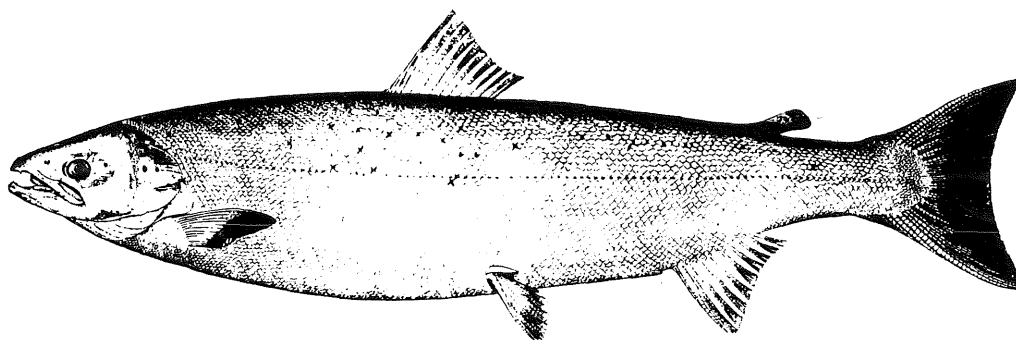


**Aquaculture Advisory Committee
State of Minnesota**

**Interagency Responsibilities for
Aquaculture Development in Minnesota**



March 1988

Compiled by the
**Minnesota Aquaculture Advisory Committee
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**INTERAGENCY RESPONSIBILITIES FOR
AQUACULTURE DEVELOPMENT IN MINNESOTA**

Compiled by the Minnesota
Aquaculture Advisory Committee

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INTERAGENCY RESPONSIBILITIES FOR AQUACULTURE DEVELOPMENT IN MINNESOTA

Compiled by the Minnesota Aquaculture Advisory Committee

INTRODUCTION

The general purpose of the Minnesota Interagency Aquaculture Agreement is to provide guidance for the development of aquaculture in a technically, environmentally, and economically sound manner. The specific purpose of the Agreement is to establish and describe the roles of agencies and institutions in the orderly development of aquaculture in Minnesota. The agreement serves as a blueprint of coordination among agencies and institutions and as a source of information for Minnesota residents. It is a dynamic document capable of evolving to meet industry and resource needs.

BACKGROUND

This agreement was prepared by the Minnesota Aquaculture Advisory Committee. The Committee was charged with identifying the major needs for orderly aquaculture development and recommending solutions to meet those needs. This interagency agreement is only one product of the Committee and compliments a broader set of recommendations for promotion of aquaculture development.

While the Committee began its activities as a governor's interagency task force in February of 1987, it became legislatively mandated as an "Advisory Committee" with the enactment of S.F. No. 69 in July of 1987 (Minnesota Statutes 1987, Chapter 318). This act designates the Department of Natural Resources (DNR) as the lead agency in the establishment and regulation of fish farms. The Department of Agriculture was designated as the agency responsible for the promotion of aquaculture in Minnesota.

A fish farm is defined as a "facility for commercially raising fish for sale to be commercially processed for human consumption". Through amendments to Minnesota Statutes 1986, section 97c.211, the act also continues the prior designation of the DNR as the lead agency for regulation of private fish hatcheries. A fish hatchery is defined as a "facility for raising fish for sale, for stocking waters or for angling".

DEFINITION OF AQUACULTURE

Aquaculture is the growing of aquatic animals and plants in fresh, brackish, or salt water. Examples of organisms cultured in brackish and salt water include salmon, shrimp, oysters, and kelp. Freshwater aquaculture, as practiced in Minnesota, consists of culturing a variety of fish, including warm water (e.g., catfish, bluegill, bass), cool water (e.g., walleye, muskellunge), and cold water (e.g., trout, salmon) species. Fresh water aquaculture also includes

aquatic plants raised for food (e.g., wild rice), or for biomass energy use (e.g., cattails).

Methods of aquaculture range from extensive to intensive depending on many factors such as the degree of environmental control, the amount of capital required, and the stocking density of the cultured organisms, etc. Extensive aquaculture involves raising aquatic organisms at low stocking densities with minimum or moderate amounts of labor, little control of the natural environment, and on natural food. An example of extensive culture for Minnesota is stocking trout fingerlings into a farm pond for subsequent harvest.

Intensive culture involves raising fish at higher stocking densities with increased labor and costs, with greater environmental control, and on artificial feeds. An example of intensive culture for Minnesota is raising trout in concrete raceways using large volumes of pumped groundwater. Because an intensive culture system requires a greater degree of environmental control, it is only cost effective with high production (in terms of lbs. produced per cubic foot of water), efficient harvesting methods, and good markets.

Some systems are neither strictly intensive nor extensive, but rather semi-intensive systems. An example found in several northern climates is raising salmon or trout in floating net pens. Extensive aspects of the system are the absence of control over the volume, temperature or quality of the water flowing through the pen; intensive aspects are that fish are held at moderate stocking densities and are fed artificial rations.

ROLES OF AGENCIES AND INSTITUTIONS

The **Minnesota Aquaculture Advisory Committee** has been established to oversee and coordinate the orderly development of aquaculture. The Committee is coordinated by the State Planning Agency and includes representatives from the private aquaculture industry, the Minnesota Fish Farmer's Association, The Department of Agriculture, the Department of Natural Resources, the Department of Trade and Economic Development, the State Senate Environmental Committee, the State House Environmental Committee, the University of Minnesota Department of Fisheries and Wildlife, the University of Minnesota Extension Service, the University of Minnesota School of Business and Economics, the Natural Resources Research Institute, the Iron Range Resource Rehabilitation Board, the Farmer's Home Administration, and the Soil Conservation Service. It will utilize this interagency agreement recognizing that it is a dynamic document which will evolve to meet industry and resource needs. The role of the Minnesota Aquaculture Advisory Committee is to:

1. Coordinate and encourage cooperation among all private, state, local, and federal government entities involved in aquaculture and related activities.
2. Advise the Department of Agriculture on the promotion of Aquaculture in Minnesota.
3. Provide liaison between the state agencies and other interested organizations.
4. Review major issues affecting development of aquaculture in Minnesota.

5. Review all proposed legislation and budget proposals affecting the aquaculture industry and provide comments and recommendations.
6. Update the Interagency Responsibilities for Aquaculture Development in Minnesota document as necessary to keep it current with new technological growth and needs.
7. Develop a long range strategy report on prospects and technical needs for aquaculture development in Minnesota for the next five to ten years.

The **Minnesota Department of Natural Resources** has been and will continue to be a major aquaculture producer for stocking fish into public waters. It also has been the lead agency in research on the culture of game fish species, management of aquatic plants, lake aeration for extensive aquaculture, use and appropriation of surface and groundwater, fish health services and dissemination of aquaculture information. The Department of Natural Resources recognizes the need for an expanded aquaculture research and development program to improve the efficiency of fish production in northern climates. The role of the Minnesota Department of Natural Resources in the Minnesota Aquaculture Agreement is to:

1. Exercise regulatory control over species to be farmed and over facility operations.
2. Provide leadership and support for aquaculture research and development related to game fish species.
3. Provide technical assistance in aquatic plant management for aquaculture and exercise regulatory control over aquatic plants growing in protected waters.
4. Provide technical assistance on aeration for extensive aquaculture and exercise regulatory control over aeration of protected waters.
5. Exercise regulatory control over use and appropriation of surface and groundwaters.
6. Provide limited diagnostic services and assistance, based on available staff, in the management of fish health.
7. Provide information in cooperation with the University of Minnesota Aquaculture Extension Program to owners of private ponds.
8. Assist as appropriate and feasible in the development and delivery of information on permitting of regulated activities through seminars, workshops and short courses.
9. Make available surplus eggs or fish of unique species or characteristics to commercial producers on an exchange or fair cost basis.

The **Minnesota Department of Agriculture** recognizes the potentially important role that aquaculture has in the diversification of agriculture for the state of Minnesota. Aquaculture may offer Minnesota the potential of added flexibility in farming operations and farmland. The Minnesota Department of Agriculture will provide information and services for aquaculture similar to established information and services provided for other agriculture sectors. The role of the Minnesota Department of Agriculture in the Minnesota Aquaculture Agreement is to:

1. Assist in promoting and marketing aquaculture products on a statewide basis as follows:

- a. work with other state and federal agencies to encourage the development of an aquaculture industry in Minnesota;
 - b. provide liaison between other state and federal agencies that regulate food products.
2. Provide services related to feeds through the Agronomy Services Division as follows:
- a. perform sample analysis of feeds;
 - b. assist in locating appropriate registered feed medications or medicated feeds as the need arises;
 - c. certify operators as pesticide applicators in the event needed pesticides are classified for restricted use by the EPA;
 - d. make emergency use of special local need registration of pesticides should the need arise;
 - e. cooperate closely with the Department of Natural Resources on aquatic uses of pesticides;
 - f. provide ongoing information on acceptable pesticides, etc.;
 - g. take routine pesticide samples to assure correct labels.
3. Provide services through the Plant Industry Division as follows:
- a. provide the inspections and certification for "nursery" dealers or growers to cover any movement of aquatic plants, domestic or foreign;
 - b. monitor aquatic plants for insect or plant disease organisms and provide some diagnostic services;
 - c. cooperate in the development of polyculture involving aquatic plants and fish or crustaceans.
4. Provide analytical capabilities through the Laboratory Services Division in support of the aquaculture industry as follows:
- a. monitor water, tissue, and feed as needed, for pesticides and other contaminants;
 - b. provide analysis of fish feeds to verify that they meet the nutritional criteria listed on the label (fat, fiber, protein, etc.);
 - c. perform sample analysis on Minnesota Department of Agriculture regulatory samples obtained at aquaculture facilities that further process food or fish products.
5. Provide services through the Food Inspection Division as follows:
- a. provide information to aquaculture firms on state requirements for food and fish handling, processing, labeling and licensing;
 - b. assist in the development and delivery of seminars, workshops and short courses on state requirements for food and fish products;
 - c. provide federal fish inspection services to fish processing firms that desire to be inspected under the United States Department of Commerce, National Fisheries Service, voluntary inspection program;
 - d. provide health certificates for food and fish products intended for international sale;
 - e. review and recommend necessary changes in state statutes and Department rules so that they keep pace with technological advances in food and fish processing;

- f. provide the necessary requirements for transporting fish as a food product;
- g. provide a list of available processors.

The Minnesota Department of Trade and Economic Development (DTED) provides technical and financial assistance to prospective entrepreneurs. The role of the Department of Trade and Economic Development in the Minnesota Aquaculture Agreement is to:

1. Provide technical assistance and information to aquaculture/fish farm operators.
2. Provide assistance and make referrals for development of business plans.
3. Provide assistance and make referrals for development of marketing plans and understanding of marketing costs.
4. Assist in identifying financing for new and expanding businesses.
5. Provide site selection assistance.
6. Provide financing which augments the overall financial package.
7. Assist in identifying national and international market opportunities.
8. Provide counseling on procedures used in international trade.

The Minnesota Pollution Control Agency (MPCA) regulates the discharge of pollutants to waters of the state from various types of industries including aquaculture operations. The role of the Minnesota Pollution Control Agency in the Minnesota Aquaculture Agreement is to:

1. Review proposals for aquaculture projects to determine if permits are required and if pollution control equipment is necessary.
2. Provide review of plans for pollution control equipment.
3. Issue discharge and pollution control equipment permits when necessary for aquaculture projects.
4. Monitor compliance with permits and take necessary action to ensure compliance.

The University of Minnesota, through its Sea Grant College Program, College of Agriculture, Agriculture Experiment Station, Minnesota Extension Service, College of Forestry, Department of Fisheries and Wildlife and Natural Resources Research Institute (NRRI) is to provide the lead for formal education and information transfer on commercial aquaculture. The role of the University of Minnesota in the Minnesota Aquaculture Agreement is to:

1. Maintain an active program in aquaculture research with a focus on northern climates.
2. Maintain an active program in the education of fishery scientists with an interest in aquaculture.
3. Maintain and expand extension capabilities to provide technical assistance in the development of commercial aquaculture in Minnesota and to disseminate appropriate aquaculture information, including results of aquaculture research.
4. Educate and assist potential producers in complying with state and federal regulatory requirements.

5. Encourage interstate cooperation through participation in the North Central Regional Aquaculture Center and regional activities related to aquaculture.

The **USDA Soil Conservation Service (SCS)** recognizes that fish raised on farms are an agriculture product and that the planned production of such can be a specific and a distinctive soil and water use. Through the Minnesota Soil and Water Conservation Districts, the SCS provides technical assistance in use of water for the production of fish as either a primary or a secondary use. With field offices in nearly all counties, the SCS is able to work directly with landowners and operators whose desires and farm resources indicate opportunity for aquaculture. The SCS role in the Minnesota Aquaculture Agreement is to:

1. Provide and interpret soils information in the selection of sites for facilities such as ponds, reservoirs, raceways and waste disposal systems.
2. Assist the producer in assessing topography, drainage, and flow rates related to an aquaculture operation.
3. Provide engineering advice and assistance in design and layout of impoundments, water supply systems and related facilities.
4. Assist other agencies in information and technology transfer including participation in seminars, workshops, short courses and meetings.

The **Farmers Home Administration** provides financial assistance to aquaculture operators as the financing institution of **USDA**. The role of the Farmers Home Administration in the Minnesota Aquaculture Agreement is to:

1. Provide financial counseling and technical assistance.
2. Work with applicants and borrowers, as well as with state and local officials, planning groups and government agencies.
3. Provide a supplemental source of credit to people who are eligible under FHA requirements, augmenting the efforts of the private lenders rather than competing with them.

Many other **USDA agencies** will provide some form of assistance to the aquaculture industry. Their responsibilities are outlined in a recently developed department plan titled, "Aquaculture - A Program for the Eighties." The plan outlines the resources required, the internal mechanisms needed and budget disbursements.

The USDA plan proposes an array of activities including a research and technology transfer program, marketing and economic analysis, food safety, and consumer acceptance work. A North Central Regional Aquaculture Center will be established to coordinate regional research, development, and information dissemination. A high priority item is to conduct a survey of the industry to generate a data base which is essential for industry growth and stability and for use by government planners. Many of those engaged in Minnesota aquaculture activities will be asked to supply information for this survey.

The **U.S. Army Corps of Engineers** regulates the discharge of dredged or fill material into wetlands and the building of structures in navigable

waterways. The role of the U. S. Army Corps of Engineers in the Minnesota Aquaculture Agreement is to:

1. Review proposals for aquaculture projects involving construction, dredging, or fill in navigable waterways and wetlands to determine if permits are required.
2. Following review and evaluation of applications, provide technical and design recommendations if appropriate.
3. Approve or deny construction, dredging, or fill permits when necessary for aquaculture projects.
4. Monitor compliance with permits and take necessary action to ensure compliance.

The **Iron Range Resources and Rehabilitation Board (IRRRB)** through its Mineland Reclamation and Economic Development Divisions will assist in the promotion of the aquaculture industry as it relates to the Cuyuna, Mesabi and Vermilion Iron Ranges, especially when utilizing water filled abandoned mine pits. Because of the nature and function of the IRRRB, the agency must limit its focus to a specific geographic location within the state. The IRRRB recognizes the potential important role that aquaculture has in northern Minnesota. The role of the Iron Range Resources and Rehabilitation Board in the Minnesota Aquaculture Agreement is to:

1. Assist in identifying potential available financial resources.
2. Assist interested producers in identifying available water resources.
3. Assist interested producers in obtaining lease agreement and assist in other land related problems.
4. Work closely with the Minnesota Department of Natural Resources and other governmental agencies in providing a leadership role in the development of an aquaculture industry on the Cuyuna, Mesabi and Vermilion Iron Ranges.

PROPOSAL FOR STATEWIDE AQUACULTURE ASSOCIATION

As a part of the Advisory Committee's long-range Aquaculture Strategy for Minnesota, a **Minnesota Aquaculture Association** is strongly proposed. The purpose of such an organization would be to accomplish the goal of a strong aquaculture program in the state of Minnesota, and to participate in this Interagency Agreement. The association's role in the Minnesota Aquaculture Agreement would be to:

1. Develop a unified statewide association that can effectively voice the needs and concerns of the aquaculture industry.
2. Encourage participation in the association from all sectors of the aquaculture industry.
3. Promote and develop the aquaculture industry and programs favorable to aquaculture.
4. Encourage the development of better production methods, markets and processing facilities.
5. Monitor existing and proposed legislation affecting aquaculture.
6. Assist in sponsoring workshops to keep abreast of current developments in aquaculture research.

7. Consider the establishment of an Aquaculture Producers Cooperative for Minnesota.

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