

*Telling the Story of Great Lakes Fisheries  
to Michigan Youth and Families through  
School Enrichment Modules and Project F.I.S.H.*



“Friends Involved in  
Sportfishing Heritage”

**Final Report Prepared for the Great Lakes Fishery Trust  
October 2000**



“Nothing you do for a child is ever  
wasted.”

Garrison Keeler

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Michigan Youth and Families  
Through School Enrichment Modules and Project FISH*

**Final Project Report**

Prepared for the:  
Great Lakes Fishery Trust

by:

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## Project Overview

### Project Purpose:

The purpose of this project is to enhance Great Lakes fisheries education systems, particularly in the Lake Michigan basin, by providing K-12 and nonformal education opportunities and materials for use by educators.

### Goals:

- To promote better understanding of ...
  - Great Lakes fisheries biology, ecology, and history;
  - conservation and stewardship needed to sustain this natural resource.
- To help youth and families become aware of...
  - the values of the Lake Michigan fisheries to all stakeholders,
  - the opportunities Great Lakes fisheries resources provide, and
  - the history and current complexities of fisheries issues and management.

### Project Methods:

- provide materials (enrichment modules), training and support for teachers and volunteer mentors who work with youth through schools, clubs, and locally sponsored events.
- involve communities, school educators, fisheries and tribal organizations, and resource managers along the Lake Michigan coast and watersheds in the design and delivery of this youth education pilot project.

To implement this pilot effort, the program designed to accomplish Great Lakes fisheries education is called "Project F.I.S.H. – Friends Involved in Sportfishing Heritage." The following information highlights both project accomplishments (activities conducted), as well as program impacts toward intended objectives. **This program has been highly successful**, reaching educators (teachers, community-based volunteers), youth and their families, and new partners interested in fisheries education.

# Accomplishment of Project Benchmarks

## Project Year 1 (1 June 1998 through 31 May 1999)

- Established state-level planning group (all partners).
- Finalized contracting process between Michigan State University and Great Lakes Fishery Trust.
- Finalized project staffing.
- Began local level planning with pilot project sites. Met with partners, schools, I SD's and Math/Science centers regarding how to correlate school materials with Michigan Core Content Curriculum standards and MEAP tests, and local school curriculum processes.
- Began program marketing and promotion, by providing small event programming throughout the state, as requested.
- Designed content scope and graphic layout parameters for school enrichment modules (curriculum materials).
- Developed loan boxes and discount purchasing agreements for teachers to use for hands-on lessons, lesson plans, multi-media, posters (obtained from partners).
- Prepared interactive display format for educational shows.
- Developed marketing and promotion strategy and tools
  - Identified key contacts and developed a contact database.
  - Identified audiences and key messages for press releases, other materials.
  - Finalized program image and logo design.
  - Designed publicity tools such as: brochures, press releases, and event advertising; developed Project F.I.S.H. website and on-line "chat-room" newsletter. Distributed marketing and promotion tools at teacher conferences, volunteer training events, outdoor shows, and other state, regional and national events and conferences.
  - Designed and developed teacher/volunteer and youth participant recognition items (such as hats, t-shirts, etc.)
- Established contacts and partnership arrangements for in-kind/matching contributions for sustained program support.
- Conducted training workshops in Great Lakes watershed communities.
- Conducted pre- and post-workshop evaluation surveys.
- Began to evaluate project efforts.
- Teachers and volunteer mentors began to implement school enrichment modules and to use other developed materials.



**Project Year 2 (1 June 1999 – 11 October 2000)**

- Compiled preliminary evaluation results.



Educator workshops are offered in accessible locations, such as the MDNR Wolf Lake Hatchery and Fisheries Interpretive Center.

- Planned and conducted training institutes and workshops.
- Conducted pre- and post-workshop evaluation surveys.
- Participated in and supported existing fishing "festivals", events and shows.
- Prepared curriculum materials, including original artwork featuring Great Lakes fish species and fisheries issues of concern.
- Teachers and volunteer mentors implemented programs with local partners.
- Conducted follow-up phone surveys of trained educators to determine program impacts locally.
- Prepared final report and concepts for continuation of program.

Response rates to the post-workshop survey, and the 3-month follow-up telephone interviews **WERE EXCELLENT** (Table 1).

Table 1. Response rates to workshop surveys and 3-month telephone follow-up interviews.

		Post-Workshop Survey		3-Month Telephone Follow-up Interview	
<b>Workshop Group</b>	# of participants	# of post-workshop respondents	% response rate	# of phone interview respondents	% response rate
Grand Rapids (1999)	18	15	83.3%%	11	61.1%
Kalamazoo/Wolf Lake (1999)	24	23	95.8%	23	95.8%
Tanuga (fall 1999)	27	18	66.7%	20	74.1%
Haslett (2000)	17	15	88.2%	Pending	
RAM Center (2000)	12	12	100%	Pending	
Kalamazoo/Wolf Lake (2000)	14	14	100%	Pending	
Oakland (2000)	24	19	79.2%	Pending	
<b>TOTALS - Regular Workshops</b>	<b>136</b>	<b>116</b>	<b>85.3 %</b>	<b>54</b>	<b>72.3% of 1999 workshop participants</b>
Other workshops (corporate, Trainer, and other specialized groups)	Approx. 100	Not surveyed			

## Project Impacts

### Educator Involvement in Great Lakes Fisheries Education

#### Original Objective for Involvement of Teachers and Other Educators:

- ◆ To provide training institutes designed to prepare educators to use hands-on, multimedia “enrichment modules” (curriculum materials), and through training in the project, teachers’ knowledge and attitudes toward fisheries will improve. Teachers will become aware of other supplemental curricula and programs to enhance their teaching.

#### Program Impacts for Teachers and Other Educators:

Project F.I.S.H. workshops occurred throughout the state, particularly within the Lake Michigan basin. Members of the MSU Fisheries & Wildlife Department, MSU Extension, Michigan 4-H Youth Development Programs, Michigan Department of Natural Resources, and Michigan United Conservation Clubs partnered together as instructors and facilitators. Many workshops were successfully organized and hosted at the local level, each with different styles and target audiences.



Tacklecrafting provides educators with hands-on, student activities for understanding aquatic ecology.

## Sample of Program Impacts on Educators...

- ⇒ Grand Rapids, MI , February 16 - March 16, 1999, organized with the local Grand Rapids Eisenhower science education curriculum program, (and hosted at Gander Mountain Stores)
  - ➔ 18 participants (mostly teachers) attended this five week class, meeting once per week for 3.5 hours. These teachers, also called Project F.I.S.H. mentors, were trained in the four basic components of the school enrichment module (curriculum); these 4 areas include aquatic ecology, people & fish, angling skills, and tackle crafting. Meeting facilities were provided by Gander Mountain Stores in their education room. This store also currently serves as a base where loaner kits (fishing rods, aquatic ecology equipment, etc.) can be borrowed for activities. Many of the attending teachers received funding from the Dwight D. Eisenhower Mathematics and Science Education Program to attend this workshop. One credit of professional growth credit was given to the Grand Rapids Public Schools teachers for participating in all of the classes.



Educators learn the value of watersheds for Great Lakes Fisheries.

- ⇒ Kalamazoo, MI , June 15, 16, 17, 1999 (and June 2000), sponsored by the Kalamazoo Intermediate School District, and held at the MDNR Fisheries Division Wolf Lake Fish Hatchery & Fisheries Interpretive Center
  - ➔ 24 (1999) participants and 24 (2000) participants (mixed teachers, Steelheaders, and retired volunteers) attended this three-day commuter workshop. All mentors were trained in the basic curriculum



fundamentals, even allowing for peer instruction amongst each other. The MDNR Hatchery and Interpretive Center staff gave tours through their facility and allowed a short fishing experience for the participants at their viewing pond.

⇒ Lake Orion, MI , September 17 - 19, 1999, Camp Agawam

➔ This was the first "Train-the-Trainer" workshop. This weekend workshop allowed for many of the participants to discover how they could work together as Project F.I.S.H. trainers. Each of the 15 participants (mostly interpretive educators and biologists) chose two of the basic curriculum options to learn about in-depth.



Trainers then worked to teach and coordinate other workshops.

⇒ Kalkaska, MI , October 15 - 17, 1999, Camp Tanuga, Manistee Lake

➔ This constituted the first workshop where the trainers from the Camp Agawam workshop could apply their teaching skills. 27 participants (mostly adult volunteers from 4-H, Big Brothers/Big Sisters, and Boy Scouts) stayed at the Camp Tanuga facilities for this weekend workshop. The new Project F.I.S.H. mentors learned about the 4 basic curriculum areas. A handful of the trainers from the Camp Agawam workshop attended, and jumped right in to assist with the instruction of the new mentors.

⇒ Haslett, MI , February 16 - March 15, 2000, Murphy Elementary.

➔ This workshop was a five week series that met once per week in the evening at Murphy Elementary School in Haslett. 14 participants included mostly college students (graduate and undergraduate) at MSU in the environmental science minor for education or fisheries and wildlife majors. Attendees learned the four basic curriculum areas with the Project F.I.S.H. program. They were also instructed on how to use our website for chatting with other instructors.

- ⇒ Ralph A. MacMullen Conference Center, MDNR and Michigan Alliance for Environmental and Outdoor Education Spring Workshop. This was a full weekend workshop, and involved 12 educators from throughout the state.

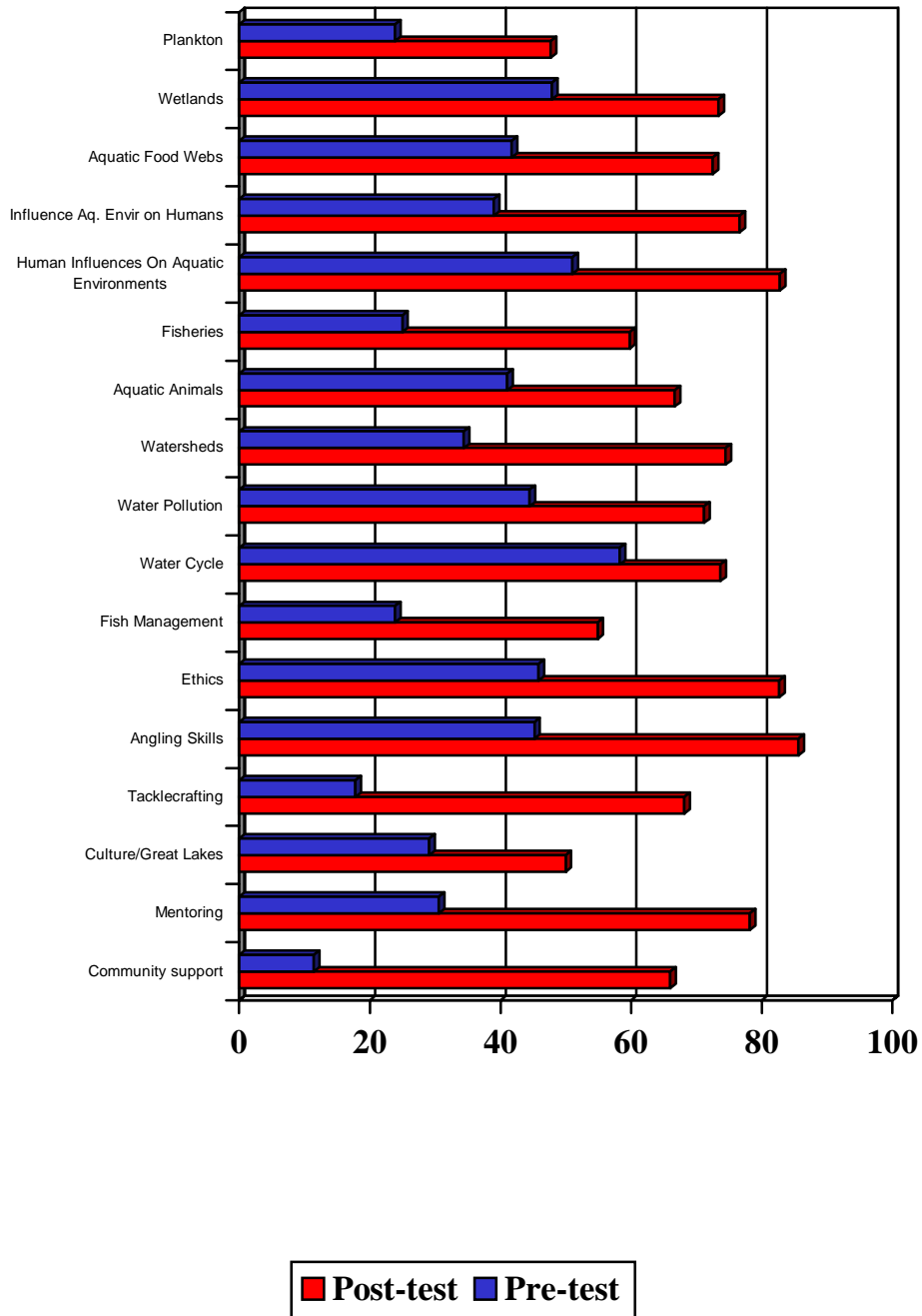
At all workshops, participants received a packet of the Project F.I.S.H. enrichment module (curriculum) containing all of the activities they learned at the workshop and more. They also received a fishing rod and choice of a spin-cast or spinning reel, a Project F.I.S.H. t-shirt and hat, fishes of Michigan posters, Backyard Bass game kits, and various items made as demonstration/teaching tools throughout the workshop (i.e. tied flies, a spinner bait, crawler harnesses, etc.). They also received information about teaching loaner kits, located throughout Michigan.

### **What was the result?**

- ⇒ More than 200 educators have **RECEIVED** in-depth training in Great Lakes fisheries education.
- ⇒ More than 80% of participating educators completed both a pre-test and a post-workshop survey of fisheries education and Great Lakes knowledge and information needs.
- ⇒ 53% of educators participating in Project F.I.S.H. workshops were female. Such a percentage indicates that women, especially elementary school teachers are gaining the confidence needed to teach fishing. "In the elementary school, you do also face a number of conflicts such as age of the kids and the female feeling that fish are icky and the idea of them taking kids fishing themselves when they still need a little more confidence with that area." (Curriculum coordinator, Grand Rapids Intermediate School District)
- ⇒ Knowledge regarding Great Lakes fisheries topics and how to conduct mentor-based and community-level youth education programs increased in all subject areas, and doubled in most areas!

# Pre- and post-workshop self-ratings of knowledge about aquatic and Great Lakes topics.

% of educators saying their knowledge is "adequate" or "above average" for teaching the subject



# Youth and Family Education Regarding Great Lakes Fisheries and Fishing

## Original Measurable Objectives for youth and families:

- To educate over 2000 youth and family members through community-based festivals, designed to introduce sportfishing and fisheries stewardship. Existing fishing derbies will be enhanced by working with sponsors to coordinate these local events with both school programs and with longer-term club programs.
- To reach 2000 students per year in school settings with hands-on, multimedia school enrichment modules (composed of posters, displays, teaching plans, guests) describing the story of Great Lakes fisheries -- biology, ecology, critical issues, and fisheries stewardship.
  - ◆ As a result, youth knowledge, and attitudes toward the Great Lakes fisheries will improve.
  - ◆ Youth in urban areas and Lake Michigan watersheds will particularly benefit.
- To involve over 100 volunteer mentors from sportsmen's clubs, sportfishing clubs, charter fishing organizations, conservation clubs and community groups through Project F.I.S.H. training workshops, thus leading to the involvement of over 1000 youth (ages 5-19) per year in long-term, mentor-based and community-based learning experiences in sportfishing and fisheries stewardship.
- As a result, the non-formal, club-based programs will be joined with the school-based programs in specific communities. This local, community-based network will lead to long-term Great Lake fisheries education in specific communities.



## Program Impacts for Youth and Families: What was the result?

*200+ Project F.I.S.H. mentors reached more than 12,000 youth:*

- 1500+ youth through new long-term, substantial mentor-based and community-based learning experiences in Great Lakes fisheries and fishing.*
- 3500+ youth in on-going mentor based programs*
- 7000+ youth through festivals, fishing events, school visits, and other short-term educational events at the community level*

## Examples of Program Impacts

In just 3 months after the 1999 Grand Rapids educators' workshop, approximately 215 kids received some form of Project F.I.S.H. education! Many creative methods were spawned by the teachers from the basic training they received during the workshop.

- 44 6th graders walked to John Ball Park Zoo with their "can casters." The cans had real hooks, since it was easier to walk with to the zoo with a small tool rather than a large fishing rod. This showed kids that they didn't need to have the latest equipment to go fishing.
- 25 5th graders took a trip to Ludington State Park for three days for a fun-filled fishing trip. Students learned fishing skills before they went to the park.
- 22 6th graders went to the Hartwick Pines National Park and then onto Mackinaw Island for three days to go fishing together.
- Classrooms adopted a stream near their school to monitor the activity of macroinvertebrates, their seasonal changes, and life cycles.
- 13 learning disabled students learned angling skills. The casting techniques were especially useful when they went to the local pond to go fishing; these students also counted the length of their casts (of plugs on land) to supplement their math lessons.

The 1999 Kalamazoo/Wolf Lake Fish Hatchery workshop participants instructed about 503 kids at various events in camps and in local parks & recreation programs. Since many of the participants were representing children's organizations (not schools), the instruction to the kids was not necessarily in a classroom setting.

➤ Southwest Michigan Steelheaders volunteered at Camps Kidwell and Van Buren to initiate and teach their fishing programs. About 15-20 different kids per week for 6 weeks during the summer learned about ecology, angling skills, Backyard Bass, and went pan fishing on the lake.

➤ 60 1st graders met at various Oakland County Parks to learn about fishing and have the opportunity to try fishing through Project F.I.S.H. activities and volunteers.

➤ After school Eco-Clubs of 2nd & 3rd graders in the Lansing area meet weekly to do many of the activities outlined in the Project F.I.S.H. workshops. They participated in activities such as GO FISH, build a watershed, can casting, and fish printing.

➤ An MSU Extension agent worked with 30 kids over the summer at camps teaching them how to fish. He also works regularly with the kids of his county in after-school groups with the help of a corps of volunteers.

"The students seemed more respectful of our natural resources after I started work with this Eco-Club after-school program." USFWS Kids Programming Staff member

"The kids seemed a lot more fired up about fishing and the outdoors. They also seemed likely to continue fishing." Lincoln Environmental School teacher

Participants from the Camp Tanuga workshop were split just about down the middle of active volunteers and idle volunteers at the three-month follow up survey. In total, about 974 kids were reached with the Project F.I.S.H. activities. Since many of the workshop participants were non-profit organization volunteers, most of the instruction to kids was in a non-formal setting, often outside.

➤The Southwest Michigan Boy Scout's district outing instructed over 800 scouts in Backyard Bass and knot tying. Since it was winter at the time, the scouts got to try a little "snow fishing."

➤Reese-Puffer encore classrooms for 5<sup>th</sup> and 6<sup>th</sup> grades experienced Project FISH in their class rotations. 4 different groups of 20 kids learned Project F.I.S.H. for three week intervals 3 days a week, as they chose the topic they wanted to learn about for the rotating classes.

➤Big Brothers/Big Sisters organization held a Halloween recreation party for the kids who haven't been connected with adults yet. 30 kids ages 5 - 14 had a fun filled day of can casting, Backyard bass, and attempted aquatic ecology.

➤A group of 26 Calvinist Cadets participated in ice fishing, a camp-out of Salmon fishing, and a winter Steelhead canoe float down the Muskegon River.

"The kids I worked with intensely were much more interested in fishing after this." MSU Extension staff member, Lenawee County

"I noticed that the students were more ecologically aware of their surroundings. They were more aware of the food chain. I believe the kids will now lead more when they get older and go into other classrooms." Sibley Elementary school teacher



### **Program Lessons Learned:**

Those least likely to use the curriculum materials within only 3 months of training included:

- People trained in fall workshops (thus workshop effort is now concentrated in late winter, spring or early summer).
- College pre-service teachers.
- Those without existing school or youth club contacts (e.g., retired teachers, sportsmen's club members).

Follow-up on an informal basis with those persons who were trained in Year 1 of the project shows that most of those who did not use the program within the first three months, did so later, after making additional contacts through the Education Program Coordinator and through the Project F.I.S.H. website and "chat room" with others who partnered with them to reach youth!

### **WE ACHIEVED PROGRAM IMPACTS BECAUSE OF OUR PARTNERS!!**

This initial effort at Great Lakes fisheries education through Project F.I.S.H. has attracted a multitude of corporate and institutional partners. The total value of donated goods and services, and educators' discounts is very high, in just the first two "pilot" years of this project.



**Donated goods and services, and discounts to  
Project F.I.S.H. 1999-2000**

(Estimated values)

Educators' discounts on educational materials: Sample donors: Shakespeare, Worth Company	\$14,140
Direct, in-kind contributions of educational materials and supplies: Sample donors: Gander Mountain, Mustad, Eagle Claw, Witchcraft Tape Co.	\$23,600
Donated services: Sample donors: Michigan Fisheries Interpretive Center, MUCC, MDNR, Volunteers	\$57,070
Direct contributions of financial support: Sample donors: Gander Mountain	\$22,000

**TOTAL = \$116,810**

**THANK YOU FOR YOUR SUPPORT!**