Results of the State Coastal Management Program Performance Measurement Questionnaire

Introduction:

In 2002, 37 state coastal management programs participated in the State Coastal Management Program Performance Measurement Questionnaire. The National Oceanic and Atmospheric Administration's Office of Ocean and Coastal Resource Management (OCRM) administered the questionnaire to determine how many states were using indicators to measure their programs' success in meeting their goals and objectives. For those states that were participating in a performance measurement system, the survey collected information about the types of indicators states were using.

The questionnaire found that most coastal programs (23 of 37) are either already participating in a performance measurement system or are in the process of developing such a system. The questionnaire also identified thousands of indicators that states are already using as part of various performance measurement systems. The vast majority of these indicators could be sorted into the six categories identified by the Heinz Center report titled *The Coastal Zone Management Act: Developing a Framework for Identifying Performance Indicators*. For consistency, this report will use the category titles chosen by the Heinz Center: Coastal Ecosystems and Populations, Coastal Water Quality, Public Access, Coastal Hazards, Coastal Community Development, and Coastal-Dependent Uses. Some of these titles differ slightly from the titles used in the original questionnaire, though the concepts remain the same. The questionnaire added a seventh category — Management and Governance — and also asked if there were additional goal categories that should be included in a national performance measurement system.

The lists of indicators gathered through the questionnaire served as a starting point for a workgroup, composed of OCRM staff and representatives from eight coastal management programs, created to develop draft performance indicators based on the Heinz Center categories. The information collected by the questionnaire therefore served as an invaluable resource during the creation of a National Coastal Management Performance Measurement System.

Definitions:

The State Coastal Management Program Performance Measurement Questionnaire defined these terms as follows:

Goal: the desired state of the natural, cultural, or economic environment
e.g., Reduced economic losses and loss of life due to hazard events.

Objectives: measurable steps (key results or actions) toward the achievement of a goal, preferably with specific endpoints in time or quantity (target)
e.g., Strengthen building codes (in xx communities) OR Achieve use of standard building codes in all coastal areas (by xx date).

Performance Measures: an indicator or set of indicators that demonstrate the effectiveness of management actions
> e.g., Value of property damage or loss OR number of lives lost.

Indicators: measures (quantitative or qualitative) that provide useful information about the condition of the natural, cultural, or economic environment
> e.g., Percent of communities or coastal areas using standard building codes.

Different Measures for Different Purposes

Seventeen state coastal management programs participate in a performance measurement system: Alabama, Alaska, American Samoa, Delaware, Florida, Louisiana, Maine, Maryland, Michigan, New Jersey (both the Department of Environmental Protection and the Hackensack Meadowlands Commission), North Carolina, Oregon, Puerto Rico, Texas, the Virgin Islands, and Washington. Six programs—Connecticut, Florida, Pennsylvania, South Carolina, Virginia, and Wisconsin—are developing a performance measurement system.

Six states — Connecticut, Massachusetts, New Jersey, North Carolina, Oregon, and Virginia — collect information on the "state of the coast" and produce "Environmental Report Card" or "State of the State" documents. Six more — Alaska, Delaware, Pennsylvania, Puerto Rico, South Carolina, and Texas — are developing similar reports.

Development and Usefulness of Performance Measurement Systems

The vast majority of states that have developed performance measurement systems were required to do so, either by the Governor's Office or the State Legislature. Maryland developed two voluntary systems, but these were in addition to the two systems required by the Governor and the Legislature. Only the Virgin Islands' performance measurement system was completely voluntary. Of the six states still working on developing performance measurement systems, four were required to do so.

There was, however, variability in the amount of control that state coastal management programs had in developing their systems. Of the nine states that had a low amount of control in determining which goals were measured and assessed, four found their current system to be somewhat "useful as feedback for informing the state coastal management program management." Four did not find the current systems useful at all. Of the five states that had a moderate amount of control in determining which goals were measured and assessed, all coastal management programs found the system to be useful or somewhat useful as feedback for informing management. Interestingly, of those states that had a high amount of control over which goals were measured and assessed, only three found the performance measurement system to be useful, while five found the system only somewhat useful, and two did not find the system useful at all.

Goals, Objectives, and Indicators

The following sections provide an overview of coastal programs already using performance measures for each of the categories. It identifies how many states are already tracking progress in each category, and then provides sample performance measures for each category. The sample performance measures chosen are chosen as illustrative examples from the exhaustive database compiled from survey data.

Goals, Objectives, and Indicators: Coastal Ecosystems and Populations

The survey identified two sample measurable goals for Coastal Ecosystems and Populations by which a state coastal program might be evaluated. The first — Protect and maintain healthy coastal populations and ecosystems — was measured by 23 states. The second — Restore degraded coastal populations and ecosystems — was measured by 20 states. Twelve states listed "Other" measurable goals.

Most states quantified the "Protect and maintain health coastal populations and ecosystems" by measuring one or more of the following: the number of acres of a particular type of habitat protected or acquired; the size of the population of a species of interest; or the number of management plans completed or permits issued. For example, the New York Coastal Management Program quantifies this goal simply by quantifying the number of acres of wetlands. Florida measures its stated goal of "marine and estuarine health" by tracking Florida manatee population and mortality. Washington's non-quantifiable indicators of success in "ensuring careful management of Washington's wetlands" include "helping communities develop local plans that effectively protect wetlands."

States quantified "Restore degraded coastal populations and ecosystems" in a similar way. Maryland will measure its success in meeting its very specific goal to "by 2010, achieve, at a minimum, a tenfold increase in native oysters in the Chesapeake Bay, based upon a 1994 baseline" by measuring size of native oyster population. Rhode Island's Coastal Program measures its stated goal of "increasing the number of acres of habitat restored" by measuring the number of acres of saltmarsh and eelgrass and the number of anadromous fish runs. New Jersey Hackensack Meadowlands Commission measures its success in its stated goal of "providing interagency wetlands regulatory coordination" by striving to "secure decisions from agencies within six months from receipt of application."

Goals, Objectives, and Indicators: Coastal Water Quality

The survey identified three categories of measurable goals for Coastal Water Quality. The first — Protect and improve coastal water quality — was measured by 20 states. The second — Reduce the delivery of pollutants (derived from the land, the sediment, the atmosphere, or the ocean) — was measured by 20 states. The third — Protect and restore natural resources — was measured by 18 states.

States monitored all three goals using similar measures. Some states used output measures, including tracking planning and permitting activities and the use of particular management

mechanisms. Other states chose more outcome-oriented indicators by monitoring water quality directly. For example, the New York coastal management program tracks the number of municipalities participating in watershed planning. The Rhode Island Coastal Program measures its progress in increasing pump out usage and functioning to improve water quality by comparing the number of pump outs to the number of boats in the state. On the other end of the spectrum, to track its success in meeting its stated goal of "stream water quality related to improved wastewater treatment," Connecticut is measuring total ammonia nitrogen, fecal coliform bacteria, total phosphorus, chloride, chlorophyll-a, arsenic, cadmium, copper, nickel, mercury, lead, selenium, zinc, total chlordane, total DDT, total dieldrin, total polychlorinated biphenyls, total polycyclic aromatic hydrocarbons, total butyl tin, concentrations of lead and other metals in bottom sediments, mercury concentrations in the upper 10-15 cm of sediment, and *Clostridium perfringens*.

Goals, Objectives, and Indicators: Public Access

The survey identified two potential measurable goals for Public Access. The first — Provide and/or enhance public access to natural, historical, cultural, and recreational coastal resources that does not damage or degrade these resources — was measured by 24 programs in 23 states. The second — Promote and enhance community awareness of public access points, as well as the rights and responsibilities surrounding access — was measured by 17 programs in 16 states.

Most states measuring the goal of "providing and/or enhancing public access to natural, historical, cultural, and recreational coastal resources that does not damage or degrade these resources" only measure their progress on the first half of the goal. Many states measure the first half of the goal by measuring the number of public access points or the number of acres of accessible land. A handful also measured the number of beach closures. Almost no states seemed to measure whether public access damages or degrades natural, historical, cultural, and recreational coastal resources—the second half of the stated goal.

With few exceptions, states generally measured the goal of promoting and enhancing community awareness of public access points, as well as the rights and responsibilities surrounding access, by using output indicators. Indicators tended to measure the number of public outreach tools generated—North Carolina measures the number of reports, guides, and handbooks; Rhode Island counts signs; New Jersey measures the creation of railing signs and site furnishings; Connecticut quantifies the number of public access guides, and Puerto Rico counts the number of publications. Some states, including Pennsylvania and Massachusetts, counted points of access. Only a handful of states were using more outcome-oriented indicators that measured the number of people reached by their efforts to promote and enhance community awareness. Of these, California uses the number of volunteers in its Adopt-a-Beach program to measure the success of its public education program. Delaware counts the number of park visits and the dollars spent on public access facilities. Mississippi counts the number of hits to its website.

Goals, Objectives, and Indicators: Coastal Hazards

The survey identified three potential measurable goals for Coastal Hazards. The first — Reduce economic losses and loss of life due to hazard events — was measured by 20 programs in 18

states. The second — Promote and enhance public awareness of coastal hazards and mitigation measures — was measured by 16 programs in 14 states. The third — Encourage state and local implementation of land use and zoning measures that decreases vulnerability to hazards in coastal areas — was measured by 20 programs in 18 states. Nine programs in 7 states identified additional indicators for Coastal Hazards.

One way that Florida measures its progress on "Reducing economic losses and loss of life due to hazard events," is by the amount of land acquired for hazard mitigation and the number of buildings retrofitted. North Carolina is tracking more output-oriented measures, including the number of recommendations provided by the Science Panel on Coastal Hazards that are adopted by the North Carolina Coastal Resources Commission and the publication of flood maps. Washington measures the percent of the state's most flood-prone communities with flood warning systems.

To measure the goal of "promoting and enhancing public awareness of coastal hazards and mitigation measures," Rhode Island has proposed potential outcome indicators, including measuring the perception of hazards and mitigation through a survey, and measuring the coastal program's success in distributing information by counting the number of coastal hazard brochures and publications distributed and the number of hits on coastal hazard pages on their website. Washington is using the non-quantitative measures of expanding the program's web site floodplain management pages and using the *Confluence* newsletter to share information.

For the goal of encouraging state and local implementation of land use and zoning measures that decreases vulnerability to hazards in coastal areas, Guam is measuring the implementation of its floodplain retrofit plan by counting the number of listed violations removed. South Carolina is using beach profiles to determine whether it has met its goal of increasing "the existing percentage of beaches with a healthy beach profile by five percent over the timeframe of the operational plan."

Goals, Objectives, and Indicators: Coastal Community Development

The survey identified three potential indicators for Coastal Community Development. The first — Well-planned growth based on the combined needs of the ecosystem, the economy, and community culture — was measured by 17 states. The second — Public involvement in both decision-making and delivery of community-based goals — was measured by 14 states. The third — Revitalization, re-use, and redevelopment of coastal resources — was identified by 13 programs in 12 states.

For the goal, "well-planned growth based on the combined needs of the ecosystem, the economy, and community culture," Maryland is measuring its progress towards the objective of rehabilitating and restoring 1,050 brownfield sites to productive use by 2010 by counting the number of brownfield sites restored. New York measures its objective to protect and enhance scenic and historic resources by measuring the number of interpretive materials developed for historic resources, the number of new visitors resulting from restoration, and the number of square miles in a Scenic Area of Statewide Significance covered by a management plan. New

York measures the economic impacts of the related objective to enhance local maritime heritage by measuring revenues generated as a result of grant projects.

Georgia measures "public involvement in both decision-making and delivery of community-based goals" by counting the number and involvement of advisory groups. Minnesota counts how many people attend public meetings on basin planning.

For the goal of, "Revitalization, re-use, and redevelopment of coastal resources," Wisconsin seeks to promote sound lakefront redevelopment by measuring funds spent on revitalization of ports/waterfronts. California measures the number of acres revitalized and the approval of urban waterfront and ports business projects.

Goals, Objectives, and Indicators: Coastal-Dependent Uses

The survey identified four potential indicators for Coastal-Dependent Uses. The first — Promote policies that encourage levels of coastal-dependent economic growth consistent with the protection and restoration of natural, cultural, and historic resources, existing uses, and the quality of coastal waters — was measured by 7 states. The second — Promote coordination and simplification of procedures in order to ensure expedited government decision-making for the management of coastal resources and siting of major coastal-dependent uses — was measured by 3 states. The third — Ensure the safety and security of coastal development (risk planning) — was measured by 2 states. The fourth — Incorporate national siting and resource needs in the development of state and local plans and development actions — was measured by 3 states.

For the goal of promoting policies that encourage levels of coastal-dependent economic growth consistent with the protection and restoration of natural, cultural, and historic resources, existing uses, and the quality of coastal waters, Wisconsin is measuring the percent of vacant waterfront parcels/area and funds spent on revitalization of ports and waterfronts to gauge its success in promoting sound lakefront redevelopment. In California, a potential indicator is the port area acreage (land and water) devoted to primary, secondary, and non-port activities.

For the goal of promoting coordination and simplification of procedures in order to ensure expedited government decision-making for the management of coastal resources and siting of major coastal-dependent uses, North Carolina is measuring the percentage of major and general permits issued within 7 days of application receipt.

For the goal of ensuring the safety and security of coastal development (risk planning), North Carolina is measuring the number of unbuildable properties purchased in ocean and inlet hazard areas of environmental concern annually. Florida is counting the number of buildings retrofitted.

For the goal of incorporating national siting and resource needs in the development of state and local plans and development actions, North Carolina is measuring the percentage of consistency determinations approved. Rhode Island is measuring the percentage of Harbor Management Plans where policy is adhered to in the field.

Goals, Objectives, and Indicators: Management and Governance

The survey identified nine potential indicators for Management/Governance. The first — Integration of effort — was measured by 9 states. The second — Coastal resources of national significance/ areas of critical concern/ special area management planning — was measured by 9 states. The third — Government efficiency — was measured by 10 states. The fourth — Interagency coordination — was measured by 11 states. The fifth — Comprehensive planning — was measured by 11 states. The sixth — Policy framework — was measured by 5 states. The seventh — Public participation in policy and permitting decisions — was measured by 12 states. The eighth — Consideration of national interest in state decisions — was measured by 8 states. The ninth — Local implementation — was measured by 9 states.

For integration of effort, New York is counting and describing the number of new local laws or regulations adopted or amended that simplify or expedite the regulatory process. Florida is counting the number of local governments participating in coastal management programs to protect, maintain, and develop coastal resources through coordinated management. Florida is also comparing the number of federal projects reviewed by the coastal program that do not require problem resolution with the number of projects that do require some problem resolution.

For coastal resources of national significance/ areas of critical concern/ special area management planning, the New Jersey Hackensack Meadowlands Commission is developing a comprehensive management plan, continuing comprehensive monitoring activities, and implementing corrective measures for vegetative establishment to reach its stated goals of continuing a monitoring program and implementing corrective maintenance measures at Harrier Meadow. Mississippi is measuring the number of acres of coastal preservation in areas worthy of protection, habitat created by beneficial use of dredged material, and the number of special management areas to promote enhancement and restoration within Pascagoula Special Management Area.

For government efficiency, Rhode Island is using the time from programmatic general permit meeting to permit approval to measure its progress toward the goal of utilizing a streamlined permitting process and timelines to reduce permitting time. North Carolina is counting the number of permits issued within 75-day statutory target to measure its success in developing streamlined techniques to improve permit response times.

For the goal of interagency coordination, Wisconsin is monitoring the number of Memoranda of Agreement with other institutions. For the goal of comprehensive planning, Mississippi counts the number of communities participating in its GIS program, as well as the points of data distribution. Rhode Island is tracking the number of policies to promote cluster development; promote stormwater treatment systems; decrease impervious surfaces; narrower roads were effectively implemented.

For the comprehensive planning goal, Guam is measuring the support given to the Guam Planning Council in terms of funding, staff, and resources. Rhode Island is tracking the successful implementation of projects based on coordination council decisions.

For the policy framework goal, Mississippi is tracking its success in enhancing coordination processes and agreements by counting the number of joint interagency Memoranda of

Understanding, Memoranda of Agreement, and agreements in regulatory and non-regulatory programs.

For the public participation in policy and permitting decisions goal, Mississippi is tracking the number of coastal program partners participating in its sustainable development initiative. Rhode Island is tracking whether permits are approved or denied to determine its success in meeting its goal of decreasing conflict and opposition to aquaculture. North Carolina is counting the number of participants in outreach and presentations for public audiences. California is measuring the number of suits or legal actions based on lack of notice.

For the consideration of national interest in state decisions goal, Alaska, California, Mississippi, and North Carolina have all chosen performance measures that track the number of consistency applications reviewed or the average project review time for consistency reviews. Rhode Island is measuring how well it responds to military needs (dock/pier construction) by tracking the percentage of proposed activities approved.

For the local implementation goal, Florida is tracking participation in volunteer activities that protect or restore coastal resources. Maryland is counting the number of local governments with appropriate GIS systems. Minnesota is measuring its success in monitoring local administration of its zoning program by counting the number of actions taken resulting from pattern of deviation.

Conclusion:

The State Coastal Management Program Performance Measurement Questionnaire served as an important information source for the identification of potential indicators in the National Coastal Management Performance Measurement System. As implementation of the National Performance Measurement System moves forward, the questionnaire results will prove useful in identifying areas where we can compile existing information that is already being collected. It will also serve as useful background that will help us determine the progress that we are making in the development of a National Performance Measurement System.