

Sea Grant and Water Resources – Sustainable Aquaculture– 2007-2011 POW Worksheet

Situation:

The United States aquaculture industry, at about 1 billion dollars, currently ranks eleventh globally with 1% of production by weight annually. Farmed crops include mollusks, crustaceans, finfish and seaweeds. Much of the country's aquaculture production is for food, but there are also facilities producing bait, ornamentals, and species for commercial and recreational stock enhancement.

While global aquaculture production has grown at a nearly 10% annual rate over the past 15 years, growth within the U.S. industry has been less pronounced, about 45% over the 10 year period 1991-2000. There are approximately 4,000 aquaculture facilities in the United States spread across all 50 states, growing over 100 different species of aquatic plants and animals.

The bulk of U.S. production is in the South with freshwater catfish farms accounting for about 70% of farm-raised product by weight. While the U.S. has a fairly well-developed freshwater industry, marine aquaculture lags far behind, accounting for only 15% of total domestic production.

There are currently about 10 aquaculture facilities in New Hampshire with a total annual farm gate value of \$1.5 million. Until 2005, all but one of these operations was freshwater-based. Major species include trout, baitfish, bullhead, summer flounder and cod. The newest NH aquaculture operation, blue-mussel long line culture, is sited in offshore waters and should begin harvesting in 2006.

The prospects for growth of both the New Hampshire and US marine aquaculture industries will be closely tied to their potential impacts on the environment. Many of the concerns focus on the adverse impacts of disease, loss of genetic diversity, introductions of non-indigenous species, and potential for habitat degradation.

Assumptions:

aquaculture permits will be provided to start-up companies
financing is available to those working to start new aquaculture ventures
aquaculture will be profitable
environmental impacts of aquaculture will be manageable

External Factors:

The UNH OOA project is reliant on continued NOAA funding that is subject to annual fluctuations
Foreign competition is unpredictable
New product quality must remain high to succeed

Outputs/Activities	Outcomes/Impact		
	Learning Outcomes	Action Outcomes	Condition Outcomes
<p>Hold educational workshops and training sessions on the following topics:</p> <ul style="list-style-type: none"> ▪ Blue mussel aquaculture technology from the research phase to commercial phase ▪ Open Ocean Aquaculture <p>Assist individuals and companies in obtaining aquaculture permits in NH waters and federal waters</p> <p>Assist individuals and companies in developing business plans for starting and expanding mussel farms and support mussel growers in creating sustainable and profitable businesses</p>	<p>Commercial fishermen and other potential aquaculturists will gain knowledge of techniques to grow blue mussels on long lines in the open ocean</p> <p>Fishermen and interested individuals will understand the role that researchers at the UNH Open Ocean Aquaculture Demonstrations Project play in developing potential commercial aquaculture opportunities</p> <p>Fishermen and interested individuals will understand the role that researchers at the UNH Open Ocean Aquaculture Demonstrations Project play in developing potential commercial aquaculture opportunities</p> <p>Potential aquaculturists will learn how to prepare permit applications and market their products</p>	<p>Banks will fund start-up costs for blue mussel aquaculture operations based on sound business plan.</p> <p>New aquaculturists will plan to start up new ventures by growing blue mussels on long lines</p> <p>Permit applications will be submitted to NH Fish and Game seeking approval to start aquaculture ventures</p>	<p>Develop and improve production methods for cold water marine species that will lead to a sustainable aquaculture industry in northern New England.</p>
	<p>SGWR10 - 30 individuals per year will attend training sessions designed to transfer blue mussel aquaculture technology from the research phase and understand the concepts</p> <p>SGWR11 - 5 potential aquaculturists per year will obtain assistance from UNHCE/Sea Grant staff in developing business plans and drafting permit applications (Relates to NRBI1)</p> <p>SGWR12 - 2 new aquaculture businesses per year will start growing blue mussels on long lines in the open ocean (Relates to NRBI1)</p> <p>SGWR13 - By 2010 the fledgling blue mussel aquaculture industry will have grown to \$1.5 M per year</p> <p>SGWR14 - At least one bank loan per year will be made to individuals seeking to enter the aquaculture industry</p>		