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Series 4: Issues in Maine's Natural Resources Industries

Atlantic Salmon Aquaculture in Maine: Current Status and Challenges

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In 1998, the state of Maine was the second largest aquaculture producer of foodfish in the United States and the fourth largest overall producer in terms of value of production (USDA- NASS, 1998). While Maine aquaculture produces finfish, shellfish and sea vegetables, salmon farming currently accounts for nearly 86% of the total value of state production. Moreover, Atlantic salmon is second only to lobster in value of fishery products to the State of Maine. There are currently 44 marine lease sites for finfish aquaculture, covering 745 acres, but only 28 are actively used for farming (A. Fisk, Maine Department of Marine Resources, personal communication). In 2001, 13,202 mt of Atlantic salmon were produced in Maine and, when valued at the opportunity cost of imported salmon, generated US$63.7 million in revenue and an additional US$32.7 million in indirect and induced economic activity. Value-added processing generated an additional US$37 million in local revenue. The salmon industry directly and indirectly employs approximately 2,500 persons in two of the state's most impoverished counties.

Challenges to the Industry

The Atlantic salmon aquaculture industry in the state of Maine, however, is faced with many challenges. Salmon production in the Cobscook Bay of Down East Maine, where the majority of salmon farms are located, was devastated by an outbreak of infectious salmon anemia (ISA) in 2001 and early 2002. This disease, which is not harmful to humans, forced the eradication of nearly 2.4 million fish and caused an approximate loss of $24 million in production. The area was quarantined for several months before production resumed but at stocking densities 30% lower than before the outbreak. Uncertainty surrounding disease reoccurrence has led some producers to delay restocking of leaseholds. Proposed permit regulations will require that there is only one year class of fish on site at any one time with adequate fallow time to disrupt transfer of pathogens from one year class to another. While this practice is a good health management practice, it does require additional lease sites to allow for the same number of fish to be reared per year. However, optimal lease sites are limited along the coast of Maine and there are increasing pressures from riparian land owners and other opponents of aquaculture to prevent approval of new sites.

Disagreements on the environmental impacts of salmon net pen culture has lead to uncertain lease site permitting regulations. Maine's Board of Environmental Protection (BEP) met in Machias and Bangor recently to hear testimony on a proposed environmental permit for certain aquaculture facilities. It is uncertain at this time what the final permit will require of the industry and what the economic impacts on the Industry will be.

Other major challenges facing the Atlantic salmon industry in Maine surrounds the impact of the 2001 listing of distinct population segments of Atlantic salmon as "endangered" by the U.S. Fish and Wildlife Service. This distinct population segment lives in close proximity to many salmon aquaculture sites. Regulations arising from the listing are not likely to preclude any firms from producing salmon but it is likely to result in across-the-board increases in the cost of operation and will put Maine firms at a disadvantage in the competitive world market. The full impact of the endangered species listing will not be known for several years but preliminary estimates indicate that the shift to non-European strains of salmon, marking of farmed salmon, better containment systems, increased monitoring and moving operations further offshore will increase the cost of salmon farming. In addition, the listing will create an uncertain regulatory environment for investment. Current comparative advantage in Maine production is counted in cents per kilogram and largely exists due to limited product transportation costs to major market centers vis-a-vis world competitors. Current operations will continue but without normal upkeep and technological improvements the facilities will decline and are more likely to shut down rather than be repaired or improved upon.

Outlook for the Future

The future for the Atlantic salmon industry in the state of Maine is uncertain. Consumer demand for Atlantic salmon continues to rise but is being met by imports. Imports of Atlantic salmon to the U.S. increased by 27% in the first six months of 2002. Total imports are expected to reach 199,581-208,652 mt in 2002 with an expected value between $840-875 million. In 2001, Canada and Chile combined to supply over 90 percent of all U.S. Atlantic salmon imports and this pattern continues in 2002. If Maine's industry is to play a significant role in meeting U.S. consumer demand for Atlantic salmon, an environment of cooperation among state and federal agencies with the industry to meet common goals of a sustainable industry will be necessary.

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