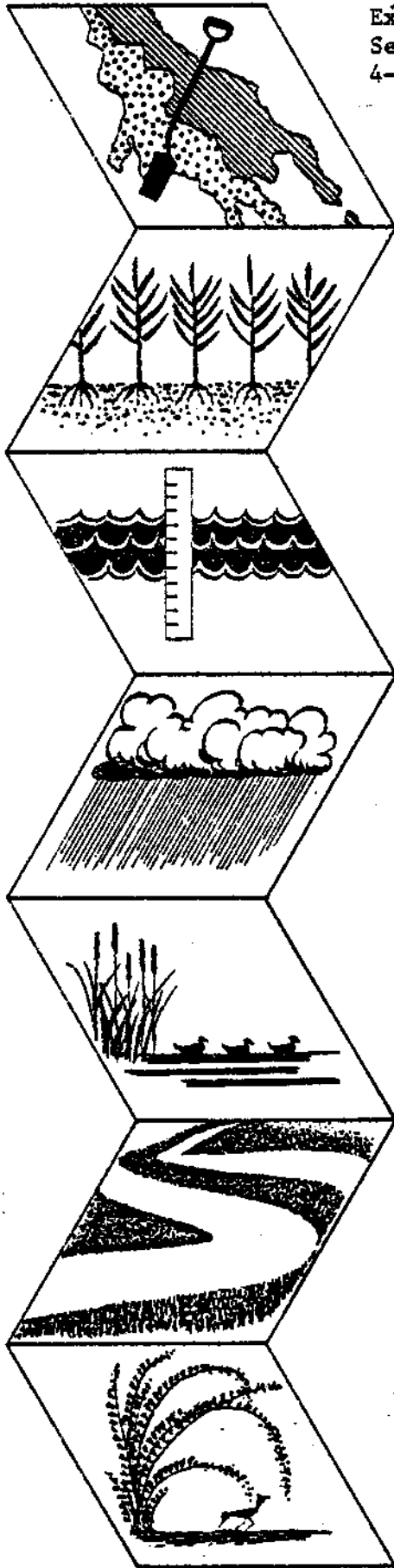


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Guide to Projects and Activities for the 4-H Great Lakes Heritage Program

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Prepared as an outline of possible projects and activities which can be selected by 4-H Youth Leaders and Members.

It is suggested that the Beginning phase activities be directed toward the 13-15 age group, the Intermediate phase activities at the 14-16 age group and the Advanced phase activities at the 16 and older age group.

Objectives of the 4-H Great Lakes Heritage Projects

- 1) To provide skills, training and field experience for youth on Great Lakes Heritage, including ecology, career opportunities, resources recreation, history and culture.
- 2) To increase community awareness of Great Lakes Heritage and water resources.

Areas of concern that will be addressed in this guide are:

I. Recreation

- A. Boating
- B. Fishing
- C. Sailing
- D. Water Sports
- E. Waterfowl

- ## II. A. Our Great Lakes Cultural Heritage
- B. Arts and Crafts of the Great Lakes
 - C. Disasters of the Great Lakes

III. Ecology

- A. Great Lakes Urban Ecology
- B. Great Lakes Resource Ecology
- C. Wetlands
- D. Wildlife

IV. Economics

- A. Great Lakes Commerce
- B. Commercial Fishing
- C. Marine Industry
- D. Recreation

Unit I. — Recreation

Objectives: To familiarize club members with various water-related recreational activities including boating, fishing, sailing, waterfowl appreciation and water sports.

To create an awareness of water safety as required in all of these activities.

A. Boating

Beginning

Identification--learn characteristics and functions of different kinds of boats.
Distinguish power from non-power boats.
Learn basic boating and water safety.

Intermediate

Study the evolution (history, design) of a type of water craft (such as a canoe)
Design and build a functional model boat.
Experience a ride in a canoe to study the function and operation of the craft.
Study water navigation rules and regulations.

Advanced

Design and build a man-sized craft (canoe).
Organize a canoe heritage tour following the route of an Indian tribe.
Use the craft as a tool from which to study and gather forms of marine life.

B. Fishing

Beginning

Learn to identify fish.
Learn about fish conservation.
Understand how fish live (bio-ecological).
Learn the roles of the different fish in the food chain.
Learn rod building (simple)
Learn basics of fishing.
Learn safety while fishing.

Intermediate

Develop an understanding of fish habitat.
Recognize value of fishing to recreation.
Learn fish printing.
Learn fly tying.
Learn rod building.
Learn about fish as food.

Advanced

Learn principles of fish pond management.
Learn basics of wildlife management.
Learn fish preparation/preservation techniques.
Prepare a presentation to teach techniques of fishing.

C. Sailing

Beginning

Learn why sailing is important to our heritage.
Learn history of sailing on the Great Lakes.
Study evolution of sailboat design.
Learn difference between commercial and recreational sailing.

Intermediate

Study current sailboat design.
Study current usage of sailboat.
Learn sailing techniques.
Learn water navigation rules and regulations.

Advanced

Study the future of sailing on the Great Lakes.
Design a blueprint for constructing a recreational sailboat.
Construct a sailboat.
Become involved in sport sailing.

D. Watersports

Learn essentials of water safety.
Learn types and rules of water sports.
Learn two swimming strokes.

Intermediate

Learn rules of competitive swimming.
Learn additional swimming strokes.
Learn rules of water polo.
Learn to snorkel.

Advanced

Learn diving techniques.
Learn how to water ski.
Study scuba diving.
Study and take lifesaving course.
Prepare to become water safety instructor.
Learn techniques to treat cold-water drowning victims.

E. Waterfowl

Beginning

Learn to identify species of waterfowl.
Learn physical characteristics of waterfowl.
Learn what a habitat is.
Develop an appreciation for outdoor recreation and hunting.
Learn gun hunting and safety.
Learn hunting techniques.

Intermediate

Study feeding habits of waterfowl.
Study habitats of waterfowl.
Construct a blind or camouflage for observation or hunting.
Learn techniques of decoy carving.
Learn food value of waterfowl.

Advanced

Advanced learning in waterfowl behavior (territoriality, ecology).
Learn taxidermy.
Learn "calls" of different species.
Learn waterfowl preparation.

Unit II. — Heritage

Objectives: To understand and appreciate the cultural factors of the Great Lakes and their connecting waterways, which have contributed to our way of life.

To gain knowledge of the historical factors, physical factors and events important to the development of a community.

To help develop a sense of responsibility for the preservation, conservation and restoration of our Great Lakes Heritage.

A. Our Great Lakes Heritage

Beginning

Learn about our heritage — from the time of the American Indians to the present.
Learn about points of historical interest.
Read the writings of some of the early explorers of your area.
Learn how to identify community resource people in developing folktales.
Learn how to identify community resource materials.

Intermediate

Study historic patterns of human migration to this region.
Study methods of transport used in migration here.
Explore the question: "How, why and when did my family come here?"
Learn about interstate and international laws affecting the Great Lakes.
Study how water transportation affected the settlement of the Great Lakes region.

Advanced

Study folktales and songs of the people who have inhabited this region.
Research and document folktales of present inhabitants.
Present/publish these folktales.
Develop and present "Heritage" projects to the community at large through news, photos, displays, speeches, dialogues, etc.
Develop and present a program on the state, interstate and international laws and treaties on the Great Lakes.

B. Arts and Crafts of the Great Lakes Region

Beginning

Learn principles and origins of arts and crafts of this area.
Learn American Indian arts and crafts.
Learn basic macrame.
Learn basic woodcarving.
Learn how to build to scale (model shipbuilding)
Learn principles of painting, photography and writing.
Learn to distinguish art from craft.

Intermediate

Make a net using macrame.
Carve a duck decoy.
Study model shipbuilding.
Paint and photograph scenes of rivers and lakes.
Write a narrative or essay based on a river or lake.

Advanced

Prepare a presentation or class to teach arts and crafts related to the Great Lakes region.
Learn how to prepare a documentary presentation on the Great Lakes Heritage.
Prepare a pictorial exhibition on a Great Lakes theme.

C. Disasters of the Great Lakes

Beginning

Learn how storms develop on the Great Lakes.
Learn about the major storms of the Great Lakes.
Distinguish between storm-related and other types of disasters that have affected the Great Lakes.
Learn how to identify human and non-human resources to help document a presentation on Great Lakes disasters.
Learn methods of recording information when preparing presentation.

Intermediate

Develop an awareness of short-term (shipwreck) vs. long-term) (ecological) disasters. Learn methods of keeping records about Great Lakes disasters.
Develop accounts of some recent Great Lakes disasters.
Learn procedures for obtaining permission to see records and locate historical information.

Advanced

Prepare a presentation on disasters of the Great Lakes.
Show how study and research attempts to control and prevent recurrence of disasters.

Unit III. — Ecology

Objectives: To learn what natural resources are, how and why they exist, and how they interrelate with each other, the environment and people.

To learn how conservation and management of natural resources makes the environment better for people.

To learn how to protect and improve the environment of our communities and state through conservation and Management.

A. Great Lakes Urban Ecology

Beginning

Learn what is meant by water quality control.
Learn about the water cycle and its importance to rural and urban environments.
Distinguish the types of water supplies (well vs. city, hard vs. soft).
Learn about the many uses of water.
Learn about the agencies that assist in the management of water supplies.

Intermediate

Study the structure of water and its unusual qualities.
Survey water uses and needs in your community.
Learn to test water and environment for factors (clarity, plankton, bottom temperature, flora and fauna.)
Learn about a city wastewater treatment plant.
Examine a relationship between urbanization and stream flooding:

Advanced

Individual - Prepare a presentation demonstrating water quality control, shoreline erosion, or the ecological impact of some aspect of urban riverfront development.
Team - Make an ecosystem analysis of a riverfront site that is being considered for a number of uses.
Present an ecosystem analysis comparing upriver and downriver areas.
Compare results of your analysis with DNR, EPA and other regulatory agencies data.

B. Great Lakes Resource Ecology

Beginning

Learn what is meant by "natural state of a river."
Learn to distinguish phytoplankton from zooplankton.
Learn what is meant by "water quality control."
Learn about the water cycle.
Learn the relationship of water to the rest of nature.
Become aware of unique physical and chemical properties of water.
Learn about shoreline erosion.
Become aware of your area watershed.
Construct a model of a watershed.

Intermediate

Study the role of water in the food chain.
Study composting and worm bioculture.
Learn how water produces oxygen.
Learn to test water and the environment for harmful factors.
Identify and study samples of shoreline erosion.
Study the ecological relationships of your community to its watershed.
Examine the importance of watersheds in water management.

Advanced

Collect watershed data by use of questionnaire.
Prepare a presentation focusing on the importance of the watershed to your community.
Compare water, plankton and bottom samples of two areas of a river.
Prepare ecological analysis of both areas of the river.
Make an Environmental Quality Index Study of your community focusing on water.
Prepare an Environmental Impact Statement on a specific waterfront development site.

C. Wetlands

Beginning

Learn what is meant by wetlands.
Learn different types of wetlands.
Learn what flora and fauna are.
Learn what a habitat is.
Learn the cycle of a wetland.

Intermediate

Identify flora and fauna of a wetland.
Identify and study different habitats.
Learn the value of a wetland to the community.
Study man's role in the life of a wetland.

Advanced

Prepare a study of a wetland through a year cycle.
Compare information from the study of two types of wetlands.
Using biomass surveys, compare a wetland with another land type.
Prepare an Environmental Impact Statement for a wetland. Show how man is a part of this.

D. Great Lakes Fisheries and Wildlife

Beginning

Learn what is meant by fisheries and wildlife.
Learn to distinguish aquatic vs. terrestrial life.
Become aware of the food chain.
Become aware of man's relationship to other forms of life.
Learn to identify animals.
Learn what their habitats are.

Intermediate

Construct an observation hide, terrarium or aquarium.
Study the role of fish and wildlife in the community.
Help to create or preserve a habitat for the wildlife, -plant food patches,
construct feeding stations, brush piles or nest boxes.
Study how change in one life species affects the environmental community.

Advanced

Identify and study additional species of wildlife and fish.
Study wildlife and fish attractants and deterrents.
Survey a fish or wildlife resource in the community and describe how you can
contribute to improving the resource.
Work with community representatives in developing and implementing a wildlife
management plan for a designated site.
Study and compare wildlife and fish in different environments.
Study man's role in these communities.

Unit IV. — Economics

Objectives: To create an awareness of water-related commerce in the Great Lakes region.

To develop knowledgeable understanding of marine industry in the Great Lakes region.

To identify careers in professional, technical and scientific fields related to the Great Lakes.

A. Great Lakes Commerce

Beginning

Study elements of commerce from local, national and international perspective.
Examine the importance of riverways as transportation arteries.
Learn about the St. Lawrence Seaway.
Learn how to obtain and interpret navigational charts.
Learn how to identify ships from foreign lands.

Intermediate

Study types of jobs related to Great Lakes Commerce.
Study economic importance of Great Lakes Commerce to our area.
Study determining factors for successful business.
Examine the Great Lakes tug fleet interaction/dependence on commerce.
Identify Great Lakes commerce careers that you might seek employment in.

Advanced

Plan and arrange visits to agencies or businesses involved in Great Lakes commerce.
Prepare a presentation on commercial ships and ports of the Great Lakes.
Prepare a chart listing the types of employment opportunities in Great Lakes commerce.
Research and prepare a presentation on the history of Great Lakes commerce and its economic impact upon your county.

B. Commercial Fishing

Beginning

Learn what commercial fishing is.
Learn basic fishing economics.
Become familiar with equipment used in fishing.
Learn economic values of different fish species.

Intermediate

Study fishing laws and regulations.
Study fishery management techniques.
Study the food production cycle of commercially caught fish.
Determine economic structure for successful commercial fishing enterprises.
Study history of fishing in Great Lakes and rivers.
Study effect of chemical pollutants of Great Lakes on consumption of fish.
Plan a visit to a local fishery.

Advanced

Prepare a presentation demonstrating past vs. present fishing techniques.
Prepare a report on the economic importance of fish from the time of the early American Indians to the present.
Prepare a presentation on chemicals in fish.
Design a plan for the management of fishing in the Great Lakes or portions thereof.

C. Marine Industry

Beginning

Learn what is meant by marine industry.
Become aware of how marine industry affects life in our community.
Become familiar with some environmental problems created by the marine industry.
Distinguish between marine industry and those industries located on rivers.
Learn about water surface transport of commercial goods.
Learn about shipbuilding and ship repair.

Intermediate

Identify several types of marine industries (biological, chemical, physical, geological).
Prepare a map showing location of marine industries in your county.
Identify and visit a marina.
Have a speaker on water surface transport visit and talk to your club.
Study the economic importance of shipbuilding to your area.
Study the WCPC report "People and the River" or study other planning commission reports.
Compare marine industry in your county with that of other major Great Lakes cities. To other American cities. To cities of the world.
Identify agencies and laws which control marine industry in the county and the state.

Advanced

Prepare a chart of the types of marine industries in your county.
Prepare a presentation on surface water transportation.
Prepare a presentation showing the contribution of the marine industry to the total economy of the county and state.
Compare training and experience necessary to obtain marine based jobs with that necessary for land based jobs.

D. Recreation

Beginning

Become aware of economic importance of recreation to our area.
Become familiar with recreational opportunities available in this area - past and present.
Become familiar with concepts of recreation.
Learn about plans for future recreation developments. (This includes economic incentives for recreational types of development.)

Intermediate

Study map of the county and determine how much land is available for public waterfront use.
Study the riverfront development in other urban areas.
Study the riverfront development plans for Detroit and downriver communities.
Become familiar with laws and regulations governing riverfront development.
Study efforts to preserve natural resources in this community.

Advanced

Prepare a presentation that provides an overview of riverfront development in your community.
Conduct a survey that will help you determine who uses the riverfront for recreation and what types of recreation are most popular.
Prepare a riverfront development plan for your community.
Participate in your community government's program for riverfront development.

RESOURCES TO GREAT LAKES HERITAGE PROJECT

PUBLICATION	SOURCE	COST	*CROSS REFERENCE	REMARKS
Handbook for Ice Fishermen	DNR Lansing, MI 48909	Free	I.B	
Outboard Boating	Red Cross	\$1.00	I.A	Basic Introduction to boating and sailing with emphasis on safety.
Sailing	Red Cross	\$.68	I.C, II.C	
The Skippers Course	U.S. Coast Guard Office of Boating Safety 400 7th Street Washington D.C. 20590	\$1.50	I.A, IV.D	Boating safety - Navigation Rules of the Road
Fish, Fun and Fellowship Supplement Leader's Guide	4-H 134.3A 134-3A1 4-H 334.3A		I.B I.B	An Introduction to fishing and the world of fish.
Fish of the Great Lakes	N.O. A.A. Dept of Commerce	\$5.00/poster	I.B	Chart/Poster Identifying Great Lakes species.
How To Catch Fish in Fresh Water	Fisherman's Information Service 20 N. Wacker Dr. Chicago, ILL 60606		I.B	
Canoeing in Michigan	DNR Information & Education Div. Lansing, MI		I.A, IV.D	List of Michigan canoeing rivers with tips on technique

*Refer to Index for GLHP Guide

PUBLICATION	SOURCE	COST	*CROSS REFERENCE	REMARKS
Ducks at A Distance	U.S. Government Stock # 024-010- 00442-8		I.C., III.C, D	A waterfowl identification guide that includes habitat, feeding, migration, calls, etc.
Small Boat Handling	Dept. of Army St. Paul District Corps of Engineers 1135 U.S. Post Office & Customs House St. Paul, Minnesota 55101		I.A	
Aqua Dynamics	U.S. Government Stock #040-000-00360-6		I.D	Physical conditioning through water exercise
A Guide to Safe Boating in Michigan	DNR		I.A	
Great Lakes Curriculum for Middle Schools	Michigan Sea Grant	Approx. \$25.00 per unit		A school curriculum that can be easily adapted for use with smaller, club-size groups.
Unit 1: The Sea Lamprey in the Great Lakes	For more Information contact: Michigan Sea Grant Curriculum Team c/o Dr. Paul Nowak School of Natural Resource Building University of Michigan, Ann Arbor, Michigan 48109		Unit 1: I.B, III.B, III.D, IV.B,C.	
Unit 2: Great Lakes Fishing in Transition			Unit 2: II.A, I.B, IV. B,C,D.	
Unit 3: Water Quality			Unit 3: III.A,B,C,D.	
Unit 4: Great Lakes Urban Communities			Unit 4: II.A, III. A,B, IV. C,D.	
Unit 5: Great Lakes Shipping			Unit 5: II.C, IV. A.	

PUBLICATION	SOURCE	COST	*CROSS REFERENCE	REMARKS
Great Lakes Notebook	Public Information Office Great Lakes Basin Comm. P.O. Box 999 Ann Arbor, MI 48106	Free	I.A,B, III.A,B,C, IV.A,B,C,D.	Concise fact sheets Ideal for use in either a club or classroom setting.
"Fourth Coast Facts and Issues"				
Return of the River	Michigan Dept. of N.R. Lansing, Michigan	Free	II.A,D, III.A IV.D	On the history, abuse and reclamation of the Detroit River.
Folk Patterns	4-H/M.S.U. Museum		II.A,B,C,D.	Framework for identifying, recording and presenting information about your community's heritage.
Clean Lakes And Us	U.S. E.P.A. Office of Water Planning and Standards Washington D.C. 20460	\$1.20	II.A, III.A,B,C,D.	Lake processes, problems and management
The Apprentice	4-H 137A		I.A II.B,C III.D IV.C	
The Handyman	4-H 137B			
The Craftsman	4-H 137C			
Painting & Drawing	4-H 210A		II.A,B,D. IV.C	
Adventures With Your Camera	4-H 185A		II.A,B,D. IV.C	
Challenges In Picture Taking	4-H 185B			
Exploring Photography	4-H 185C			

PUBLICATION	SOURCE	COST	*CROSS REFERENCE	REMARKS
Creative Writing	4-H 316A		11.A	
Hunt & Safety Series	4-H 131.1A		1.C	
Understanding Weather	4-H 150.2A		1.A, 11.D, 111.B	
Weather Maps & Forecasting	4-H 150.2C		11.D	
Severe Weather	4-H 150.2D		11.D	
Marine Advisory Service Fact Sheet The Beaufort Scale	Michigan Sea Grant 36.39		1.A, 11.D	
Great Lakes Shipwrecks & & Survivals	Wm. B. Eerdmans Publishing Co. Grand Rapids, Michigan	\$3.95	11.A,D	
Water-Related Teaching Activities	ERIC CENTER College of Education The Ohio State University 1200 Chambers Road Columbus, Ohio 43212	\$5.00	11.B,C,D, 111.A,B,C, 11.V.D	
4-H Marine Science Series				
Activity 2: Waste Water Treatment				
Activity 3: Water Temperature				
Activity 4: Lake Temperature Cycle				
Activity 5: Stream Bottom Life				
Activity 6: Great Lakes Shorelands/Erosion				
Activity 10: Vermicomposting				

PUBLICATION	SOURCE	COST	*CROSS REFERENCE	REMARKS
Wetlands Affect You and Me	4-H 1038 (Members) 4-H 1039 (Leaders)		III,C	
Basic Environment Series Water/You Leader Guide	4-H 1044		III,A,B.	
Personal Flotation Devices	Pennsylvania Fish Commission Box 1673 Harrisburg, PA 17120	Free		
A Drop To Drink	E.P.A. Office of Public Affairs (A107) Washington DC 20460		II,A,D. III,A,B.	A report on the quality of our drinking water. (For leaders)
Common Environmental Terms	E.P.A. Office of Public Affairs (A107) Washington D.C. 20460		I,A,B,C,D. II,A,D. III,A,B,C,D. IV,B,C,D.	An environmental dictionary
The Quality of Our Drinking Water	E.P.A. Office of Public Affairs (A107) Washington D.C. 20460		II,A,D. III,A,B.	"A Drop to Drink" condensed for youth
Is Your Drinking Water Safe:	E.P.A. Office of Public Affairs (A107) Washington D.C. 20460		II,A,D. III,A,B.	
Clean Water and Agriculture	E.P.A. Office of Public Affairs Washington D.C. 20460		I,B,D. II,A,D. III,A,B.	For Leaders

PUBLICATION	SOURCE	COST	*CROSS REFERENCE	REMARKS
A Book to Color	E.P.A. Office of Public Affairs (A107) Washington DC 20460		III.A,B,C,D.	Environmental awareness for 4-7 years
Water Conservation Check List for the Home	U.S.D.A. Extension Service Program Aid No. 1192		III.A,B.	
Hypothermia and Cold Water Survival	U.S. Coast Guard		I.A,B,C,D.	Information for all outdoor activities
Great Lakes Water Levels	DNR		III.C, II.D	
Wetlands Package	Mich. United Conservation Club P.O. Box 30235 Lansing, MI 48909		III.C,D	For the classroom
Our Nation's Wetlands	U.S. Gov't. #041-011-00045-9	\$4.50	I.C, II.A,D. III.C,D, IV.C,D.	
Basic Ecology	4-H		III.A,B,C,D.	
Basic Environmental Conservation and Wildlife	4-H 210A 134		I.B,C. III.A,B,C,D. II.D, IV.D	
Kinds of Birds	4-H 134.2A		III.D	
Birds and Where They Live	134.2B		III.D	
Exploring Avian Problems	134.2C		III.D	

PUBLICATION	SOURCE	COST	*CROSS REFERENCE	REMARKS
Advanced Avian Problems	134.2D		III,D	
Birdlife: An Indicator of Environmental Quality	Extension Bulletin E 707, Feb. '77	\$.05	III,D	
Recreational Scuba Diving	Marine Advisories Program Florida CES G 022 McCarty Hall University of Florida Gainesville, FL 32121		I,D IV,D	
Know Your Ships	Fourth Seacoast Publishing Co.	\$1.00	IV,A II,C	
The Port of Detroit World Handbook	Fourth Seacoast Publishing Co. P.O. Box 145 St. Clair Shores, Michigan 48080		IV,A,C	
Navigation Training Charts	N.O.A.A.	\$1.00	I,A, IV,A	Available for Educational purposes only
Marine Careers: Professional, Technical, Scientific	Michigan Sea Grant A2	Free	IV,A,B,C,D.	
Management For You	4-H 1821 B1-5		IV,A,B,C,D.	
How Do You Decide	4-H 210A		IV,A,B,C,D.	
People and the River	Wayne County (MI) Planning Comm. Detroit, MI		III,A,C,D.	A report on riverfront usage from a recreation perspective

PUBLICATION	SOURCE	COST	*CROSS REFERENCE	REMARKS
Changing New York City's Waterfront	Cornell University Coop.Extension 111 Broadway 17th Floor N.Y., NY 10006	\$1.00	III,A IV,D	
Freshwater Fish Preservation	Michigan Sea Grant MICHU-SG-78-101	\$.50	I.B IV.B	
Great Lakes Fish Cookery	Extension Bulletin E932	\$.15		
Great Lakes Fish Preparation	Michigan Sea Grant MICHU-SG-78-100	\$.50	I.B IV.B	
A Guide for a Feasibility Study...of Recreation Enterprises	Extension Bulletin 705		IV.D	For teen and adult leaders
Selnes to Salmon Charters	Extension Bulletin E1000	\$.40	I.B IV.B	150 years of Michigan Great Lakes Fisheries
Recruiting and Training Employees In the Service Industries	Extension Bulletin 484		IV.A,B,C,D.	
Employee Motivation and Work Incentives In the Service Industries	Extension Bulletin 483		IV.A,B,C,D.	
What You Need to Know About the Great Lakes Submerged Lands Act	Michigan Dept. of Natural Resources	Free	III,A,C IV.C,D	For Leaders

PUBLICATION	SOURCE	COST	*CROSS REFERENCE	REMARKS
The Role of Vegetation In Shoreline Management	D.N.R.	Free	III.C, IV.C	For Leaders
Michigan's Coastal Management Program - a Summary	D.H.R.	Free	IV.A,B,C,D.	For Leaders
Water Quality and Pollution Control In Michigan	D.N.R.	Free	III.B	
Water Level Newsletter - Lake St. Clair	Detroit District U.S.A. Corps of Engineers		III.A,B,C,D. IV.A,B,C,D.	
Great Lakes Shoreland Damage Study	U.S.A. Corps of Engineers North Central Division		III.A,B,C,D. IV.A,B,C,D.	
The Soo Locks	U.S.A. Corps of Engineers Detroit District Detroit, MI	Free	IV.A,C	
Water Resources Development by the U.S.A. Corps of Engineers Michigan	U.S.A. Corps of Engineers	Free	IV.C	
How to Obtain State and Federal Permits to Develop and Operate Marines In Michigan	Michigan Sea Grant Publications Office 2200 Bonisteel Blvd. Ann Arbor, MI 48109	Free	IV.C	
Marine Science - 4-H Special Interest Series	Florida Sea Grant Florida CES Gainesville, FL		III.B	Marine Science Activities

PUBLICATION	SOURCE	COST	*CROSS REFERENCE	REMARKS
Hazardous Wastes	E.P.A.	\$,85	III,A,B,C,D,	
Great Lakes, Great Boats	D.N.R.		I,A, II,A,C	From paddle to sail to steam - a brief history
Our Waters, Our Wastes	Extension Bulletin E891	\$.50	III.A,B,C,D	
OTHER PUBLICATIONS				
Great Lakes Communicator	Great Lakes Basin Commission P.O. Box 999 Ann Arbor, MI	Free	III.A,B,C,D, IV.A,B,C,D.	Informative monthly publication that reports on public policy that effects the Great Lakes Basin
Sport Fishing Institute Bulletin	S.F.I. 608 13th St. N.W. Washington D.C. 20005	Free	I,A, IV.D	Monthly publication that reports on the sport fishing industry
Upwellings	MI Sea Grant	Free		Monthly ^{Quarterly} publication of Michigan Sea Grant
Environment Midwest	E.P.A. Region V 230 S. Dearborn St. Chicago, IL	Free		Monthly environmental newsletter
Sea Grant	Extension Division Virginia Polytechnic Institute and State University Blacksburg, Virginia 24061	Free		Monthly reports on Sea Grant programs and activities across the nation

PUBLICATIONS	SOURCE	COST	REMARKS
Telescope	Great Lakes Maritime Institute Dossin Great Lakes Museum Belle Isle Detroit, MI 48207	\$7,00 a year (Includes six magazines and Institute membership)	Great Lakes Shipping, past, present and future
Lakelands Boating			
10F Sea Frontiers	The International Oceanographic Foundation 3979 Rickenbacker Causeway Virginia Key Miami, Florida 33149		
Michigan Science in Action	M.S.U. Agriculture Experiment Station East Lansing, MI 48824	Free	
The Need for Marine and Aquatic Education	Delaware Sea Grant College Program University of Delaware College of Marine Studies Newark, Delaware 19711		A statement of need to inform Americans about the world of water
University Curricula In the Marine Sciences and Related Fields	Director Office of Sea Grant National Oceanic and Atmospheric Administration 6010 Executive Blvd. Rockville, Maryland 20852		Includes curricula from universities in the U.S. and Canada. Good for career counselors.
Educator's Guide to Great Lakes Materials	University of Wisconsin Sea Grant College Program 1800 University Ave. Madison, WI 53706		Fine resource tool for educators - includes books and films

PUBLICATION	SOURCE	COST	REMARKS
NRDC Newsletter	Natural Resources Defense Council Inc, 122 E. 42nd St. New York, NY 10017		Conservation Newsletter that updates water development activities throughout the U.S.