LCMR WORK PROGRAM - July 1, 1993

LCMR Final Status Report

I. Pilot Fish Pond Complex for Fisheries Development and Education

John P. Ringle
Fisheries Director
Leech Lake Reservation
Rt 3, Box 100
Cass Lake, MN 56633
218/ 335-8240

A. M.L. 91 Ch. 254 Article 1 Sec. 14 Subd: 8(a) Appropriation: $250,000
Balance: $0

Pilot Fish Pond Complex - Fisheries Development and Education: This appropriation is to the Commissioner of Natural Resources for a grant to the Leech Lake Band of Chippewa Indians to develop fish ponds for production of sportfish and baitfish.

B. Compatible Data: N/A

C.Match Requirement: N/A

II. Narrative

The Leech Lake Reservation Fisheries Department proposes to develop and construct a properly designed multispecies fish culture pond pilot complex which can be utilized for fish production in an environmentally sound manner. Such a complex does not currently exist in Minnesota. The Complex will serve as an educational laboratory for aquaculture demonstrations and research. Intensive and scientific management of properly designed and constructed fish ponds will play an increasing role in aquaculture development in Minnesota.

III. Objectives

A. Design and site the pilot fish pond complex.

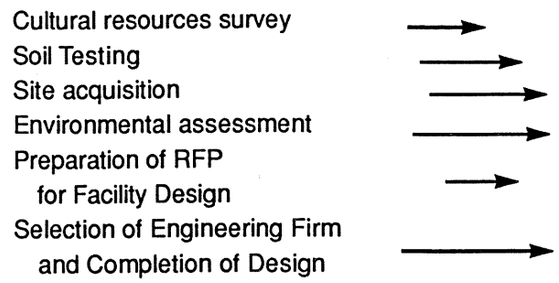
A.1. Narrative: a 20-30 acre modern multispecies fish production complex will be designed and sited in an environmentally sound manner. Proper aquaculture engineering will insure this objective. Prior to construction, soil testing, a cultural resources site survey, an environmental assessment and detailed site plans will be prepared.

A.2. Procedures: Soil testing will be contracted to a qualified engineering service. A cultural resources inventory will be conducted by the Leech Lake Cultural Resources Survey Staff. An RFP will be developed to solicit proposals for the design of fish ponds and associated plumbing and harvesting structures.Prior to this a suitable site will be identified and acquired by the Leech Lake Reservation Business Committee. The environmental assessment will be conducted by the Leech Lake Reservation Division of Resource Management in consultation with the MPCA.

A.3 Budget:

	LCMR Funds
a. Amount Budgeted	$33,035
b. Balance	$ 0

A.4. Timeline for Products/Tasks



A.5. Status:

Because preliminary cost estimates placed the total project cost above the $250,000.00 received from the LCMR (we originally asked for $419,000), we initiated grant proposals for additional funding to federal agencies with responsibilities for funding suitable projects on Indian Reservations. We have received Funding for $164,000 from the BIA Indian Business Development Grant Program coupled with an additional $125,000 from the Administration for Native Americans through an Interagency Agreement. This funding was available because of the prior funding committment to the project by the LCMR.

The land status of this project site has been in question for nearly 40 years. In the late 1940's, this Federal Trust property was condemned by the State for use as Fish Rearing Ponds. A reverter clause allows this property to revert to the previous owners including Leech Lake Band and the U.S. Forest Service in the event the state did not utilize the site. The State has not reared fish at the site in over 20 years. The Minnesota State Legislature passed legislation allowing the State to sell the Winnibigoshish pond property in state ownership (about half of the property) to the Leech Lake Band for a price at or below appraised value. We negotiated with the State on a purchase price. In the meantime, construction began under a lease agreement with the MNDNR. In the near future, the site will become property of the Leech Lake Reservation. We are currently waiting for the Bureau of Indian Affairs to complete probates on the remaining property and accept the entire parcel in trust for the Leech Lake Band of Chippewa Indians.

Fish Pro, Inc. conpleted the preliminary site design and was contracted to do the final design and engineering. We had initially hoped to begin work in the fall of 1992, however funding delays and design questions prevented an early start. In March, the bidding process was initiated. A contractor was selected and work began in May
We have received contributions of 1100 feet of 36 inch steel drainpipe as in-kind assistance for materials from the Great Lakes Gas Transmission Co. The U.S. Forest Service donated 30,000 yards of borrow material for pond levee construction .

Construction plans and other documents have been forwarded to the MNDNR Regional Office in Grand Rapids.

A.6. Benefits: Environmentally sound development and proper site selection with site specific aquaculture engineering are prerequisites to a successful aquaculture project of this nature. Pre-construction planning will be needed, and documentation of stepwise development will be made available to the private sector as a guide to the development of an environmentally sound use of a surface water supply for small scale aquaculture in Minnesota.

B. Construction of Fish Rearing Ponds

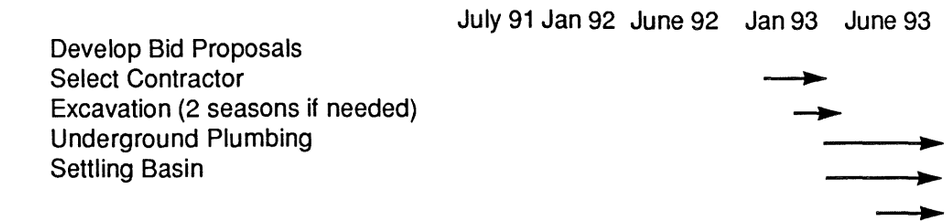
B.1 .Narrative: Construction of 10-12 excavated, managable fish rearing ponds, each from one to two acres in size will be performed by a qualified contractor on the previously selected site. The Ponds will be constructed in the typical manner of drainable fish production ponds that currently exist in other locations in the upper midwest.

B.2 .Procedures: Bids will be let for excavation and underground plumbing work. A contract for or contractors will be selected. Lowest qualified bidder proceedures will be followed. Construction will be performed according to design specifications. Specifications will include: Underground plumbing, intake structures and valves, and a water distribution system. Ponds will be excavated and a suitable discharge control structure including settling basin and a managed wetland will be utilized to eliminate solids and nutrients from reaching discharge water. Construction will also involve levies and harvest basins. Ponds will be constructed over a two year construction period if necessary.

B.3 Budget:

	LCMR Funds
a. Amount Budgeted	
Excavation	$120,000
Underground Plumbing	$ 90,000
Settling basin/Discharge Control	$ 6,965
b. Balance	
Excavation	$ 0
Underground Plumbing	$ 0
Settling basin/Discharge Control	$ 0

B.4. Timeline for products/Tasks



B.5 Status:

Construction started in earnest in late May. We are nearing 50% completion of the project. Underground plumbing has been started. Over half of the above ground earthwork has been completed. We will be installing the drain line in about one month. We have a signed and bonded contract with our contractor, Aspen Construction of Walker, MN, obligating all the LCMR funding. This has been provided to our DNR Liason Officer. Thecontract specifies work to be completed by October 1, however the contractor's work schedule specifies 100% completion by the end of August. Timelines have been adjusted accordingly.

We have been notified that the U.S. Army Corps of Engineers will provide 75% of the funding to install a new water supply line next spring. As part ofour share, we will utilize and maintain 60 acres of adjacent old pond area for waterfowl production.

The Natural Resources Research Institute has developed a baitfish research funding proposal that is expected to receive funding for next year. They will assist us in developing methods for the semi-intensive production of white suckers as a marketable baitfish species at this facility.

Because of the reduction in LCMR funding, it was imperative we get additional funding prior to beginning construction. This was the major reason for the delay. Also, the design phase took longer than expected. The actual cost on a per acre basis is closer to $50,000.00. We received good cooperation from the MNDNR There is great potential to develop this project further by adding additional pond area, installing a nature trail or observation area, and generally cooperating with the U.S. Forest Service and the Army Corps of Engineers.

B.6 .Benefits: Use of lowest qualified bidding process will insure that a qualified contractor will be selected to excavate ponds and properly install underground plumbing. This will insure the successful completion and continued operation of these facilities. Constructed ponds will be fully manageable for maximum fish production and least amount of stress during harvest. This complex will demonstrate: 1) an environmentally sound use of a surface water supply and 2) construction techniques that can be utilized for small to medium scale aquaculture pond production in Minnesota.

IV. Evaluation:

For the FY 1992-1993 this project can be evaluated for its ability to complete the site selection process, select a competent and qualified engineering firm to design the facility, complete the site design and also complete the construction as outlined in the design. Completion of the ponds in 1992 will allow for the first year of production in the ponds during the early summer of 1993, the last quarter of the biennieum. Prior to any attempt at fish rearing, pond drain systems and settling basins will be tested and water discharge quality monitered to insure and enveronmentally sound operating regime. All copies of RFP's, bid proposals, bid solicitations, pre construction drawings, construction timetables, construction punchlists and as - built drawings will be provided to the Minnesota Department of Natural Resources' Planning Division and held by them as public domain.

Over the long term, evaluation of this project's success will be the operation and production of an aquaculture product that can be used to supplement the fisheries resources of the Leech Lake Reservation and develop the baitfish aquaculture component that will be economically beneficial to the Reservation and provide information and direction to an emerging baitfish aquaculture industry in Minnesota. Enhancement of local recreational fishing opportunities by stocking native gamefish produced at this facility, and the documentation of rearing systems that can be applied elsewhere will be the likely outcomes of this project. Baitfish sales could be used to offset facility operation and maintenance costs. This facility could be used as a training center for private aquaculture demonstrating pond management techniques that are environmentally suitable for our regions. Space could be made available for future cooperatibe projects with organizations such as NRRI and the University of Minnesota over the 20 plus years life expectancy of this project. Documentation of pond construction techniques would be made available to private fish farmers elsewhere.

V. Context

A. Currently there are no projects that exist in the state of Minnesota of a similar nature. There are few drainable ponds being used for fish production that have been designed and constructed for use intended for private sector aquaculture. The future ofaquaculture in Minnesota will depend upon the use of constructed ponds,environmentally sound use of abundant surface water and proper safeguards to insure no environmental degradation will occur.

B. This work will adress some of the concerns private aquaculture has with regard to development and management of constructed ponds and use of surface water supplies. Currently, much interest exists in Minnesota with regard to aquaculture development, yet facilities do not exist.

C. The Leech Lake Reservation Fisheries Department has been very active over the last six years developing an intensive indoor aquaculture facility specializing in the rearing of a fish not previously cultured, Lake Whitefish. Annual production exceeds 300,000 whitefish fingerling. Nearly 40,000 walleye fingerlindgs are produced annually in natural rearing ponds. A baitfish aquaculture component to our program has been developed consisting of the taking of eggs, incubation and production of white sucker fry for a regional bait industry. In addition to our fish culture facilities we have a very active fish management section, conducting lake surveys fish population surveys, water quality assesments, habitat enhancement and restoration projects and a variety of other fisheries management activities designed to enhance the activities of the MNDNR fisheries program, to provide for continued tribal subsistence and commercial fishing while at the same time providing a viable sportfishing industry as the base for tourism in our region. We have previously not been the recipients of LCMR funding. Potential future LCMR proposals could involve natural resource and habitat enhancement projects and could includwith a variety of state and federal agencies that have management responsibility within the reservation boundaries.

D. Not Applicable

E. Not known at this time.

Qualifications:

1. Program Manager

John P. Ringle
Fisheries Director
Leech Lake Fisheries Department

M.S. Animal Ecology (Fisheries), Iowa State University, 1983. Thesis work on channel catfish aquaculture. Program manager has been involved in aquaculture activities and projects since 1979. He has worked at the MNDNR St. Paul fish Hatchery, been employed by the S.D. Dept of Game and Fish and Parks as the Hatchery Biologist at the Blue Dog State Fish Hatchery and was employed in private aquaculture in Staples, MN for two years. Currently he is supervising all aspects of fisheries management on the Leech Lake Reservation, including hatchery development. Program manager has developed cooperative projects with the University of Minnesota, NRRI and the U.S. Forest Service. Program manager is a member of the Minnesota Aquaculture Advisory Commision, MN Fish Farmers Association, The American American Fisheries Society, and the Industry Advisory Board of the North Central Regional Aquaculture Commission (USDA). Mr Ringle's Primary role will be as program coordinator budget coordinator and to oversee all work conducted.

2. Major Cooperators:

A) Mr. Steve Mortensen
Hatchery Manager, Leech Lake Reservation Fisheries Department
B.S. Aquatic Biology, Bemdji State University

Mr. Mortenson has previously worked with the MNDNR Fisheries Division. He has worked for the Leech Lake Fisheries program since its inception in 1984. He has developed a variety of equipment and techniques for the culture of Lake Whitefish. He has been involved in all aspects of hatchery design and construction and ;fish production. He is also currently involved in our fisheries fieldwork projects. He has provided most of the technical expertise in equipment design and maintenance and is a trained and certified marine mechanic. He has designed and constructed a majority of our electrical and mechanical hatchery systems.

B) Mr. Peter Bernier
Community Development Planner, Leech Lake Reservation Business Committee

Mr. Bernier is a graduate of Michigan Technological University's Civil and Enviroinmantal Engineering degree program. His expertise is in construction and construction management. He has worked for the Reservation for 12 years in all aspects of building construction and community development infrastructure planning. Mr. Bernier's work responsibilities includedeveloping contracts, bid proposals, RFP's and plans and specifications. Mr. Bernier will aid in all aspects of this project related to the site plan development, bid solicitation, and construction management.

C) Mr. Gerald White
Natural Resources Director, Leech Lake Reservation Division of Resource Management.

Mr. White holds a B.A. in Biology from Bemidji State University. Mr. White has been involved with our department for the past two years. Initially he worked as a field technician for fisheries and water resources projects. More recently, after completion of his degree, he has been employed as the natural resource planner. Current projects include development of an EPA grant designed to plan the proper closure of our sanitary landfill. He has also worked as the field supervisor for our white sucker aquaculture facility. He has experience in planning, project reporting, and project development.

Reporting Requirements

Semiannual status reports will be submitted not later than January 1, 1992, July 1, 1992, January 1, 1993 and a final status report will be submitted by June 30, 1993.

1991 RESEARCH PROJECT ABSTRACT
FOR THE PERIOD ENDING JUNE 30, 1993
This project was supported by MN Future Resource Fund (MS 116.13)
TITLE: Pilot Fish Pond Complex for Fisheries Development and Education
PROGRAM MANAGER: John Ringle
ORGANIZATION: Leech Lake Reservation Tribal Council
LEGAL CITATION: M.L.91, CH.254,Article 1, Sec. 14, Subd:8(a)
APPROP. AMOUNT: $250,000.00

STATEMENT OF OBJECTIVES

To design and site a modern multispecies fish production complex in an environmentally sound manner utilizing a combination of state, federal and private funding sources. After the design phase, to construct the facility, consisting of 10 one-acre manageable fish ponds. After the ponds are developed, the goal is to utilize the complex to produce fish for the fisheries management program on the Leech Lake Reservation as well as developing capabilities to produce baitfish for commercial use. Cooperation with research and educational institutions such as the Natural Resources Research Institute (NRRI) and the Minnesota Department of Agriculture will help us disseminate information to other interested parties.

RESULTS

Siting the project occurred by negotiating a lease agreement with the MN Department of Natural Resources to utilize their abandoned fish pond facility below the Lake Winnibigoshish Dam, located on the Leech Lake Reservation. The original pond complex was constructed in 1950 and has not been used to produce fish for over 20 years. Renovating the existing pond site proved to be more environmentally sound than trying to site a completely new facility. Additionally, some of the existing facility was in useable condition. A comprehensive design was prepared for the project by Fish Pro/Cochran and Wilken Engineering. The design consisted of subdividing one of the larger ponds, creating 10 one acre drainable ponds. LCMR funding was not adequate to complete the entire project, so additional funding of $284,000.00 was obtained through an Interagency Agreement with the Bureau of Indian Affairs and the Administration for Native Americans. Construction documents were prepared and a formal bidding process was used to select a contractor to do the actual construction/renovation. The U.S. Forest Service donated 30,000 cubic yards of fill material and Great Lakes Gas Transmission Ltd. donated 1100 feet of 36-inch steel drain pipe. Work is progressing with about 50% completion to date. All funding has been obligated by contract and a completion date of October 1 is anticipated. Ponds will be utilized next spring. This project is an example of what LCMR seed money can do to leverage non- traditional sources of natural resource funding.

PROJECT RESULTS USE AND DISSEMINATION

All construction documents have been submitted to the MN DNR regional office in Grand Rapids. Plans will be made available for review by other interested private parties. Fish produced at the facility should benefit in two major ways: 1) for fish available for stocking in recreational and subsistence waters by our Fisheries Department, and 2) developing baitfish culture in managed ponds in Minnesota. We have collaborated on a baitfish research grant proposal with NRRI to fund some extensive work next summer. We also have developed a funding plan with the U.S. Corps of Engineers to rehabilitate the existing lake water intake and utilize the excess old pond area as a managed waterfowl habitat, eventually developing interpretive trails or observation points. Presentations have been made to the Minnesota Aquaculture Commission.