guidelines detailed in Section 3.5 above.

Once data have been collected, GOMC should calculate the percentage of questions that were answered correctly among the respondents. For example, if the questions for this outcome in survey consisted of 10 true/false questions and 50 coastal lawmakers responded, then GOMC should calculate what percentage of the 500 questions were answered correctly.

Once follow-up data have been collected, GOMC should calculate the increase in understanding based on the difference between the baseline and the follow-up surveys. Additionally, GOMC should perform a

²⁰ As will be discussed below in Step 5 (Section 6.5), ERG suggests that GOMC limit to focus of the data collection to a subset of individuals that are covered by this outcome.

statistical test to determine whether the increase in understanding is statistically significant. Details on how to perform this statistical test appear in Appendix B, Section B.1. Appendix C of this report provides details on the resource needs for this type of survey.

A Second Group

GOMC should also consider performing a survey of at least one other group that would fit the definition of “costal lawmakers, decision-makers, and managers.” The reason for this is that coastal lawmakers may be a too narrowly defined group to assess progress on attaining this outcome. The group, however, should be one that is targeted by the activities listed in Table 6-1. Further discussion with the appropriate committees would be required to identify which other group should be targeted and the appropriate data collection to follow.

7.0 SHORT-TERM OUTCOME 2A: COASTAL LAWMAKERS HAVE INCREASED KNOWLEDGE ABOUT THE NEED TO REDUCE RELEASES OF PRIORITY POLLUTANTS THAT AFFECT THE GULF OF MAINE

7.1 Step 1—Funded Activities

Based on our review of GOMC’s logic model and funding information, ERG determined that the following funded activities feed into this outcome:

- *Activity 2.1: Develop and disseminate tools for managers to use Gulfwatch data and analyses through partnerships with other regional efforts.* [Committee: Gulfwatch Subcommittee]. This activity includes documenting the needs of coastal managers for Gulfwatch data/analysis and then based on these results develop priority tools, products, and services.
- *Activity 2.2: Integrate recommendations from the scientific review, continue to conduct the Gulfwatch Program and disseminate results.* [Committee: Gulfwatch Subcommittee]. Under this activity, GOMC will continue to implement the Gulfwatch program, to prepare and present a response to an independent review of the Gulfwatch program (from a scientific prospective), and convey the results of monitoring program to lawmakers and other targeted audiences.

7.2 Step 2—Define Key Terms

The first step in developing a strategy for evaluating outcome 2A is to define the scope and definition of phrases in the stated outcome. In particular:

- *Coastal lawmaker*— The *Action Plan* defines them as “legislators and elected officials at the federal, state, and provincial levels who have financial and legislative responsibility for coastal and marine issues.” GOMC can further refine this definition by determining whether this would include only applicable legislative committee members and/or whose districts border the GOM.
- *Priority pollutants*—The Gulfwatch Subcommittee will need to define how many and what pollutants coastal lawmakers should be made most aware of. Are these pollutants where coastal lawmakers can enact consistent standards and guidelines to reduce contaminant releases (i.e., a mid-term outcome).
- *Increased knowledge*—GOMC should better define what it is looking for in terms of increased knowledge.

7.3 Step 3—Develop More Complete Links Between Activities and Outcomes

The purpose of this step is to link funded activities and the short-term outcomes more explicitly by focusing on how the task/milestones and deliverables/outputs accomplish the short-term outcome. Table 7-1 below provides a starting point for this by linking the funded activities, their major tasks/deliverables (from the *Work Plan*), and their deliverables/outputs (also from the *Work Plan*). Additionally, ERG also provided a set of issues to consider in developing connections to short-term outcome 2A. GOMC should consider the linkages in Table 7-1 not as a final statement of how the linkages occur, but rather as a starting point for development of a link to the outcome.

Table 7-1. Review of Funded Activities, Tasks, and Outputs that Link to the Short-term Outcome 2A (Coastal lawmakers have increased knowledge about the need to reduce releases of priority pollutants that affect the Gulf of Maine)

Funded Activity	Major tasks/milestone	Deliverables/outputs	Issues to Consider in Developing the Connection
2.1: Develop and disseminate tools for managers to use Gulfwatch data and analyses through partnerships with other regional efforts	• Secure funding to support effort and hire contractor	• Activity funded	• First step
	• Identify audience and conduct interviews	• Report documenting the needs of coastal managers for Gulfwatch data/analysis	• Need to link how documentation of coastal manager needs and resulting products/services supports GOMC’s goal of increasing coastal lawmakers knowledge
	• Report results to workgroup and Council		
	• Produce 2-3 priority products/services	• 2-3 priority products/services	
2.2: Integrate recommendations from the scientific review, continue to conduct the Gulfwatch Program and disseminate results	• Conduct Gulfwatch program (collect and analyze samples)	• Gulfwatch annual data reports and peer review papers	
	• Prepare response to independent Gulfwatch Program Review	• 2007-2016 program recommendation presented to Council	• Scientific evaluation to provide credibility to program
	• Enable the Contaminants Committee and the Habitat Monitoring Subcommittee to be successful	•	• Intermediate step to support other tasks
	• Synthesize and communicate monitoring results	• Articles in <i>GOM Times</i> • Up todate Gulfwatch and Contaminant webpages	• Track number of education programs and materials presented to lawmakers.

7.4 Step 4—Identify Key Metrics and Goals for Those Metrics

ERG expects that the best approach here will be to follow the approach for collecting data from coastal lawmakers outlined under short-term outcomes 1B (Section 3) and 1D (Section 6). In particular, the approach for 1D would be the best approach. That is, GOMC should formulate a set of true/false questions to “test” knowledge of coastal lawmakers and then use those questions in a web-based survey of coastal lawmakers.

Thus, the metric being employed here is the percentage of questions that are answered correctly by coastal lawmakers. For example, if the questions for this outcome in survey consisted of 10 true/false questions and 50 coastal lawmakers responded, then GOMC should calculate what percentage of the 500 questions were answered correctly.

7.5 Step 5—Collect Data and Measure Results

The questions for this outcome can be included in the same survey as those for short-term outcomes 1B and 1D which would leverage GOMC’s resources. Sections 3.5 and 6.5 above provide details on implementation and calculating results for this type of data collection. Appendix C of this report provides details on the resource needs for this type of survey.

8.0 SHORT-TERM OUTCOME 2B: ADULTS LIVING IN COASTAL COMMUNITIES OF THE GULF OF MAINE HAVE INCREASED AWARENESS ABOUT HOW THEIR LIFESTYLE CHOICES AFFECT THE CONDITION OF THE MARINE ENVIRONMENT

8.1 Step 1—Funded Activities

Based on our review of GOMC’s logic model and funding information, ERG determined that only one funded activity feeds into this outcome:

- *Activity 2.5: Raise awareness of requirements, best management practices, and innovative technologies in sewage management and on-site residential septic systems.* [Committee: Sewage Subcommittee]. In conjunction with the Atlantic Region National Program of Action, GOMC plans to develop and conduct a workshop session on on-site sewage management (best management practices and innovative technologies) for inclusion in a related conference to be held in the Gulf region.

8.2 Step 2—Define Key Terms

The first step in developing a strategy for evaluating outcome 2B is to first define the scope and definition of phrases in the stated outcome. In particular:

- *Adults living in coastal communities*—GOMC will need to define what areas (or places) should be consider “coastal communities” for this outcome. Also “adults” is a very broad audience and GOMC should consider focusing on a certain age-range or find some other way of narrowing down the scope of this measurement process.
- *Lifestyle choices*—The funded activity of 2.5 focuses on sewage management and on-site residential septic systems. GOMC should identify those lifestyle choices that flow into the mid-term outcome where “residents of GOM’s watershed implement voluntary lifestyle actions to reduce their use and release of contaminants.”

8.3 Step 3—Develop More Complete Links Between Activities and Outcomes

The purpose of this step is to link funded activities and the short-term outcomes more explicitly by focusing on how the task/milestones and deliverables/outputs accomplish the short-term outcome. Table 8-1 below provides a starting point for this by linking the funded activities, their major tasks/deliverables (from the *Work Plan*), and their deliverables/outputs (also from the *Work Plan*) to issues to consider in developing

connections to short-term outcome 2B. GOMC should consider the linkages in Table 8-1 not as a final statement of how the linkages occur, but rather as a starting point for development of a link to the outcome.

Furthermore, ERG recommends to the Evaluation Committee that a “bridge” outcome may be needed to evaluate this outcome since current efforts are focused on educating regulatory agencies instead of “adults living in coastal communities.”

Table 8-1. Review of Funded Activities, Tasks, and Outputs that Link to the Short-term Outcome 2B
(Adults living in coastal communities of the Gulf of Maine have increased awareness about how their lifestyle choices affect the condition of the marine environment)

Funded Activity	Major tasks/milestone	Deliverables/outputs	Issues to Consider in Developing the Connection
2.5: Raise awareness of requirements, best management practices, and innovative technologies in sewage management and on-site residential septic systems.	<ul style="list-style-type: none"> Collection of case study information 	<ul style="list-style-type: none"> Select known sewage indicators to evaluate the environmental and human health quality of receiving waters 	<ul style="list-style-type: none"> Intermediate step to be able to educate residents in GOM
		<ul style="list-style-type: none"> Prepare a resource document from information gathered from the jurisdictional survey and from interview responses, for internal Sewage Task Force use only 	<ul style="list-style-type: none"> Intermediate step to understand and collaborate other efforts in the region on this topic
		<ul style="list-style-type: none"> Prepare a technical report on current best management practices 	<ul style="list-style-type: none"> Need a bridge between this document, which is designed for regulatory agencies and “adults”
	<ul style="list-style-type: none"> Develop and conduct a GOM workshop session on on-site sewage management 	<ul style="list-style-type: none"> Prepare a detailed draft outline of a workshop program Session held 	<ul style="list-style-type: none"> Need a bridge between this event, which is designed for regulatory agencies and “adults”
	<ul style="list-style-type: none"> Prepare workshop proceedings 	<ul style="list-style-type: none"> Workshop proceedings 	<ul style="list-style-type: none"> Need a bridge between this document, which is designed for regulatory agencies and “adults”
	<ul style="list-style-type: none"> Implement online survey of workshop participants 	<ul style="list-style-type: none"> Survey 	<ul style="list-style-type: none"> Evaluates the activity to educate

8.4 Step 4—Identify Key Metrics and Goals for Those Metrics

The next step will be to specify the metrics that will be used to gauge the understanding of adults as defined in 8.2 regarding the impact of their lifestyle choices. In the *Action Plan*, GOMC identified a wide range of lifestyle choice-related impacts including use of sewage and septic systems, chemical usage, lawn

maintenance, and land development. To do this, GOMC will need to develop a set of questions that should gauge adults' understanding of the impact of these lifestyle choices on the marine environment. ERG expects the best approach is to develop a set of true/false questions that can be asked of adults living in GOM coastal communities. Thus, the metric that will be measured will be the percentage of questions that are answered correctly by the adults living the local community. For example, if 140 adults were asked 10 questions each, then GOMC should calculate the percentage of the 1,400 questions (140 respondents multiplied by 10 questions each) that were answered correctly.

8.5 Step 5—Collect Data and Measure Results

To measure adults' understanding, GOMC will need to undertake a survey of adults living in coastal communities. GOMC should first identify a set of towns and/or counties to be the focus of the survey. This could either be the full set of places that meet the definition in Section 8.2 above or a subset of those places. GOMC should then perform a telephone survey of adults living in those communities. Telephone survey companies will be able to locate appropriate lists of adults to use as part of the survey. ERG suggests that about 140 responses should be obtained from adults living in coastal communities each year.²¹ Appendix C of this report provides details on the resource needs for this type of survey.

9.0 SHORT-TERM OUTCOME 3A: THE LEVEL OF PARTICIPATION IN COUNCIL ACTIVITIES BY MARINE-DEPENDENT INDUSTRY REPRESENTATIVES IS INCREASED

9.1 Step 1—Funded Activities

Based on our review of GOMC's logic model and funding information, ERG determined that the following funded activities feed into this outcome:

- *Activity 3.1: Develop options for greater industry engagement, collaboration/participation and implement the most favorable options.* [Committee: Sustainable Industries and Communities Committee (SICC)] The purpose of this task is to develop a strategy for engaging industry to support GOMC goals.
- *Activity 3.2: Support industry sustainability awards program.* [Committee: SICC] GOMC will develop and award annual GOMC Sustainability Awards for marine-based industries that demonstrate commitment to sustainability in the way they do business.

9.2 Step 2—Define Key Terms

The SICC engagement strategy to engage with industry should define the following items:

- *Marine-dependent Industry*—Are there particularly important sectors that GOMC believes should be involved and/or would provide key support? For example the draft logic model specifies tourism and the bivalve shellfish industry.
- *Representatives*—Are efforts going to be focused on trade associations and/or businesses?

²¹ This value is based on the fact that GOMC will be comparing the data over time. We used some basic statistical criteria to develop this number.

- *Participation*—Is their involvement going to be tracked in terms of attending events, responding to outreach materials, submitting applications to the awards, volunteering time to be part of a Committee, or in financial and/or in-kind contributions to GOMC?

9.3 Step 3—Develop More Complete Links Between Activities and Outcomes

The purpose of this step is to link funded activities and the short-term outcomes more explicitly by focusing on how the task/milestones and deliverables/outputs accomplish the short-term outcome. Table 9-1 below provides a starting point for this by linking the funded activities, their major tasks/deliverables (from the *Work Plan*), and their deliverables/outputs (also from the *Work Plan*) to issues to consider in developing connections to short-term outcome 3A. GOMC should consider the linkages in Table 9-1 not as a final statement of how the linkages occur, but rather as a starting point for development of a link to the outcome.

Table 9-1. Review of Funded Activities, Tasks, and Outputs that Link to the Short-term Outcome 3A (*The level of participation in Council activities by marine-dependent industry representatives is increased*)

Funded Activity	Major tasks/milestone	Deliverables/outputs	Issues to Consider in Developing the Connection
3.1: Develop options for greater industry engagement, collaboration/participation and implement the most favorable options	<ul style="list-style-type: none"> • Develop report re: role of industry in similar organizations/initiatives, effective measures of engagement, expectations and responsibilities, options for the Council 	<ul style="list-style-type: none"> • Report presented to Council 	<ul style="list-style-type: none"> • Active industry participation in the creation of the report
	<ul style="list-style-type: none"> • Develop Council’s strategy for engagement of industry 	<ul style="list-style-type: none"> • Strategy 	<ul style="list-style-type: none"> • Industry engagement across the three goals
3.2: Support industry sustainability awards program	<ul style="list-style-type: none"> • Develop program details 	<ul style="list-style-type: none"> • Council approval of program details 	<ul style="list-style-type: none"> • Intermediate step
	<ul style="list-style-type: none"> • Issue call for nominations 	<ul style="list-style-type: none"> • Media kit, advertising, and call for nominations 	<ul style="list-style-type: none"> • Number of nominations/applications increases by 10% annually for the first 5 years
	<ul style="list-style-type: none"> • Awards granted 	<ul style="list-style-type: none"> • <i>GOM Times</i> article and press release regarding winners 	<ul style="list-style-type: none"> • Indirect action to encourage participation, however positive PR for industry make increase their continued support

9.4 Step 4—Identify Key Metrics and Goals for Those Metrics

GOMC has already refined the metric in its *Work Plan* as:

- Increase by 10 percent annually for the first 5 years, the number of nominations/applications for the sustainability award program

Thus, ERG expects that this metric will remain in effect for this outcome.

9.5 Step 5—Collect Data and Measure Results

The metric defined above can be measured by tracking nominations/applications for the awards program.

Appendix A: Funded Outcomes and Activities

During the September 10, 2007, kickoff call with the Gulf of Maine Council (GOMC) evaluation committee, ERG clarified with the evaluation committee that only funded activities and outcomes would be included within the evaluation scope of work. In this appendix ERG connected the highlighted activities and outcomes²² from the draft logic models with the GOMC *Action Plan* (2007 - 2012) and *Work Plan* (2007 - 2008). The Committee agreed the official outcome/activity language from the *Action Plan* would be the basis of the evaluation text since the document is in the public domain. Since the language did change between the draft logic models and the *Action Plan*, ERG verified assumptions used to create Tables A-1 to A-3 with several members of the evaluation committee.

²² Betsy Nicholson, a committee member, sent as a handout to the kickoff call the draft logic models from July 2006. Prior to sending out the models, she highlighted funded items.

Table A-1. Identification of Funded Activities for GOMC Evaluation Goal 1 – Protect and Restore Habitats

Short-term Outcome From Action Plan	Short-term Outcome From Logic Model	Highlighted Activities from Logic Model	Activities from Work Plan
1B. Coastal lawmakers have a greater understanding of how to minimize adverse effects of land-based activities on the coastal environment.	Cumulative impacts are understood and factored into upland, coastal, and marine planning and management processes.	Work with partners to develop coastal development and eutrophication indicators to assess impacts of land-based activities and produce State of the Gulf reports.	1.8 Implement the Council’s strategy for GOM Ecosystem Indicators and State of the Environment Report, including Gulf of Maine Times articles and translating science tasks.
	Lawmakers, coastal business, and landowners are knowledgeable and ready to take action to minimize adverse effects of land-based activities on the coastal environment.	Organize a distribution and engagement strategy for best management practices (e.g., coastal erosion structures and on-site sewage maintenance).	2.5 Raise awareness of requirements, best management practices, and innovative technologies in sewage management and on-site residential septic systems.

Table A-1 Continued

Short-term Outcome From Action Plan	Short-term Outcome From Logic Model	Highlighted Activities from Logic Model	Activities from Workplan (Jan. 2007 – July 2008)
<p>1C(i). Non-governmental organizations working to conserve coastal lands have an increased understanding of the need to restore and monitor regionally significant coastal habitats.</p>	<p>Increased knowledge and appreciation for the need of restoration of regionally significant costal habitat (communities, lawmakers, and NGOs)</p>	<p>Maintain and improve Habitat Restoration Web Portal updating and upgrading what is currently on the portal.</p>	<p>1.2 Improve the Habitat Restoration Web Portal and increase users visiting the site.</p>
	<p>Practitioners are knowledgeable about monitoring standards for the removal of barriers on rivers.</p>	<p>Convene workshop to bring together practitioners to develop barrier removal monitoring standards.(Completed) Synthesize and disseminate results of barrier removal monitoring workshop.</p>	<p>1.3 Complete production of report from 2006 barrier removal monitoring workshop; develop dissemination strategy to include limited hardcopies and web-based access to report.</p>
<p>1C(ii). Local, non-profit, and corporate sources are aware of the need to increase funding for the restoration of regional significant coastal habitats on public and private lands.</p>	<p>NGOs are engaged in habitat restoration activities.</p>	<p>Continue to run competitive habitat restoration grant program.</p>	<p>1.1 Continue to offer competitive Habitat Restoration Grant.</p>
		<p>Convene follow-up meeting with foundations for funding support for habitat restoration in the Gulf.</p>	<p>1.4 Collaborate with foundation community to accelerate support of local restoration activities.</p>

Table A-1 Continued

Short-term Outcome From Action Plan	Short-term Outcome From Logic Model	Highlighted Activities from Logic Model	Activities from Workplan (Jan. 2007 – July 2008)
<p>1D. Coastal lawmakers, decision-makers, and managers working at the Gulf of Maine scale have an increased understanding of how to apply ecosystem-based management to conserve and protect Gulf of Maine habitats and resources.</p>	<p>Partners can identify regionally significant marine habitats.</p>	<p>Develop framework for ecosystem characterization that integrates existing chemical, physical, and biological knowledge as well as human use activities.</p>	<p>1.10 Develop framework for ecosystem characterization that integrates existing chemical, physical, and biological knowledge as well as human use activities. Integrate sub-regional efforts and commence in 2007 with a region-wide workshop.</p>
		<p>Complete documentation (e.g., identify habitats and associated species) of existing coastal/marine management areas in the Gulf of Maine.</p>	<p>1.11 Complete documentation of existing coastal/marine managed areas in Canadian portion of the Gulf of Maine that builds on existing inventories.</p>
		<p>Support mapping of priority areas identified in the Gulf of Maine Mapping Initiative 2-year work plan.</p>	<p>1.12 Support the mapping of priority areas identified in the Gulf of Maine Mapping Initiative 2-year work plan.</p>
		<p>Facilitate communication about sub-tidal habitat characterization methodologies in GOM and work toward a consistent approach (not highlighted)</p>	<p>1.13 Facilitate communication about sub-tidal habitat classification methodologies in GOM and work toward a consistent approach and communicate with decision-makers.</p>
	<p>Partners know the suite of management /conservation options (e.g., policy tools to achieve and maintain threshold systems, etc.) available to help protect marine habitats.</p>	<p>Identify most significant conflicting policies and programs that are impeding an ecosystem-based approach and the effects of these conflicts include an evaluation of cumulative effect that these programs and policies have on ecosystem services. Suggest ways to reconcile these conflicts and offer a vision for the GOM building on current statutes.</p>	<p>1.19 Support and enable the interaction of existing programs that are implementing elements of an ecosystem-based approach through professional development, agreements, and capacity building.</p>

Table A-1 Continued

Short-term Outcome From Action Plan	Short-term Outcome From Logic Model	Highlighted Activities from Logic Model	Activities from Workplan (Jan. 2007 – July 2008)
<p>1D. Coastal lawmakers, decision-makers, and managers working at the Gulf of Maine scale have an increased understanding of how to apply ecosystem-based management to conserve and protect Gulf of Maine habitats and resources.</p>	<p>Partners understand ecosystem dynamics and use that understanding in decision-making.</p>	<p>Develop framework for ecosystem characterization that integrates existing chemical, physical, and biological knowledge as well as human use activities.</p>	<p>1.5 Prepare regional criteria to identify coastal habitats at risk from sea level rise, extreme precipitation and other climate change impacts and integrate into restoration decision-making.</p>
		<p>Complete documentation (e.g., identify habitats and associated species) of existing coastal/marine management areas in the GOM.</p>	<p>1.6 Compile and disseminate information on coastal habitats and watersheds at risk due to climate change.</p>
		<p>Develop, track, and report on habitat integrity indicators at multiple scales, including the effects of climate change.</p>	<p>1.8 Implement the Council’s strategy for GOM Ecosystem Indicators and State of the Environment Report.</p>
	<p>Partners are knowledgeable of species that reside in significant marine habitats.</p>	<p>Complete documentation (e.g., identify habitats and associated species) of existing coastal/marine management areas in the Gulf of Maine.</p>	
		<p>Develop, track, and report on habitat integrity indicators at multiple scales, including the effects of climate change.</p>	
		<p>Synthesize and display existing regional monitoring data on salt marsh and seagrass habitat indicators. Subsequently expand to include salt marsh and eelgrass vegetation indicators.</p>	<p>1.16 Educate about the importance and value of salt marshes and American eels.</p>

Table A-2. Identification of Funded Activities for GOMC Evaluation Goal 2 – Foster Environmental and Human Health

Short-term Outcome from Action Plan	Short-term Outcome from Logic Model	Highlighted Activities from Logic Model	Activities from Workplan (Jan. 2007 – July 2008)
2A. Coastal lawmakers have increased knowledge about the need to reduce releases of priority pollutants that affect the Gulf of Maine.	Lawmakers are knowledgeable about creating and achieving consistent standards and guidelines that reduce contaminant releases.	Develop and disseminate tools for managers to use Gulfwatch data and analyses.	2.1 Develop and disseminate tools for managers to use Gulfwatch data and analyses through partnerships with other regional efforts.
		Based on recommendations from the 9-year review, continue implementation of the Gulfwatch Program.	2.2 Integrate recommendations from the scientific review, continue to conduct the Gulfwatch Program, and disseminate results.

Table A-3. Identification of Funded Activities for GOM Evaluation for Goal 3 – Support Vibrant Communities

Short-term Outcome from Action Plan	Short-term Outcome from Logic Model	Highlighted Activities from Logic Model	Activities from Workplan (Jan. 2007 – July 2008)
3. The level of participation in Council activities by marine-dependent industry representatives is increased.	Representatives of marine dependent industries related to geotourism, tidal power/wind energy generation and commercial (e.g., wild and aquaculture) bivalve shellfish (e.g., hard and soft shell calms and mussels) are routinely providing advice to the Council.	Articulate the shared costs and benefits to the Council and industry for expanded industry participation in Council affairs, review role of industry in similar organizations, effective methods of engagement, expectations and responsibilities, options for Council, and anticipated results. (not highlighted)	3.1 Develop options for greater industry engagement, collaboration/participation, and implement the most favorable options.
		Establish and administer annual GOM Industry Stewardship Award for industries that model/implement best management practices.	3.2 Support industry sustainability awards program, including Gulf of Maine Times articles.

Appendix B Tools that Can Be Used by GOMC in Measuring Performance

B.1 Testing for a Statistically Significant Difference Between Two Percentages

To test the difference between two proportions, GOMC should use the following formula:

$$z = \frac{(p_f - p_b)}{[\hat{p}(1 - \hat{p})] \left(\frac{1}{n_f} + \frac{1}{n_b} \right)}$$

where

$$\hat{p} = \frac{n_f p_f + n_b p_b}{n_f + n_b}$$

and

p_f is the percentage of those that had a “correct” answer in the follow-up survey,
 p_b is the percentage of those that had a “correct” answer in the baseline survey,
 n_f is the number of individuals that responded to the follow-up survey, and
 n_b is the number of individuals that responded to the baseline survey.

If the resulting values “z” can be interpreted in the following ways:

Value for z	Interpretation
Greater than 1.645	A statistically significant increase in the percentage between the follow-up and baseline survey.
-1.645 and 1.645	Any change between the follow-up and baseline survey was not statistically significant.
Less than -1.645	A statistically significant decrease in the percentage between the follow-up and baseline survey.

B.2 Selecting a Random Sample from a List

A contact list entered into Microsoft Excel (one contact per row) can be assigned a random number to develop a list for surveys. For each contact, a random number should be generated using Microsoft Excel’s random number generator.²³ However, before sorting by the random number it will be necessary to cut and paste the set of generated random numbers back into the spreadsheet as “values.” This can be done using the copy or cut command in Microsoft Excel and then pasting back using the “Paste special” command under the Edit menu.²⁴ The resulting sorted list will look something like the following:

²³ The random number generator is the RAND() function. That is, you should enter “=RAND()” (without the quotes) into the cell.

²⁴ Select the entire list of random numbers, press CRL-C (to copy), and then (leaving the list selected) under the Edit menu select “Paste Special” and in the resulting dialog box select “Values” and press the OK button.

Contact List	Random #
Contact #3	0.25892998
Contact #1	0.64806318
Contact #2	0.70513713

The list should then be sorted by the random number values. This task is conducted by selecting the list of contacts and the random numbers and using “Sort” under the “Data” menu. Once this is done, GOMC should select from the top of the list. For example, if there are 60 contacts in the list and the sampling instructions call for taking 20 contacts as part of the sample, then the first 20 in the list should be selected.

Appendix C
Estimated Resources Requirements for Performing the Recommended Measurement Tasks

Outcome Number^[a]	Outcome Statement	ERG's Recommended Approach to Measuring the Outcome	Estimated Resource Requirements^{[b], [c]}
1B	Coastal lawmakers have a greater understanding of how to minimize adverse effects of land-based activities on the coastal environment.	A web-based (e-mail) survey of coastal lawmakers.	<p><i>Note: Resource requirements for this survey also cover the surveys under Outcomes 1D and 2A</i></p> <ul style="list-style-type: none"> • Develop survey: 60 labor hours at approximately \$90/hour incurred in the first year. • Implement survey: 30 labor hours at approximately \$60/hour incurred annually, plus the cost of a subscription to a web-based survey software system (if not available from those implementing).^[d] • Analyze results: 20 labor hours at approximately \$60/hour
1C(i)	Organizations working to conserve coastal lands have an increased understanding of the need to restore and monitor regionally significant coastal habitats.	Obtain agreements from the core group of organizations and then collect data annually from those groups.	<ul style="list-style-type: none"> • Obtain agreements with organizations: No more than 10 labor hours per agreement for GOMC staff and potentially significantly less. • Collect data annually from the organizations: No more than 2-4 labor hours per organization.

Outcome Number ^[a]	Outcome Statement	ERG's Recommended Approach to Measuring the Outcome	Estimated Resource Requirements ^{[b], [c]}
1C(ii)	Local, non-profit, and corporate sources are aware of the need to increase funding for the restoration of regionally significant coastal habitats on public and private lands.	Perform a survey (phone or mail) of in-scope local, non-profit, and corporate sources.	<p>Phone Survey</p> <ul style="list-style-type: none"> • Develop survey: 40 labor hours at approximately \$90/hour incurred in the first year. • Implement survey: <ul style="list-style-type: none"> ○ If using a phone survey company: GOMC can expect to pay approximately \$45 per complete survey. Incurred each time the survey is performed. ○ If using GOMC staff: one labor hour at approximately \$40/hour per completed survey. This takes into account the time needed to get the person on the phone, as well as nonresponse by some of those that are contacted. Also, each person performing the surveys will need 5 hours additional time to become familiar with the survey and to be “trained” in how to perform a survey such as this. Incurred each time the survey is performed. <p>Analyze results: 20 labor hours at approximately \$60/hour</p>
			<p>Mail Survey</p> <ul style="list-style-type: none"> • Develop survey: 40 labor hours at approximately \$90/hour incurred in the first year. • Implement survey: 1 hour of labor time per survey <i>sent out</i> at approximately \$40/hour to prepare for mail-out (collate, put into envelope, etc), organize once returned, and enter data from returned surveys. Incurred each time the survey is performed. • Analyze results: 20 labor hours at approximately \$80/hour
1D	Costal lawmakers, decision-makers, and managers working at the Gulf of Maine scale have an increased understanding of how to apply ecosystem-based management to conserve and protect Gulf of Maine habitats and resources.	A web-based survey of coastal lawmakers.	See resource requirements for outcome 1B above.
		A survey of another group (besides coastal lawmakers) that would fit the definition that GOMC develops under Step 1 of this measurement activity. (Survey implementation mode to be determined.)	Mode is undetermined at this time. However, the resource requirements under outcome 1C(ii) for mail and phone surveys should provide a sense of what would be required.

Outcome Number ^[a]	Outcome Statement	ERG’s Recommended Approach to Measuring the Outcome	Estimated Resource Requirements ^{[b], [c]}
2A	Coastal lawmakers have increased knowledge about the need to reduce releases of priority pollutants that affect the Gulf of Maine	A web-based survey of coastal lawmakers.	See resource requirements for outcome 1B above.
2B	Adults living in coastal communities of the Gulf of Maine have increased awareness about how their lifestyle choices affect the condition of the marine environment.	A phone survey of adults living in coastal communities.	Phone Survey • Develop survey: 40 labor hours at approximately \$90/hour incurred in the first year. • Implement survey: ERG recommends using a phone survey company for this survey. GOMC can expect to pay approximately \$60 per complete survey for a survey of this type (i.e., households). Incurred each time the survey is performed. Analyze results: 20 labor hours at approximately \$60/hour
3	The level of participation in Council activities by marine-dependent industry representatives is increased.	GOMC should track nominations/applications for the sustainability awards program.	Unknown. Minimal.

^[a] ERG has added a numbering scheme to help facilitate discussion. The first numeral indicates the goal that the outcome is connected with. For outcomes in goal 1, the letter indicates the track the outcome is associated with. The roman numeral indicates the order of the outcomes. For example, 1C(ii), indicates goal 1, track: habitat restoration, second outcome.

^[b] The surveys in this column all use the same tasks. These tasks can be defined as follows:

- **Develop survey**—This includes the time and effort to develop a final version of the questionnaire.
- **Implement survey**—This involves developing a sample frame (list to use), placing the survey in an online software (web-based), tracking responses, sending follow-up, and collecting the data.
- **Analyze results**—This includes developing tables to tabulate the results, some simple cross-tabulations of the data, and calculating the performance measures from the data. This does not include development of a more detailed survey report.

^[c] All labor rates reflect “fully loaded” labor rates. That is, they reflect a raw rate as well as mark-up for benefits. The different rates reflect differing skill levels needed to perform the tasks.

^[d] A subscription of Survey Monkey (<http://www.surveymonkey.com>) costs \$19.95/month (“Monthly Pro” subscription) or \$200/year (“Annual Pro” subscription). The “Annual Pro” subscription offers fewer restrictions on use than the “Monthly Pro,” but we do not expect that the surveys being suggested here would go beyond the restrictions of the “Monthly Pro” subscription. Most consulting firms, such as ERG, own web-based survey software that offer more features and options than Survey Monkey.