

## **Sea Grant and Water Resources – Coastal Ecosystem Health and Communities– 2007-2011 POW Worksheet**

### **Situation:**

Coastal ecosystems are ecologically and economically valuable environments that are subject to multi-use demands ranging from food production and the purification of societies' wastes, to flood control, transportation and recreation. These systems provide essential habitat for fish and shellfish that constitute 75% of commercial landings in the United States and provide essential 'ecosystem services' valued in the trillions of dollars annually on a global scale. At the same time, these systems have become increasingly threatened by human-induced perturbations. These include non-point source pollution, invasive species, coastal development and habitat alteration.

Although New Hampshire is not a particularly populous state (1.3 million residents) and has a relatively short coastline, it in many ways mirrors other coastal states in the pressures of continued population growth and the demographics of that growth. Nearly 75% of New Hampshire residents live within 50 miles of the coast, and the rate of growth in the 'seacoast' region has grown at a rate of 10% over the past decade, a rate nearly double that of the rest of the state. Coastal communities, deeply rooted in the resources of the estuaries and ocean coasts that they inhabit, are struggling with how to manage growth and its associated waste streams. The Great Bay estuary is displaying indicators of nutrient over-enrichment, bacterial contamination and habitat loss, while coastal fishermen are dealing with harmful algal bloom related fisheries closures and the unknown effects of proposed offshore sewage outfalls.

### **Assumptions:**

Despite differences among community members, natural resource protection is a shared value overall

Training and education, technical assistance, iterative contact and inclusive processes with communities will enhance their capacities to engage in community based natural resource protection

Local decision makers come to their positions with wide variation in knowledge, skill and attitudes

Knowledge about the benefits of desired behaviors and about possible harmful consequences of non-desired behaviors can influence community member behavior toward natural resources over time

### **External Factors:**

Individual home and yard care practices are influenced by a wide variety of influences including commercial marketing

Development pressure in coastal areas is high and is related to market forces as well as demographic influences. Land use regulations often lag behind issues of concern

Outputs/Activities	Outcomes/Impact		
	Learning Outcomes	Action Outcomes	Condition Outcomes
<p>Conduct workshops for garden clubs, community groups, watershed associations and others interested in sustainable landscaping practices and water resources protection - workshops will include a presentation and when possible, a practical assessment of the property where the workshop is held.</p> <p>Provide activity-based Great Bay Discovery Cruises to citizens with the opportunity to learn about the estuary aboard the University's research vessel</p> <p>Expose motorists passing by the Great Bay estuary to a low power radio station (Great Bay Area Radio) dedicated to informing them with recorded messages on natural history, research, educational opportunities and CICEET</p> <p>Develop, enhance and deliver presentations (including GIS-based) about land use/water quality to local decision makers</p> <p>Facilitate community meetings to develop action plans for implementing water and natural resource based planning</p> <p>Deliver workshops as educational follow-up related to community action plans</p>	<p>Coastal watershed residents will express a greater willingness to participate in educational or stewardship events concerning Great Bay after participating in one</p> <p>Community members will report an increase in knowledge about growth and its effect on habitat, water quality and quantity</p>	<p>Communities will seek additional relevant assistance from program partners including UNH for technical or financial support for community based natural resource protection. Assistance might include research results from storm water technology projects, GIS centers or grants programs</p>	<p><b>Identify and link specific land use practices within the coastal watershed that significantly threaten and degrade Gulf of Maine water quality through nutrient, pathogenic and toxic contaminant inputs.</b></p>
	<p>SGWR27 - At least 2 communities per year will seek technical or financial assistance from any of the program partners in order to implement natural resource protection projects. Assistance might include help with developing plans, conducting outreach or reviewing regulations</p> <p>SGWR31 - At least 50 coastal watershed residents per year will report a greater willingness to participate in additional educational and/or stewardship events about the Great Bay Estuary</p> <p>SGWR32 - At least 100 coastal community members will report an increase in knowledge about growth and its effects on habitat, water quality, and water quantity</p>		

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	Learning Outcomes	Action Outcomes	Condition Outcomes
Conduct workshops for garden clubs, community groups, watershed associations and others interested in sustainable landscaping practices and water resources protection - workshops will include a presentation and when possible, a practical assessment of the property where the workshop is held.	Community members will report an increase in their knowledge about aquatic invasive species and how to prevent their introduction	Community members, including divers, seafood handlers, and baitfish dealers will engage in practices that prevent accidental introduction of invasive species	<b>Identify potential vectors for the introduction of potentially harmful aquatic invasive species and provide educational programs and resources to help appropriate audiences prevent such introductions.</b>
Deliver workshops as educational follow-up related to community action plans	SGWR28 - At least 10 divers, 5 seafood handlers, and 2 baitfish dealers will adopt practices that prevent accidental introduction of invasive species		
Deliver invasive species identification trainings and monitoring programs to recreational divers	SGWR33 - 20 members of a multi-stakeholder marine organization, the New Hampshire Marine Coalition meet on a regular basis to discuss and provide input on local, regional, and national fisheries issues including alternative fisheries management options like community based management		
	SGWR34 - 50 Community members, including divers, seafood handlers, and baitfish dealers will report an increase in knowledge and understanding of marine invasions and impacts on the ecosystem as well and how they can minimize introductions from their activities		

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	Learning Outcomes	Action Outcomes	Condition Outcomes
Conduct workshops for garden clubs, community groups, watershed associations and others interested in sustainable landscaping practices and water resources protection - workshops will include a presentation and when possible, a practical assessment of the property where the workshop is held.	Homeowners will increase their knowledge of pollution sources around the home landscape and of pollution effects on the ecosystem	Community participants will develop an action plan that may include both voluntary and regulatory strategies for protecting natural resources and building community support of such	<b>Provide scientifically-based information to decision-makers to create and implement plans, practices and policies for sustainable development in coastal areas</b>
Develop, enhance and deliver presentations (including GIS-based) about land use/water quality to local decision makers	Homeowners will learn techniques to reduce their contributions to non-point source pollution	Community participants will implement some change designed to improve or preserve water quality in their community's plans, practices or policies	
Facilitate community meetings to develop action plans for implementing water and natural resource based planning	SGWR26 - At least 2 communities per year will develop action plans that include a variety of approaches for making progress in community based natural resource protection projects		
Deliver workshops as educational follow-up related to community action plans	SGWR29 - 80% of sustainable landscaping participants will commit to adopting 2-3 "new" practices within 1 year of workshop (Relates to L&W3 and AG9)		
	SGWR30 - 75% of participants will be able to identify at least 6 potential sources of pollution from around the home		