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2008 AQUACULTURE ANNUAL REPORT



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Background

Minnesota Statutes Section 17.49, Subd. 2 requires that all aquaculture programs in the State must be coordinated through the Minnesota Department of Agriculture. Aquaculture research, projects, and demonstrations must be reported to the Department before state appropriations for the research, projects, and demonstrations are encumbered. Minnesota Statutes Section 17.49 Subd. 3 requires the Minnesota Department of Agriculture to prepare an annual report on the status of aquaculture products in the state.

AQUACULTURE

Interest in aquaculture development in Minnesota began in the 1980's when the abandoned mine pits in northern Minnesota were identified as potential water resources. A start-up company with venture capital funding, Minnesota AquaFarms produced salmon for the local and regional market. The company did not survive – losing \$16 million during the course of its operation.

There were two major reasons for Minnesota AquaFarms' failure. First, AquaFarms spent nearly a million dollars in its attempt to meet the stringent Pollution Control Agency (PCA) requirements for maintaining the water quality in the mine pits. Second, the profit margins for salmon sales in Minnesota diminished after Chile became a serious competitor in the salmon industry. Following the success of the Norwegian salmon industry, the whole sale price of salmon was about \$3.00 per pound. But AquaFarms saw that drop to \$2.00 per pound worldwide when the Chileans entered the market.

Other businesses learned from Minnesota AquaFarms' failure and focused their efforts on indoor recirculating aquaculture systems. Here, water is treated and reused throughout the operation. These companies made several attempts at perfecting this process, but only one, MinAqua Fisheries in Renville succeeded in staying in business.

The Minnesota Department of Agriculture (MDA) was designated the lead agency for aquaculture development in the late 80s when interest in aquaculture farming was growing. The MDA's Marketing Services Division provided development assistance, however, all regulatory authority stayed with Minnesota Department of Natural Resources (DNR). All fish farms were required to obtain a license from DNR and, under certain circumstances, a discharge permit from the PCA. When aquaculture development subsided in the late 90s, there was less need for MDA's oversight and the Marketing Division reprioritized its focus on the marketing of other agricultural products.

Minnesota's aquaculture industry consists of - food fish, fingerling for stocking and bait fish.

Today, food fish is mainly produced by fish farms that raise trout and tilapia. These trout farms are typically located at a source of spring water where a constant water temperature is maintained. Among them, Stockton Trout Farms, located in Stockton, MN provides a continuous supply of fresh trout with estimated annual revenues of \$100,000. Stockton Farms' ability to compete in the trout market is fairly limited as the State of Idaho, with an abundance of spring water, produces far more quantities of trout.

MinAqua Fisheries annually produces more than one million pounds of tilapia with an estimated value of \$1.5 million. The tilapia is raised in a 640' x 120' indoor fish barn containing more than two million gallons of water. The waste heat from the nearby sugar beet plant is reused to heat the fish barn year round. The water is reused within its system to conserve both water and heat. The final discharge goes through a settling pond before entering the Renville city sewer treatment plant. All of MinAqua's products are trucked live in water and sold primarily in Toronto and Vancouver for the Asian niche market. Market limitations include the size of the Asian population in these localities - the total live market size for both Canada and the United States is about 20 million pounds per year.

The second segment of the aquaculture industry involves the raising of fingerlings for sport fishing. These farms raise primarily fish fingerlings for stocking both Minnesota and out-of-state waters. These fingerlings include walleye, yellow perch, muskie, and northern pike. Fingerling sales in this sector are estimated at about \$1.5 million with the State of Minnesota (DNR) constituting half of its sales, or about \$800,000.

The third and largest segment of the aquaculture industry is the production of bait. Species of bait include, but are not limited to, white suckers, golden shiners, fat head minnows and leeches. According to DNR Fisheries, the total sales of all bait cultured, as defined by being harvested in the licensed waters for aquatic farming, amounted to approximately \$10,000,000 - a considerable increase over the last 10 years. This growth is attributed to the transition from wild harvesting of minnows to harvesting from licensed waters where some culturing or human intervention is involved in the production of these organisms.

With the threat of Viral Hemorrhagic Septicemia (VHS), this trend is going to continue. The VHS virus, as in any other spread of disease, will probably require a health certification. As a result, sellers of farm raised fish will probably obtain that certification more easily than those in the wild fish market. Currently DNR has authority to issue fish health certification. Minnesota statutes stipulate that whoever issues fish health certification has to be recognized by a state or federal resource management agency.

There is no designated budget for aquaculture. Aquaculture development efforts were coordinated as part of the overall marketing activity of the Department of Agriculture. In the last several years there has been little or no new aquaculture development, therefore no coordination has been needed. The Department does not see any change in this in the foreseeable future, so it will therefore be seeking a legislative change to eliminate this yearly activity report. The Department will continue to look for any opportunities to further develop the program if events in the industry change in the future, however.