

## Sea Grant and Water Resources - Commercial Fisheries -- 2007-2011 POW Worksheet

### Logic Model Overview:

**Situation:** In 2003, the Northeast had landings of 664 million pounds of fish, worth nearly \$91 million. The single most economically important species for the region continues to be the American Lobster, with landings of 70.5 million pounds valued at \$278 million. Sea scallops, at \$116 million, ranked second in value, followed by mixed groundfish and flounder at \$97 million.

The commercial fishing industry in New Hampshire is composed of nearly 140 commercial vessels, consisting of 100 lobster and 40 groundfish boats. In 2003, New Hampshire had landings of 27.4 million pounds of fish, worth just over \$15 million. The single most economically important species for New Hampshire continues to be the American lobster, with landings of 2 million pounds valued at \$9 million. Atlantic cod, at \$ 1.8 million, ranked second in value, followed by Atlantic herring, \$ 1.2 million, and goosfish at just over \$1 million. The groundfish boats are divided almost equally between gillnetters and draggers, and both individually contributed approximately 3.5 million pounds towards New Hampshire's total landings in 2003. With the exception of one large company targeting offshore lobster, most New Hampshire fishermen represent small, family-owned operations that fish inshore.

By-catch and regulatory discards continue to be a significant challenge facing the industry. These issues have been addressed through regulations and conservation engineering. Conservation engineering, or the science of designing innovative fishing gear to reduce by-catch and improve species selectivity, has raised hope for sustainable fishing practices by developing gear that has separated cod from the multi-species groundfishery, and significantly reduced by-catch in the northern shrimp fishery. Commercial fishing in the Gulf of Maine continues to face the complicated challenge of mitigating interactions between gear and threatened/endangered species, particularly marine mammals.

In addition to overfishing, commercial fisheries are under a "microscope" that has focused on understanding the impact of mobile and fixed gear on the benthic ecosystem. Scientists do not have a clear or thorough understanding of the short or long-term impacts of fishing on benthic communities. Over the coming years it will continue to be important for fisheries scientist and industry to work collaboratively to evaluate these impacts and develop strategies that will promote a healthy and economically viable fishery.

**Stakeholder Input:** Extension meets with the two local fishermen's cooperatives on a regular basis to obtain their views and needs - there are also many one-on-one meetings on the fishing docks

The Northeast Consortium has conducted formal surveys by phone and mail to determine fishermen's attitudes towards cooperative research - they also have booths with questionnaires at the Maine Fishermen's Forum, the Massachusetts Lobstermen's Association annual meeting, the Northeast Fish Expo and the American Fisheries Society annual meeting

**Assumptions:**

Commercial fishing industry remains viable  
 Sea Grant funding remains stable  
 Fishing regulations continue to restrain days at sea

**External Factors:**

There is uncertainty with NOAA/Northeast Consortium (NEC) funding for these research and extension projects  
 There is extensive lag-time between conservation gear research and review by NEFMC, a low number of conservation engineering projects that will not need regulatory change to utilize, limited cooperative research funding sources and established infrastructure by NEC for management transfer

Outputs/Activities	Outcomes/Impact		
	Learning Outcomes	Action Outcomes	Condition Outcomes
Hold educational workshops on the following topics: <ul style="list-style-type: none"> <li>▪ Economic benefits of fish handling strategies aimed at enhancing product freshness and shelf-life</li> <li>▪ focusing reducing sea-bed impacts by mobile fishing gear.</li> <li>▪ facilitating partnerships between fishermen and scientists</li> </ul> Publish articles detailing the results of cooperative research and their benefit to the fishing industry  Publish information sheets, technical reviews, and web pages authored which detail fish handling strategies and enhance economic value and shelf-life	Fishermen will have increased awareness and understanding of fishing gear designed to reduce negative impacts on benthic habitat and communities  NH, ME and MA fishermen will have knowledge of innovative fishing gear directed at reducing the by-catch of commercially important species.	Fishermen incorporate safe handling techniques and product enhancement procedures into practice.  Fishermen will select and utilize gear that reduces benthic habitat and community impact.  ME, NH and MA fishermen will choose gear that reduces the by-catch of over-utilized species	<b>Develop technologies and techniques that will lead to reduced by-catch and regulatory discard of commercially important Gulf of Maine species</b>
	SGWR1 -30 fishermen per year participate in fishing gear workshops that target by-catch reduction SGWR4 - 30 commercial fishermen increase knowledge of new conservation fishing gear that reduces benthic habitat impact. SGWR5 - 10 fishermen per year choose non-mandatory conservation-minded gear over traditional equipment as it becomes available. SGWR7 - 10 fishermen per year choose soft-bottom fishing gear over traditional equipment as it becomes available.		

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	<p>SGWR2 - 40 fishermen per year participate in cooperative research proposals submitted to appropriate programs or agencies</p> <p>SGWR6 - 5 cooperative research proposals per year involving scientists and fishermen that focus on reducing benthic impacts of mobile fishing gear are submitted to appropriate programs/agencies</p> <p>SGWR8 - Fishermen will receive \$2 million annually in competitive funding for cooperative research</p> <p>SGWR9 - 10 fishermen per year collaborate with scientists to conduct cooperative research projects.</p>		