



UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
National Sea Grant College Program
1315 East-West Highway
Silver Spring, Maryland 20910

August 17, 2010

Paul Anderson
Maine Sea Grant College Program, University of Maine
5784 York Complex
Orono, ME 04469-5784

Dear Paul:

On behalf of the Maine Sea Grant College Program's Site Review Team (SRT), I am pleased to transmit Maine Sea Grant's SRT report. It documents our findings, recommendations, and suggestions concerning program management and organization, stakeholder engagement, and collaborative network activities from the site visit that took place on June 8 and 9, 2010.

A *recommendation* is a formally prescribed course of action for which the Sea Grant Program is accountable. The Program is expected to respond to each recommendation, explaining how it has implemented, how it plans to implement, or why it chooses not to implement each recommended course of action. The SRT had no recommendations for Maine Sea Grant. A *suggestion*, on the other hand, is an idea that is presented for consideration. The Program is not accountable for responding to the suggestions, but is encouraged to consider implementing those deemed useful and appropriate by its leadership. In accordance with our site review policy, this report does not assign a grade or score the Maine Sea Grant Program. Our policy also states that as Program Director, you can prepare a response to this report. Both this report and the response will become part of the Program File in the National Sea Grant Office. I encourage you to keep our office informed of any activities that are undertaken to strengthen your program.

Also, I'd like to once again thank you and the Maine Sea Grant staff for your hospitality and the considerable effort put forth to make the entire review process both productive and informative. In addition, and on behalf of our SRT, I want to express our sincerest thanks to the University of Maine officials, administrators, staff, and your stakeholders who ensured that this review was comprehensive and enjoyable.

Sincerely,

Michael Liffmann
Maine Program Officer
National Sea Grant Office

Cc: Dr. Leon Cammen, Ms. Sami Grimes, Dick West, Jim Diana, Laurie McGilvray, Bill duPaul

INTRODUCTION

A number of recommendations were issued in the National Research Council's report titled, *Evaluation of the Sea Grant Review Process* (2006), including several related to program evaluation. This led to development of the new Planning, Implementation and Evaluation (PIE) system that was adopted in 2008. The development involved the National Sea Grant Office (NSGO) in close collaboration with the Sea Grant Association (SGA), several state Sea Grant directors, and the National Sea Grant Advisory Board, a federal advisory committee.

The PIE system includes Site Review Team (SRT) visits for each of the Sea Grant programs. Every program will be visited once every four years with the primary objective of evaluating aspects related to its management and organization, the extent and quality of stakeholder engagement, and its collaborative network activities. The Maine Sea Grant College Program's (MESG) first SRT took place June 8-9, 2010 on the campus of the University of Maine-Orono. The members of the ME SRT were:

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| Michael Liffmann | Chair and Program Officer, National Sea Grant Office |
| Richard West | Co-Chair, National Sea Grant Advisory Board |
| Jim Diana | Director, Michigan Sea Grant |
| Laurie McGilvray | Chief, NOAA Estuarine Reserves Division |
| William DuPaul | Sea Grant Extension Program Leader (ret.), VA Sea Grant |

In preparing for the visit, MESG and the SRT used the Site Review Procedures Manual issued by the NSGO in March 2010. The required background materials were provided and public comments were solicited. MESG provided the core review information including the requisite Briefing Book, the Program's 2009-2013 strategic plan, and its most recent (2008) annual report to the University's Vice President for Research. All materials were compiled in a binder and mailed to the team's members in mid-May 2010.

The 16-page Briefing Book contained sections on program management and organization (including stakeholder engagement and partnerships), collaborative network efforts and activities, and the program improvements that resulted from the 2006 Program Assessment Team (PAT) review.

The reviewers' binders also contained the aforementioned PAT review and MESG's response to the report. In addition, a copy of the NSGO's January 2010 MESG metrics and impacts update was included as were copies of the seven public comment letters that were received. In early April 2010, MESG had issued a public notice announcing the opportunity for individuals and organizations to comment on any aspects of MESG's performance in the areas of program management, institutional setting, and stakeholder engagement. In addition to posting the announcement at its website, an e-mail invitation had been sent to several listservs maintained by the program.

SRT VISIT

During the two-day visit, the SRT met with MESG's five-person management staff, educators, the nine-person Marine Extension Team (MET), most of the 25 members of the program's Policy Advisory Committee (PAC), several university research administrators and other high ranking officials, and numerous stakeholders ranging from fisheries and other private interests to non profits, educators, and federal and state agencies. Additional interaction with these persons and other constituents and guests took place during the Program's 30th Anniversary celebration on June 8. The SRT agenda and other details concerning the actual visit appear in Appendix A.

ORGANIZING AND MANAGING THE PROGRAM

The MESG Program is managed and administered by Director Paul Anderson who works closely with four other members of the management team. The team, based in MESG's Orono office, has included Susan White (Associate Director for Outreach), Catherine Schmitt (Communications Director), Beth Bisson (Education Coordinator) and Lynn Wardwell (Fiscal Officer). The part-time position of Assistant Director for Research has been vacant since the retirement of Jim McCleave in 2009. Ms. White retired shortly after the SRT visit. Mr. Anderson reports directly to UM's Vice President for Research, Michael Eckart and this reporting structure has proven effective and is very appropriate.

A plan to fill the existing vacancies is being implemented. Mr. Anderson has served as interim Director of Research and several viable options are being considered to restore this part-time function before the next (2012-2014) call for pre-proposals in Fall 2010. Ms. White retired after 23 years of illustrious Sea Grant service, and Ms. Bisson has become the Outreach Director while also retaining her role as lead Educator.

The management team meets regularly to review staff development opportunities and programmatic initiatives. The team considers mini-grant proposals using Program Development funds, contributes to strategic direction, and explores needs and opportunities for programmatic growth, new partnerships and initiatives.

Maine also benefits from an excellent Land Grant-Sea Grant relationship. The Marine Extension Team includes extension associates and faculty from both Sea Grant and Cooperative Extension.

In summary, the SRT was impressed with MESG's leadership and the way the management team functions effectively with common purpose and outstanding expertise.

MESG is advised by the 25-member Policy Advisory Committee. The PAC is a brain trust for informed advice and met with the SRT during the visit. It provides input to strategic planning, programmatic direction and funding decisions. The membership is quite diverse and drawn from stakeholder groups representing focus areas being addressed in MESG's current strategic plan. The PAC also draws members from among higher echelon UM officials, researchers from other institutions around the state, state legislators and NOAA partners. The 2006 PAT recommended expanding the PAC's stakeholder base, and the SRT concluded that significant new connections

and partnerships have been built and maintained, notably in the coastal tourism and within the UM community. But the SRT suggests that additional stakeholders from the Safe and Sustainable Seafood Supply focus area should be considered for PAC membership. (See Findings, Recommendations and Suggestions below)

The 2006 PAT also made several recommendations concerning MESH program management and organization. The PAT had expressed concern over Director Anderson's position within the UM structure and noted that "...he is not a person that Maine Sea Grant can afford to lose." The PAT recommended that the university consider a tenure-like position for him. In addition, the PAT suggested that approaches be investigated for relieving him of MET direct management responsibilities. It is noteworthy that in 2006, when these recommendations were made, Mr. Anderson was serving as President of the Sea Grant Association, a very demanding position that extended until 2007. These recommendations were considered but no concrete actions were taken. In the estimation of the SRT, all parties appear satisfied with the status quo.

The PAT also identified concerns over UM's financial support of MESH and recommendations were made concerning possible additional sources of support. Total MESH funding for the 2006-2010 quadrennial has remained steady but there is justifiable concern over the continued erosion of budgets. This is a national phenomenon, not just Maine's. Research funding during the period accounted for 31 percent of the \$8.8 million total received by the program; Extension/education, 28 percent; Administration, 19 percent; Communications, 15 percent; Fellowships and Program Development, four and three percent respectively. MESH will continue to actively compete for NOAA and other extramural funds.

The SRT concluded that MESH has outstanding university support as well as broad-based support from the state legislature and resource management agencies. It is evident that UM is willing to invest in new opportunities to create jobs and conserve resources.

STAKEHOLDER ENGAGEMENT

It is very apparent that MET and MESH's other outreach components, Education and Communications, have succeeded at building meaningful partnerships and considerable trust with their statewide and local clientele. During the SRT's formal and informal interaction with stakeholders, all expressed a great deal of confidence and trust in the MESH and other outreach staff. This reflects positively not only on MESH's leadership but also the excellent quality and commitment of the staff.

MET consists of nine UM Cooperative Extension and Sea Grant staff members, based in coastal communities from Wells to Eastport. MET members are also formally linked to Sea Grant funded research projects, thus providing outreach and education support to researchers and adding value to the research investment.

MESH's primary stakeholder audiences are commercial fishermen and aquaculturists, state natural resource agency managers, municipal officials, K-12 teachers and students, tourism-related businesses, state legislators and staff, nonprofit organizations, the UM community, and state citizens. During the SRT's formal session with stakeholders, these persons indicated that

MESG is the “go- to group to get the job done” and are valued for their “willingness to help in any way they can” attitude.

MESG’s Communications staff, led by Ms.Schmitt, is professional, creative and talented. The group thinks and acts strategically, produces excellent publications, and is at the vanguard of social media communications. The program’s website, <http://www.seagrant.umaine.edu/home>, is user-friendly and up to date. The staff has developed a web content management system that simplifies the publication of web materials to other web sites and mobile devices.

The SRT was also impressed with MESG’s array of marine education projects and Ms. Bisson’s ability to obtain extramural funding. During the visit, the Penobscot River Watershed Education Program was highlighted and featured the work in Old Town involving the Old Town Elementary School, Penobscot River Restoration Trust, and Gulf of Maine Institute partners. A UM graduate student evaluated the project’s impact on students’ understanding of key science concepts. The Education Coordinator also works closely with MET to develop and implement formal and informal K-16 education programs throughout.

MESG stakeholders were also engaged in the development of the latest strategic plan and they will continue to be involved in this capacity in the future. Stakeholder input and feedback is taken into account when planning and establishing the program’s priorities. Many stakeholders expressed satisfaction with the fact that their opinions mattered and were always heard.

In summary, MESG’s stakeholder engagement efforts are excellent. The program is a source of reliable and trustworthy information at all levels.

COLLABORATIVE NETWORK/NOAA ACTIVITIES

MESG provides leadership in coastal and ocean activities, including coordinated planning and cooperative work with many other entities. The Briefing Book contains a lengthy list of federal, state, municipal and local, nongovernmental and other private sector partnerships. The extent of the collaboration is a result of extensive personal interaction between MESG staff and the organizations. Not only is the collaboration helping address the many issues at hand, but it also enables leveraging of funds and sharing of expertise, scarce resources and time. The latter is particularly significant in light of state and federal budgetary concerns.

Several notable examples serve to demonstrate MESG’s willingness and ability to cooperate with diverse partners. Since 2002, MESG’s Kerri Lindberg and others have partnered with US EPA, municipalities, UME Cooperative Extension, Department of Environmental Protection and nonprofits to train approximately 200 volunteers annually for the Maine Healthy Beaches Program. As a result of this collaboration, participating communities (28 towns/state parks in 2009 alone) have made improvements to stormwater management, increased the number of homes served by municipal sewer, and kept beaches open for enjoyment and economic gain.

Through Maine’s Working Waterfronts Coalition, MESG’s Kristen Grant and Natalie Springuel work with others to balance competing uses of Maine’s coastline. In particular, relationships with the Island Institute, Coastal Enterprises, Inc. and the state’s Coastal Program have been

particularly effective and resulted in new legislation and national leadership on working waterfront issues.

Chris Bartlett and Dana Morse partner with small aquaculture enterprises that are major contributors to the local economies in Eastport and Walpole. They also partner with researchers to address diverse issues ranging from resolving fish disease problems to marketing of cultured shellfish. Esperanza Stancioff works with planning board members, selectmen and city councilors on implementing coastal climate change adaptation planning.

MESG's has also exhibited considerable leadership at the regional and national levels. Mr. Anderson, in his capacity as President and immediate past President of the Sea Grant Association has been active in Congressional reauthorization matters, development of the 2009-2013 National Plan, and planning and implementation of the PIE system. He has been a leader of the Northeast Regional Network which resulted in a recently signed MOU. Dana Morse and Kristen Grant serve on the Sustainable Community Development and Safe and Sustainable Seafood Supply focus teams, respectively. Ms. Stancioff is a national leader within the Sea Grant and Land Grant climate extension communities.

The program is active in Sea Grant's Sustainable Coastal Community Development, Climate Change, Educators, and Fisheries Extension networks.

MESG works closely with other NOAA line offices and laboratories. MESG work with NOAA's OCRM (through the Maine Coastal Program), National Estuarine Research Reserves System (Wells NERRS), NOAA NMFS' Northeast Fisheries Science Center and Aquaculture Program, the National Weather Service, and OAR's Climate Program Office. The excellent front-and-back flyer titled, "NOAA on America's Coasts," can serve as a template for other coastal states. The Maine flyer (Appendix C) demonstrates how NOAA coastal and marine programs collaborate to meet resource conservation, management and development goals.

IV. FINDINGS, RECOMMENDATIONS and SUGGESTIONS

Findings

- Maine Sea Grant is performing very well and carrying out relevant research, extension, education and communications programming to address state, Gulf of Maine, and national needs. The Program's shared management approach to leadership works well.
- Maine Sea Grant has the needed management structure and organizational support, stakeholder engagement, and collaboration with others to continue being an excellent Sea Grant program.
- Maine Sea Grant has outstanding university support and broad-based support in the state legislature and resource management agencies. It is evident that UM is willing to invest in new opportunities to create jobs and conserve resources.
- Stakeholders expressed a great deal of confidence and trust in the MESG staff. This reflects favorably on the management and caliber and commitment of the staff. The MET is very well connected and works with the right people to reply to problems.

- Maine Sea Grant is a northeast regional and national leader. The staff is active in the Safe and Sustainable Seafood Supply and Sustainable Community Development focus areas and help lead the Sustainable Coastal Community Development, Fisheries and Climate Change extension networks. Director Anderson continues to assist the Sea Grant Association by participating in various committees, and Ms. Bisson and Ms. Schmitt are active in the Education and Communications networks. Ms. Stancioff is a leader within the new climate change network.

Recommendations (items Maine Sea Grant must consider)

- None

Suggestions (items Maine Sea Grant may want to consider)

- The SRT encourages MESHG to fill the vacant research director position no later than Fall 2010. Although this is a part-time position, the person will be a member of the management team and serves as the point person for the 2012-14 Omnibus grant competition. This person also helps identify new talent and helps procure more extramural funding.
- The PAC is very engaged and helps inform MESHG and other university leaders. The membership is diverse but serious consideration should be given to adding individuals/organizations that are active in the Safe and Sustainable Seafood Supply focus area. MESHG would benefit by having more private sector PAC members that are involved in commercial (other than lobsters) and recreational fisheries, charterboat operations, seafood processing and safety enterprises, and resource managers from agencies such as the Northeast Fisheries Science Center and the Atlantic States Marine Fisheries Commission.
- The SRT recognized the importance of continued stakeholders' involvement in helping guide MESHG, in general, and MET, in particular but the process(es) used to obtain stakeholder input and involvement needs to be better articulated. A better description of the process might help MESHG's own staff and other Sea Grant programs as they consider alternative approaches to engage stakeholders.

V. BEST MANAGEMENT PRACTICES

(Best management practices are "An exemplary product, practice, or procedure developed or used by a Sea Grant program and not in common use by other programs, which may be utilized or modified by other programs to make these programs stronger.")

- The Land Grant-Sea Grant relationship that undergirds the Marine Extension Team model is a laudable management practice. The Team includes extension associates and faculty from both Sea Grant and Cooperative Extension.
- Each MET staff member is formally linked to several Sea Grant-funded research projects. The nature of the link varies, but it may involve participation in the research, facilitating the conduct of the research with stakeholders, or assisting with the project's outreach.
- Related to the relationship between research and outreach, Maine Sea Grant conducts a bi-annual symposium that brings together funded (and potential) researchers and extension and education staff to foster improved collaboration and integration of the Sea

Grant elements. The symposium date coincides with a meeting of the Policy Advisory Committee.

- Maine Sea Grant does an exceptional job in crediting partners. The two-page flyer (Appendix C) demonstrates how NOAA coastal and marine programs collaborate to meet resource conservation, management and development goals.

Appendix A. Maine Sea Grant Site Visit

Maine Sea Grant College Program, University of Maine, Orono

Planning, Implementation and Evaluation (PIE) Site Visit

June 8-9, 2010

Monday, June 7, 2010 – Review Team arrives in Bangor, Maine (BGR)

Tuesday, June 8, 2010

8:00 – Arrive University of Maine – *Margaret Chase Smith Policy Center conference room, York Complex*

8:15 – Welcome and overview – Paul Anderson, Director

8:30 – 9:30 – Summary of Maine Sea Grant’s administration

Management Team:

Paul Anderson, Director and Extension Leader, Research Coordinator

Susan White, Associate Director

Catherine Schmitt, Director of Communications

Beth Bisson, Education Coordinator

Lynn Wardwell, Fiscal Officer

9:30 – 10:30 – Formal Education Programming – Beth Bisson

10:30 – 10:45 – Break – *tour of Maine Sea Grant Office Suite, York Complex*

10:45 - 11:45 – Extension programming

Marine Extension Team:

Kristen Grant

Sherman Hoyt

Dana Morse

Ron Beard

Esperanza Stancioff

Natalie Springuel

Keri Lindberg

Chris Bartlett

Beth Bisson

12:00 – 1:30 – Lunch with UM Research Administrators – *Foster Room at the UMaine Campus Recreation Center,*

Michael Eckardt, Vice President for Research

Michael Hastings, Director of the Office of Research and Sponsored Programs

John Rebar, Executive Director, University of Maine Cooperative Extension

Douglas Babkirk, Assoc. Director, University of Maine Cooperative Extension

1:30 – 3:00 – Policy Advisory Committee – *Graduate School, Stodder Hall*

3:00 – 3:30 – break and transport to Buchanan Alumni House

3:30 – 4:00 – UM Upper Administration – *Buchanan Alumni House Board Room*

Robert Kennedy, President

Susan Hunter, V.P. for Academic Affairs and Provost

4:00 – 6:00 – Maine Sea Grant College Program's 30th Anniversary Celebration – *Buchanan Alumni House*

6:00 Adjourn

Wednesday, June 9th

8:00 – Arrive University of Maine – *Foster Student Innovation Center*

8:30 – 11:45 – Maine Sea Grant's programming from the stakeholder's point of view

- Series of three thematic panels
- Seafood, Climate Change, Working Waterfront Access
- Demonstration of the integration of science, education and outreach

11:45 – 12:00 – Wrap up

12:00 – 4:00 – Lunch and site team report writing time – *Buchanan Alumni House Board Room*

4:00 - Debrief with V.P. Eckardt and the Sea Grant management team – *Alumni Hall Conference room*

Site Visit Preparations and Meetings

Prior to the site visit, the SRT had corresponded extensively and held two conference calls. The team met in Orono on June 7 and discussed last minute details. The actual visit began on June 8th and concluded late in the afternoon, June 9th. On June 8th, after proper introductions, the SRT's chair and co-chair gave a brief overview about the purpose of the visit, the highlights of the PIE system and the process to be followed in the next two days.

Director Paul Anderson coordinated MESH's morning presentations. They focused on program management and organization, education projects and MET programming. Over the course of the first hour, members of the Management Team discussed their roles and responsibilities. The second hour was dedicated to formal education programming—K-12 education and curriculum development-- and involved participation of students and faculty at Old Town Elementary School who described how they work with MESH educators in place-based curriculum units. In the final morning hour, the nine MET members described the main thrusts of their work, primary constituencies and partnerships, and the communities in which they live and work.

The SRT met with University of Maine (UM) research administrators over lunch and discussed matters pertaining to continuation of a viable and productive MESH program. Drs. Michael Eckardt (Vice President for Research), Michael Hastings (Director of the Office of Research and Sponsored Programs), and two representatives from UM's Cooperative Extension Service, John Rebar (Executive Director) and Douglas Babkirk (Associate Executive Director) were in attendance.

During the first part of the afternoon, 90 minutes were dedicated to in-depth discussions between the SRT and the Program Advisory Committee (PAC). Chairperson Linda Mercer led a candid conversation featuring topics such as the PAC's role, vision, priorities, collaborative activities, and process. A listing of the 25 members representing a broad cross-section of constituencies appears in Appendix B.

Following the PAC meeting, the team met for 30 minutes with the highest university administrators, Drs. Robert Kennedy (President) and Vice President for Academic Affairs and Provost, Susan Hunter. The discussions centered on the importance of MESH to the university at-large and the UM's considerable attention to coastal and Gulf of Maine issues.

The first day of the SRT visit concluded with attendance at Maine Sea Grant College Program's 30th Anniversary Celebration. Over 100 constituents, alumni, researchers and university administrators attended the function and there was considerable casual interaction. Particularly noteworthy of the event was the excellent retrospective exhibit featuring photos and other memorabilia that was compiled by MESH Communications Director, Catherine Schmitt and others, and attractively displayed for general viewing.

The morning of the second day focused on stakeholder engagement. The MET organized three thematic panels—climate change adaptation, waterfronts' access, and seafood—and invited selected stakeholders to describe their interactions with members of the MET. The stakeholders

and MET participants discussed how user needs are communicated and how scientific information, including MESH research results, are and used by the stakeholders.

The SRT devoted the better part of the afternoon to arriving at findings, discussing possible suggestions and recommendations and debriefing Vice President Eckardt and the Management Team.

Appendix B. Maine Sea Grant Policy Advisory Committee

- Robin Alden, Penobscot East Resource Center Stonington
- Jennifer Atkinson, Queen Labrador Foundation Waldoboro
- Douglas Babkirk, UMaine Cooperative Extension Orono
- Dick Clime, Coastal Enterprises, Inc. Wiscasset
- Fred Cook, Downeast and Acadia Regional Tourism Cherryfield
- Dennis Damon, State Senator, Marine Resources Committee Trenton
- G. Russell Danner, Dept. of Inland Fisheries & Wildlife Augusta
- Mark DesMeules, Damariscotta River Association Damariscotta
- Paul Dest, NOAA Wells Estuarine Research Reserve Wells
- Judy East, Washington County Council of Governments Calais
- Michael Eckardt, UMaine Vice President for Research Orono
- Andrew Fisk, Dept. of Environmental Protection Augusta
- Don Hudson, Chewonki Foundation Wiscasset
- Peter Jumars, UMaine School of Marine Fisheries Science Orono
- John Kocik, NOAA National Marine Fisheries Service Orono
- Kathleen Leyden, Maine Coastal Program Augusta
- Patrice McCarron, Maine's Lobstermen's Association Kennebunk
- Jim McKenna, Maine Maritime Academy Castine
- Linda Mercer, Dept. of Marine Resources (Chair) Boothbay Harbor
- Leila Percy, State Representative, Marine Resources Committee Phippsburg
- Cathy Ramsdell, Friends of Casco Bay South Portland
- Graham Shimmiel, Bigelow Lab for Ocean Sciences Boothbay Harbor
- Susan Swanton, Maine Marine Trades Association Portland
- Philip Yund, University of New England Biddeford

Appendix C. NOAA on America's Coast



NOAA

on America's Coasts



MAINE

Maine's economy is inextricably linked to its coast. Recent estimates indicate that 60% of Maine's GDP can be traced to marine-related businesses including tourism, fisheries, and shipbuilding. The majority of Maine's population resides in coastal counties, and coastal growth is projected to continue, bringing opportunities as well as challenges. In addition to addressing persistent pollution, continued depletion of fisheries, and habitat loss, Maine's coastal communities are confronting ocean energy development in nearshore waters and climate change.

The National Oceanic and Atmospheric Administration partners with states to meet these challenges. NOAA's coastal and marine programs in Maine—the University of Maine Sea Grant College Program, Maine Coastal Program, and the Wells National Estuarine Research Reserve—work collaboratively to meet goals for conservation, management, and development of coastal resources. Each program works in unique, yet complementary ways, adding value to each other's efforts and maximizing return on both state and federal investments.



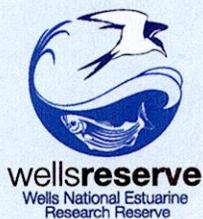
■ The Maine Coastal Program (MCP), housed in the State Planning Office, has supported state and local management and stewardship of coastal natural resources since 1978. MCP supports coastal community planning; forges innovation in state policy and management approaches; and provides grants to revitalize coastal towns, eliminate coastal pollution, and protect working waterfronts and public access.

www.maine.gov/spo/coastal/



▲ The Maine Sea Grant College Program was founded at the University of Maine in 1980. Sea Grant sponsors relevant, applicable research at Maine's higher education and research institutions, provides scientific support to decision makers, and engages communities in collaborative problem solving through extension, outreach, and education.

www.seagrant.umaine.edu



◆ Located on 2,250 acres of Maine's southern coast, the Wells National Estuarine Research Reserve (WNERR) provides a living research laboratory for increasing our understanding of coastal and estuarine ecosystems that applies to other regions of Maine and the nation, while also conserving natural resources and delivering state-of-the-art public engagement and education programs.

www.wellsnerr.org

Through effective local engagement, Maine's programs define and address problems at the community scale, where change and conflict are both most acute and most likely to be solved.

▲ Sea Grant is conducting social science research to understand community perspectives and information needs related to **climate change**, while scientists at WNERR monitor the effects of warming temperatures and sea level rise on coastal ecosystems. Findings from these projects are shared with ▲ Sea Grant, Cooperative Extension, and ◆ WNERR educators, who provide science-based information to decision makers. ■ MCP is mapping coastal flood vulnerability and working with state and local officials on adaptation policies.



◆ WNERR works with towns and the Sea Grant-supported Maine Healthy Beaches Program to identify and clean up pollution sources in coastal watersheds. ▲ Sea Grant has tested novel methods for tracking pollution sources, while ■ MCP helps develop policies to improve **water quality** in Maine's rivers and coastal waters.

■ MCP created a pilot project for communities to experiment with innovative ways to manage fisheries, eelgrass, and land use in the unique Taunton Bay ecosystem, a process facilitated by ▲ Sea Grant. Meanwhile, ◆ WNERR offers statewide training for managers on the practice of **ecosystem-based management**.



▲ Sea Grant-funded research has aided the development of Maine's aquaculture industry, and improved stock assessment of lobster and other commercially important **seafood** species. ■ MCP has worked to improve regulatory approaches to lobster, scallops, and urchins through stakeholder input. ◆ WNERR provides a living laboratory for studying the role of estuaries in providing critical nursery habitat for fish and shellfish.

All of NOAA's coastal programs are working together to preserve and enhance Maine's working waterfronts, balancing competing demands for **water access**.

■ MCP manages the Working Waterfront Access Protection Program; ▲ Sea Grant conducts legal research and facilitates community dialogue.

