GREAT LAKES FISHERIES AND THE ECONOMY

Objectives
Youths will be able to:
- name several jobs that relate directly or indirectly to Great Lakes fisheries. (Examples: hotel and restaurant owners and employees, tackle shop personnel, equipment manufacturers, distributors and retailers, commercial fishers, boatbuilders, retailers, packagers, transporters, restaurant personnel.)
- plan a sportfishing trip and make a budget for the trip’s costs.
- identify and discuss the relative benefits to themselves and society of catching fish on a sportfishing trip and of buying Great Lakes fish in the market.
- suggest reasons why many people prefer to catch their own fish.

Methods: calculation, discussion, research.


Duration: 45 minutes, although you may need to split this activity into two sessions to allow time for youth to research costs of fishing trip.

Materials
- Role cards (1 card for each group)
- One WORKSHEET FOR PLANNING A SPORTFISHING TRIP per group
- Masking Tape
- Newsprint
- Markers
- A road map for your state in the Great Lakes region
- The Life of the Lakes map/poster(s)
- Fishing, boating, and outdoor magazines and catalogs

Subjects: math, social studies (economics), current issues

Procedure
1. Ask youths for their definition of the term “fishery.” Let them discuss this briefly. Show overheads and emphasize the term fishery refers to fish species, people catching fish, and the environment. Tell them that this activity will take a closer look at sport and commercial fisheries in the Great Lakes. They will be planning and budgeting for a sportfishing trip to one of the Great Lakes.

2. Ask the youths to choose a destination for their fishing trip. Some possible locations include: LAKE SUPERIOR (Knife River, MN; Bayfield, WI), LAKE MICHIGAN (Bailey’s Harbor, WI; Sheboygan, WI; Leland, MI), LAKE HURON (Alpena, MI; Harbor Beach, MI), LAKE ERIE (Sandusky, OH; Buffalo, NY), LAKE ONTARIO (Rochester, NY; Toronto, Ontario).

3. Explain to the youths that while all of them will be planning a fishing trip for the same location, they will be planning for three different types of vacations. One group will play the role of CAMPERS/BOAT RENTERS, another will be HOTEL/CHARTER BOAT USERS, and another group will be RECREATIONAL VEHICLE/BOAT OWNERS. Divide the youths into three groups and assign roles.

4. Give each group several sheets of newsprint, some masking tape, a marker, a copy of the WORKSHEET FOR PLANNING A SPORTFISHING TRIP, and that group’s role card.

5. Let the youths read their role card.

6. Tell the youths that they will now begin to cal-
ulate the costs of travelling to their fishing site, and other costs they will have for their trip. Ask the youths to locate on a road map the destination they have chosen. Then ask them to calculate the distance between their hometown and the destination. On their role cards are instructions for calculating their transportation cost. Have the youths make this calculation, then enter the transportation cost on their group worksheet.

7. Have the groups brainstorm a list of goods (materials) they will need for their fishing trip and write this list on a sheet of newsprint. These items are unavoidable basics such as clothing, food, tackle and transportation. These “essentials” can be chosen in such a way as to minimize costs without lessening the likelihood of catching fish. Next, have the groups brainstorm about the services that they will need while on their trip and write this list on newsprint. Services are things that an angler has to pay other people to do for him/her, such as hotel services or other lodging costs, boat rental, or charter boat services. Tell the groups to reach agreement on which goods and services they think are “necessary” and how to get the best value for their money. Have the groups brainstorm and record “optional” items and services that the group might like to have. These items (such as special gear, special snack foods) would make the trip more convenient or comfortable.

8. Once the groups have agreed upon items needed, transfer these lists to the group worksheet. Have each group find out how much each of the things on their lists will cost. Some of this information may be easy to find. Some of it, though, may be harder to find and will require more time and effort. Use fishing, boating or outdoor magazines and catalogs for costs of some items. Information on clothing, equipment, and recreational vehicles should be available from local merchants. Information on the cost and availability of hotel or motel lodging should be available at a local hotel, motel, or in the public library. You may also contact travel bureaus or tourist associations. State or provincial departments of natural resources will have information on license fees, boat launching and docking, etc. A library will have magazines and newspapers with articles on sportfishing, recreation and travel in the Great Lakes region.

9. Have groups record the cost of each item on their worksheet. Add up all these expenses and record this sum.

10. Have the groups refer back to their role card to find out how many pounds of salmon were caught on the trip. Have groups calculate the cost per pound of fish caught by following the instructions at the bottom of the worksheet.

11. Call or visit a local supermarket or fish market. Find out how much a pound of frozen or fresh salmon costs. Find out where the market fish was caught. NOTE: If you do not find salmon in your market, use the price per pound of lake trout, whitefish or walleye instead.

12. Compare the costs of the market fish with the cost per pound of the salmon caught on the fishing trip.

Talking It Over

1. How do the costs of each group’s fishing trip compare? Which was highest, which was lowest? Would each of the trips be worth what you would have to pay for it?

2. Would you prefer to pay the market price for salmon or catch it yourself? Why?

3. What are the benefits to you, and society as a whole, of paying the higher price for the salmon you caught? [Economic benefits to society include community income from sportfishing. Personal benefits of sportfishing might include enjoying being outdoors, escaping routine chores, challenging one’s skills and abilities.]

4. What are the benefits to you, and society as a whole, of paying the price of the fish available in the market?

5. In the late 1980s, sport anglers began to catch fewer and fewer salmon from Lake Michigan. The populations of salmon had declined seriously, probably due to a disease called bacterial kidney disease (BKD). What happens to the communities when the population of a sport fish declines? [Business people who make their living from the sportfishing industry (charter boat operators, restaurants, lodging, tackle, boat sales and rentals) find their incomes reduced. The quality of the environment and the status of fish populations are definitely linked to economic and social factors of Great Lakes communities.]

Optional Activity:

1. Ask each group to make a list on a sheet of newsprint jobs that depend in some way on the production of the goods and services for sportfishing. You may want to give them 10–15 minutes to make this list.
2. On another sheet, ask the groups to list jobs which are generated by the commercial fishing industry. This will probably be a much shorter list than the list of jobs related to sportfishing. Generally, commercial fishing provides employment for a captain and crew for each fishing vessel, fish processors, truckers, wholesalers, and retail outlet fish handlers. In addition, there are the jobs related to producing equipment needed for commercial fishing and processing the fish.

3. Ask the groups to compare the commercial fishing list with the list of jobs generated by sportfishing.

4. Ask the students to discuss these questions:
   a. How does the difference between the lists explain the difference in cost between fish caught by a commercial fisher and fish caught by a sport angler?
   b. How it is possible that a small number of commercial fishers can produce large quantities of fish more cheaply than a large number of sport anglers? Why do commercial fishers still have a much smaller overall impact on the economy of the Great Lakes region?
   c. Should commercial fishing be discouraged or abandoned by Great Lakes resources managers? What reasons support a continuation of commercial fishing? [The commercial fishery supplies high quality protein to people who do not or cannot fish for sport.

Commercial fishing is also an important tool for managing fish populations. Another reason for commercial fishing is that some fish species cannot be caught using sportfishing methods. On the other hand, some people may argue that commercial fishing should be abandoned because it contributes relatively small amounts to the economy. They may also point out that protein is available from land sources and the ocean (although ocean fisheries in some areas of the world are in trouble). Some also point out that sport fishing constitutes a much larger interest group, politically, than commercial fishing (if you do not include commercial fish consumers).

Ways to Learn More

- Visit a tackle shop.
- Interview anglers to find out why they fish.
- Take your trip!

This activity has been updated and revised from the curriculum Investigating the Great Lakes Environment: Unit 2, Great Lakes Fishing in Transition (by Nowak, P., L. Lin and W. Stapp. 1983. MICHU-5G-83-400. Michigan Sea Grant College Program, Ann Arbor, MI.)
ROLE CARD: CAMPERS/BOAT RENTERS

You are a family of four planning to go on a sportfishing trip. You are going to a Great Lakes campground where you will spend the weekend. Your vehicle gets 20 miles per gallon of gasoline used. You will camp in a tent, and will rent a fishing boat for two days. You own your own fishing tackle. Include one tenth of the costs of your tent, sleeping bags and other camping equipment. Also add one tenth of the costs of your fishing tackle. Your costs for boat rental will be $35.00 per day (including gas). You will catch enough salmon to weigh five pounds when cleaned (dressed).

Miles to destination: __________________________ (a)
Miles per gallon of gasoline: ________________ (b)
Gallons of gasoline used: (a/b) _________________ (c)
Current price per gallon of gas: $ ____________ (d)
Transportation costs: (c x d) $_________________ (Cut along dotted line)

ROLE CARD: HOTEL/CHARTER BOAT USERS

You are a family of four planning to go on a sportfishing trip. You are going to a Great Lakes coastal community where you will spend a weekend. You will stay in a hotel or motel and rent the services of a charter boat for two days. Your vehicle gets 20 miles per gallon of gasoline used. Estimate your charter boat costs at $75.00 per person per day. You will catch ten pounds of salmon, dressed.

Miles to destination: __________________________ (a)
Miles per gallon of gasoline: ________________ (b)
Gallons of gasoline used: (a/b) _________________ (c)
Current price per gallon of gas: $ ____________ (d)
Transportation costs: (c x d) $_________________ (Cut along dotted line)

ROLE CARD: RECREATIONAL VEHICLE (RV)/BOAT OWNERS

You are a family of four planning to go on a sportfishing trip. You are going to a Great Lakes fishing spot where you will spend the weekend. You will sleep in your Recreational Vehicle (RV) and use your own boat. Your vehicle gets 10 miles per gallon of gasoline used. Include in the costs one–tenth of the cost of your recreational vehicle and boat. Also add one tenth of the cost of your fishing tackle. You will catch five pounds of lake trout, dressed.

Miles to destination: __________________________ (a)
Miles per gallon of gasoline: ________________ (b)
Gallons of gasoline used: (a/b) _________________ (c)
Current price per gallon of gas: $ ____________ (d)
Transportation costs: (c x d) $_________________
# WORKSHEET FOR PLANNING A SPORTFISHING TRIP

<table>
<thead>
<tr>
<th>Materials Needed</th>
<th>Services Needed</th>
<th>Optional Goods &amp; Services</th>
</tr>
</thead>
<tbody>
<tr>
<td>Item</td>
<td>Item</td>
<td>Item</td>
</tr>
<tr>
<td>Cost</td>
<td>Cost</td>
<td>Cost</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Fish species:</th>
<th>Grand total of costs: $___________ (a)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pounds of fish caught:</td>
<td>$__________ lbs. (b)</td>
</tr>
<tr>
<td>From:</td>
<td>Cost per pound of fish:(a/b) $_________</td>
</tr>
<tr>
<td></td>
<td>Cost per pound of fish at store: $_________</td>
</tr>
</tbody>
</table>

The Life of the Lakes

△ Overhead/Handout Master △