NATIONAL SEA GRANT COLLEGE PROGRAM

2014-2017 National Performance Measure and Metrics

Attribution

To report results of program activities through performance measures and metrics, Sea Grant's involvement should be one of leadership or provision of a service (planning, financial, personnel, or research accomplishments) that would likely be described by stakeholders and partners as *essential* for the project's ultimate success. When a program has a support or non-essential role in a project, the impacts or accomplishments of the project should be described in narrative form in the annual report but not reported in performance measures and metrics.

Anticipated Values and Targets

Programs are expected to continue to establish four-year targets for performance measures within each strategic plan and report annual progress toward the targets. However, annual "anticipated" values will no longer be required in each annual report. Programs are expected to inform their program officer of any major shift in targets, priorities or budgets.

Context

Sea Grant programs focus efforts on the priorities identified by state and local stakeholders within a national framework. Thus, the national performance measures and metrics in this document may not reflect priorities of any particular program or state. Moreover, the performance indicators do not encompass all of Sea Grant's efforts, but instead indicate a subset of efforts in each national focus area. Program achievements – regardless of whether captured by the national performance measures – should be reported in narrative format as impacts and accomplishments to highlight the achievements of each Sea Grant program.

2014-2017 Strategic Plan Changes

This document is meant to optimize annual reporting by Sea Grant programs. In order to clarify performance measures and metrics and reduce reporting, this document makes the following changes to the NOAA National Sea Grant College Program 2014-2017 Strategic Plan:

- **HCE (1)**: "Number of Sea Grant tools, technologies and information services that are used by our partners/customers to improve ecosystem-based management" is a cross-cutting measure and should include tools, technologies and information services from all focus areas.
- **HCE (2):** "Number of ecosystem-based approaches used to manage land, water and living resources in coastal areas as a result of Sea Grant activities" will be replaced with the continuination of the performance indicator (previously collected as a metric) "Number of resource managers who use

ecosystem-based approaches in the management of land, water, and living resources as a result of Sea Grant activities."

- **ELWD (8)**: "Number of Sea Grant facilitated curricula adopted by formal and informal educators" is expanded to "Number of Sea Grant products that are used to advance environmental literacy and workforce development."
- **Cross-Cutting (11)**: "Economic (market and non-market; jobs and businesses created or retained) benefits derived from Sea Grant activities" is now more appropriately "Economic (market and non-market; jobs and businesses created or sustained) impacts derived from Sea Grant activities." The same types of data will be collected: market and non-market economic impacts; jobs and businesses created or sustained.

All performance measures and metrics were reviewed for utility and the cost and effort required to collect. Based on network feedback, the benefit of collecting the following two performance measures was outweighed by the cost and effort required for collection. The following two national performance measures will no longer be required.

- **SFA (5)**: "Number of seafood consumers who modify their purchases using knowledge gained in fisheries sustainability, seafood safety and the health benefits of seafood as a result of Sea Grant activities" is a disproportionally costly performance measure to collect.
- **Cross-cut (12)**: "…Number of citations for all peer-reviewed publications from the last four years" would require resources that the National Sea Grant Library does not currently have.

Note: Programs may still include any performance measures within their strategic plan at their discretion, and PIER will continue to provide a platform to track those performance measures.

Healthy Coastal Ecosystems

Number of resource managers who use ecosystem-based approaches in the management of land, water, and living resources as a result of Sea Grant activities

Justification: This measure indicates Sea Grant's role in informing decisions by delivering scientifically rigorous and integrated approaches to managing ocean, coastal and Great Lakes ecosystems to resource managers.

Definition: Ecosystem-based approaches are integrated approaches to resource management that considers the entire ecosystem, including humans. They require managing ecosystems as a whole instead of separately managing their individual components or uses.

Number of acres of coastal habitat protected, enhanced, or restored as a result of Sea Grant activities.

Justification: This measure highlights the area (in acres) of ocean, coastal, and Great Lakes habitat relieved of environmental stressors or returned to a more natural state through Sea Grant projects.

Definition: Coastal habitats include ocean, coastal, and Great Lakes habitats as defined in the Sea Grant legislation. Linear measures should either be converted to acres for this measure or reported as impacts or accomplishments. Indirect protection, enhancement, or restoration (e.g., through policy changes, fish stock enhancement, or habitat located downstream) should be highlighted in impacts or accomplishments, but not included in this measure.

Examples: Acres cleared of marine debris; Acres of dunes enhanced; Acres of stream restored through dam removal

Sustainable Fisheries and Aquaculture

Number of fishermen, seafood processing and aquaculture industry personnel who modify their practices using knowledge gained in fisheries sustainability and seafood safety as a result of Sea Grant activities.

Justification: This measure tracks Sea Grant's success in assisting industry personnel with the adoption of responsible harvesting and processing techniques that improve social, economic, and ecological sustainability.

Definitions: Industry personnel include recreational, commercial (wild and cultured), and subsistence fishery participants, processors, and retailers. **Practices** include techniques, technologies and best management practices adopted. **Fisheries sustainability and seafood safety** refers to any combination of the ability of the ecosystem to remain diverse and productive; the social, cultural, and economic resilience of the fishing community; personal or crew safety; and quality and safety of the seafood product. Interactions with industry personnel should result in a behavioral change. Thus, conferences, social media, or handouts on fishing practices should not count unless there is evidence of behavioral change (e.g., survey or personal communication).

Examples: Fishermen who reduce bycatch mortality using circle hooks or bycatch excluder devices, aquaculturists who take steps to minimize the spread of pathogens, retailers who seek locally-sourced seafood, or fishermen who take additional precautions to remain safe at sea

Resilient Communities and Economies

Number of communities that implemented sustainable economic and environmental development practices and policies as a result of Sea Grant activities.

Justification: This measure provides the number of communities that have improved sustainability by improving the balance of natural resource use and conservation.

Definitions: For the purpose of this measure, **communities** refer to local governments (cities, towns, villages, townships, counties, or census designated places). **Sustainable economic and environmental development practices and policies** consist of actions by decision makers to support "development that meets the needs of the present without compromising the ability of future generations to meet their own needs" (World Commission on Environment and Development).

Examples: Communities that implement policy changes in land-use planning, working waterfronts, energy efficiency, climate change planning, smart growth measures, green infrastructure

Number of communities that implemented hazard resiliency practices to prepare for, respond to or minimize coastal hazardous events as a result of Sea Grant activities.

Justification: This measure indicates increased capacity of communities to assess vulnerability, minimize potential impacts to ecological and human systems, and improve ability to respond to hazards and adapt to a changing climate by learning from past events and adopting risk reduction measures. Improving community resilience is a continuous effort that requires ongoing local attention and action.

Definitions: For the purpose of this measure, **communities** refer to local governments (cities, towns, villages, townships, counties, or census designated places). **Resiliency practices** are those that increase the capacity of a community exposed to hazards to (1) absorb impacts while maintaining an acceptable level of functioning; (2) reduce the amount of time and financial resources needed to return to full level of functioning; or (3) adapt to future risks by learning from past disasters and adopting risk reduction measures. For this measure, the county of the community should also be reported to meet NOAA requirements.

Examples: Resilience assessments, training, local community development planning related to hazards, climate adaptation planning

Environmental Literacy and Workforce Development

Number of Sea Grant products that are used to advance environmental literacy and workforce development.

Justification: This measure indicates Sea Grant efforts to develop and implement Sea Grant educational, extension, and communications products that are *used* by stakeholders or program staff to advance environmental literacy and workforce development.

Definitions: NOAA defines an **environmentally literate** person as someone who has a fundamental understanding of the systems of the natural world, the relationships and interactions between the living and non-living environment, and has the ability to understand and utilize scientific evidence to make informed decisions regarding environmental issues. **Workforce development** describes products designed to prepare individuals for entry into or advancement within an industry. Publications, websites, social media, webinars, and other communication products should be reported as "developed" but not "used" except when real-world application is reported via surveys, personal communication, etc. – downloads alone do not indicate use. Series of products (e.g. newsletters) that were developed or used should only be reported as one product per year.

Examples: homeowners' handbook, curricula, publications, communications products used

Number of people engaged in Sea Grant-supported informal education programs

Justification: This metric provides an estimate of individuals that actively participate in Sea Grant supported informal education programs (e.g., "free-choice" learning programs) thus advancing environmental literacy.

Definition: Engaged means that the individuals are actively participating in the program. **Informal education** takes place outside the classroom and is often, but not always, site-based (e.g., at aquaria, science centers, or workshops.

Number of Sea Grant-supported graduates who become employed in a job related to their degree within two years of graduation.

Justification: This measure indicates the societal benefit Sea Grant education provides by providing the number of students who find jobs relating to their degree after graduating.

Definition: A **job** may include traditional employment, fellowships, internships, postdocs, or pursuit of an advanced degree. **Sea Grant-supported graduates** are students that received Sea Grant federal, match, and leveraged funds.

Examples: Sea Grant-supported students who accept Knauss Fellowship or a professional position; Sea Grant-supported undergraduates who pursue a advanced degrees in a Sea Grant related field, such as marine population dynamics, marine biology, ocean engineering; Sea Grant supported graduates who accept positions related to their degree.

Cross Cutting

Number of Sea Grant tools, technologies and information services that are used by our partners/customers to improve ecosystem-based management.

Justification: This measure communicates the number of Sea Grant products that address the management of land, water and living resources in coastal areas resulting from Sea Grant activities (whether research, extension, education or communications) and used by partners or customers. Only previously unreported tools, technologies and information services should be included; a specific product should not be reported in multiple years.

Definition: Ecosystem-based management is an integrated approach to management that drives decisions at the ecosystem level to protect the resilience and ensure the health of the ocean, our coasts and the Great Lakes. This includes the application of technology to coastal resource management through synthesis, integration, training, and the development of new management tools. The key here is to account for tools and services utilized and applied by managers and others.

Examples: Stakeholder use of planning and mapping tools, sensors, observation tools, genetic markers, culturing systems, decision-support tools, or data-sharing websites.

Economic (market and non-market; jobs and businesses created or sustained) impacts derived from Sea Grant activities.

Justification: This measure highlights change in economic impact - the jobs, businesses, dollars, and non-market value - that communities or businesses generate or save due to Sea Grant assistance (i.e., providing information to help communities, industries or businesses expand, make better decisions or avoid mistakes). Sea Grant provides the information and training that informs business decisions, and in some cases firms create or sustain jobs as a result. Moreover, Sea Grant activities can have positive effects on restoring, maintaining or improving environmental goods and ecosystem services, broadly defined as natural capital. Even if not valued by the market, these goods and services have economic value to humans. Provide the source for the economic impact estimates when it is available.

NOTES: Economic impacts should not include employment or expenditures funded directly from the Sea Grant award (including match). **Leveraged funds** should be reported as such and not duplicated within this performance measure.

Definitions –

A **job created** is a new position created and filled as a result of Sea Grant activities. An existing position that is filled with a Sea Grant-trained applicant should not be reported in this measure.

A **job sustained** is an existing, filled position that is sustained as a direct result of Sea Grant activities. A job cannot be reported as both created and sustained in the same year.

NOTES:

- All reported jobs should have wages associated as an associated economic impact. The economic impact of jobs created/sustained (i.e., wages) is governed by reporting from the employer (if available) or estimated by median wages by sector in a given state using BLS Employment Statistics (http://www.bls.gov/oes/current/oessrcst.htm).
- Jobs created or sustained as a result of required training (e.g., HACCP) offered by Sea Grant should be included. However, optional professional development or educational opportunities from Sea Grant that improved applicant credentials should not be counted as jobs created/sustained.
- Jobs created or sustained should be expressed as "full-time equivalent" (FTE), calculated as all hours worked divided by the total hours in a full-time schedule.

A **business created** is a new firm that was created as result of Sea Grant activities.

A **business sustained** is a previously existing firm that is sustained as a direct result of Sea Grant activities. A business cannot be reported as both created and sustained in the same year.

NOTE: All businesses that are reported as created or sustained should include a report of the associated jobs created and sustained and the wages for those jobs using BLS Employment Statistics (http://www.bls.gov/oes/current/oessrcst.htm).

Market impacts: the amount of money that will be saved (e.g., through technological efficiencies) or generated (e.g., through sales) as a result of Sea Grant activities. **Multipliers** should not be used; this measure focuses on direct market impacts.

NOTE: This measure should not include economic impact from volunteer hours, directly-supported staff, or fellows, as those measures are collected through other performance measures/metrics.

Examples: Trade Adjusment Assistance, profits (savings or revenue generated) from technology transfer in fishing and aquaculture industries

Non-market impacts: Ecosystem service valuation methods have the potential to provide information that can be used to demonstrate the direct and indirect economic impacts of different nonmarket goods and services. The estimation of non-market economic impacts can assist managers with decision making, as well as increase the public's general understanding of the economic importance and value of habitats. A number of valuation techniques have been developed to estimate the economic value of non-market ecosystem services, including value transfer, household production functions, hedonic analysis, travel cost and contingent valuation methodologies. A toolkit is available on the Sea Grant Social Science Website: (http://seagrant.noaa.gov/WhatWeDo/SocialScience/SocialScienceToolsandReports.aspx).

NOTES: Social benefits (e.g., statistical lives saved) should be explained in impact statements, but not quatified here.

Examples: Flood and storm protection, provision of fresh water, tourism value of restored ecosystems.

Cross Cutting Output Metrics

Changes to Metrics:

- No longer reported as metrics, but within performance measures:
  - Total Number of Curricula Developed
  - Resource managers who use ecosystem-based approaches in the management of land, water, and living resources in ocean, coastal and Great Lakes areas as a result of Sea Grant activities

Core Funding Proposals

Justification: This metric is used to demonstrate the scale and diversity of Sea Grant's research enterprise as progams report the number of pre-proposals, full proposals, and funded proposals for omnibus core funding and the number of participating institutions.

Definition: The **home institution** is the institution to which the Sea Grant Director reports. It includes any centers or departments within that institution. When a proposal has multiple co-PIs, one individual should be considered the project leader, and the individual's institution determines where to report the proposal.

Clean Marina certifications

Justification: This metric tracks Sea Grant efforts to provide clean facilities to the boating community and protect waterways from pollution through Clean Marina certifications or re-certifications awarded as a result of Sea Grant activities.

Definition: The number of newly certified or recertified Clean Marina.

HACCP certifications

Justification: This metric demonstrates Sea Grant's effort to train professionals to identify and prevent hazards that could cause foodborne illnesses through the number of HACCP certifications awarded as a result of Sea Grant activities.

Definition: The number of newly certified or recertified HACCP practitioners. Certifications should be reported by the program that supports the HACCP trainer, even if the trainer travels to another state. If multiple programs supply trainers, the programs can divide the values reported, but do not double count the certifications.

Number of peer-reviewed publications produced by the Sea Grant network

Justification: This metric indicates the breadth of Sea Grant's research portfolio and comes from the National Sea Grant Library (NSGL). These refereed documents are subject to rigorous peer- review and are usually written by the investigators for use by other scientists. Their quality is generally high and they represent an important scholarly contribution to the wise use and development of marine resources.

Definition: Peer-reviewed publications include journal articles that have undergone a thorough peer-review process. Book chapters, proceedings papers, and periodical articles that have been peer-reviewed also fall under this category. Please submit all materials and products (including peer-reviewed publications) for your entire program to the NSGL during the annual reporting period, including those from extension agents, communicators, education specialists and researchers. To review the types and definitions of publications collected by the NSGL, visit: http://nsgl.gso.uri.edu/about/pdfs/pubdefinitions.pdf .

Sea Grant Staffing

Justification: In order to describe and monitor the size of the Sea Grant network, this metric provides the information about personnel composition of each program.

Definition: Individuals supported by Sea Grant may be supported part-time/quarter-time/one-month time, etc. but are counted as one individual. The number of individuals should be a whole number. If an individual works in more than one functional area (e.g., administration and extension), please count that individual in both areas. To avoid any double counting when we total the individuals for all of Sea Grant, a new field for Total Individuals in all areas has been added to PIER. Please fill this field out with the actual number of individuals who devote any of their time to Sea Grant. A **Full Time Equivalent (FTE)** is equivalent to 12 months of full time effort. One individual's time can be counted in different functional areas. For example, an individual's time (who is only part-time Sea Grant) can be counted as 0.25 administration and 0.25 extension. Another example is if you have 24 Researchers each with only 1 month time, they would add up to total of 2 FTEs.

Sea Grant Financially-Supported Students and Fellows and Degrees (Undergraduate, Graduate)

Justification: To indicate Sea Grant's investment in postsecondary education, this metric tracks the number of students finacially supported by Sea Grant. This includes students supported by Sea Grant federal, match, and leveraged funds.

Definition:

- **New students**: Students who have not previously been counted and are supported by Sea Grant.
- **Continuing students**: Students who were previously counted and are still supported by Sea Grant.
- **Graduate or Professional Degrees Awarded**: The number of degrees awarded to students who received full or partial support from Sea Grant at any point during the degree program.

The graduate student categories are broken into M.A./M.S. and Ph.D. All other degree-seeking students supported by Sea Grant (such as J.D. or post-graduate students) should be counted under "Other Sea Grant supported professional degree students".

Programs do not need to report fellowships managed by the National Sea Grant Office (e.g., Knauss Marine Policy Fellowship and NMFS/SG Fellowship); those data are available.

Number of P-12 Students Reached Through Sea Grant-Trained Educators or Directly through Sea Grant Education Programs

Justification: This metric demonstrates the number of Preschool through 12th grade (P-12) students who have increased environmental literacy by attending a Sea Grant- sponsored event or were reached by teachers who have utilized information in the year that they receive Sea Grant training.

Definition: P-12 educators that attend Sea Grant workshops should be asked to provide the number of students that they teach to establish a multiplier for students reached. Only students reached in the report period should be counted.

Number of P-12 Educators who participated in Sea Grant education programs

Justification: This metric indicates the number of P-12 educators who attend a Sea Grant-sponsored workshop or training (i.e., by an educator/extension agent) and can then enhance the environmental literacy of students for years to come.

Volunteer Hours

Justification: This metric shows how Sea Grant coordinates individuals who are willing to donate time without payment for their time and services in order to help a state Sea Grant program accomplish the goals of its four-year plan.

Definition: These hours include training required to become a volunteer.

Examples: volunteers at a beach clean-up, ecosystem restoration, citizen-science, or outreach/education

SG-Sponsored/Organized Events

Justification: This metric indicates the scale of Sea Grant outreach as it provides the number of meetings, workshops, festivals, conferences, etc. in which Sea Grant played an integral role.

Definition: Report the number of events in which Sea Grant played an integral role.

Examples: Coast Day, Community Supported Fisheries Summit

Attendees at SG-Sponsored/Organized Events

Justification: : This metric also demonstrates the scale of Sea Grant outreach as it includes the estimated number of attendees at the events counted in the preceeding metric. People engaged in Sea Grant-supported informal education programs should be reported in that performance measure and not duplicated here.

Public or Professional Presentations

Justification: This metric indicates efforts to share Sea Grant research; it is the number of presentations given by Sea Grant staff or regarding Sea Grant-funded research.

Definition: Report the number of presentations given by Sea Grant staff or regarding Sea Grant-funded research.

Examples: public talks given to a local volunteer/service organizations, professional presentations to the American Society of Limnology and Oceanography

Attendees at Public or Professional Presentations

Justification: The estimated number of attendees at the presentations given by Sea Grant staff or regarding Sea Grant-funded research indicates the size of the audience reached by the preceeding metric.