Fisheries
Student Activity Book

I. Introduction

Part of the job of the U.S. Government is to ensure that the rights of all the citizens of the United States are protected. The National Marine Fisheries Service's job is to make sure that people don't catch so many fish that there are not enough fish left to breed and replenish the fish population. If people catch too many fish now, there will not be enough for people to catch in the future. The National Marine Fisheries Service is in a real sense a guardian of the future.

Get Info Objectives

1. Explain what fisheries management is.
2. Explain why fisheries management is important.
3. Describe how fish populations are managed.

Gather Data Objectives

1. Determine the year that had the greatest and least fish landings (catches).
2. Describe the pattern of catches over a long period of time.
3. Determine the method of fishing that catches the most fish.

Application Objectives

1. Hypothesize the effects of better fishing methods on the long-term landing (number of fish caught).

2. Explain why the commercial fishing license system should be continued.
3. Develop a list of illegal activities that should be reported to the National Marine Fisheries Service.

Before doing anything else, add the NOAA Research "Fisheries" page to Bookmarks or Favorites on your browser.

- From the NOAA Research Fisheries main page, click "Get Info."

II. Get Info

A. Recreational Catch

- Click on the "Recreational Fisheries" site.
- Read the first two paragraphs and associated lists.

1. Why should the government be concerned with the number of fish people catch?

_____

_____

_____

_____

_____

_____

- Click "Back" to return to the Fisheries "Get Info.1" web page.

B. Atlantic Cod Commercial Gear Type and Catch.

- Click on the "Gear Type" site.
- Scroll down to the "Species" box on the left side of the page. (NOT the "Species Locator" box in the middle of the page!)
- Delete the text in the box, and then type "COD, ATLANTIC" in the Species box.
- Scroll down to the "Year Range" boxes.
- Click on the "From" box and select 1990.
- Scroll down to "Gear Type."
- Gear Type should read, "ALL GEAR INDIVIDUALLY."
- Scroll down and click on "Submit Query."

1. What are the major types of equipment used to catch fish?

_____

_____

_____

_____

2. What are the three best types of equipment used to catch Atlantic Cod?

_____

- Click "Back" once to return to the "Gear Type Search" web page.

C. Yellowfin Tuna Commercial Gear Type and Catch

- Scroll down to the "Species" box and type in "TUNA,YELLOWFIN."
- Scroll down and click on "Submit Query."

3. What type of equipment used caught the most yellowfin tuna in

    a. 1990? _____

    b. 1991? _____

    c. 1992? _____

    d. 1993? _____

    e. 1994? _____

    f. 1995? _____

    g. 1996? _____

- Click "Back" to return to the NOAA Research "Fisheries" main page, or choose "Fisheries" from your Bookmarks or Favorites.

- Click "Gather Data."

III. Gather Data

A. Atlantic Cod Commercial Landings (fish catch)

- Click on the "Commercial Landings" site.
- Scroll down to the "Species" box on the left side of the page.
- Delete the text in the box, then type "COD,ATLANTIC" in the box.
- Scroll down to the "Year Range" boxes.
- Click on the "From" box and select 1990.
- Leave the listed date in the "To" box.
- Scroll down to the "Time Frame" box.
- Click on the "Time Frame" box and select "ANNUAL."
- Scroll down and click "Submit Query."
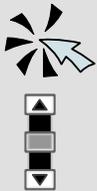
1. What is the relationship between the number of fish caught in a year and the number caught the year before?

_____

_____

2. How would you explain this relationship?

_____

_____

- Click "Back" twice to return to the Fisheries "Gather Data.1" web page.
- Click "Forward" at the bottom of the page.

B. Red Drum Commercial Landings (fish catch)

- Click on the "Annual Commercial Landings" site.
- Scroll down to the "Species" box.
- Replace the text in the box with "DRUM,RED."
- Scroll down to the "Year Range" box
- Click on the "From" box and select 1981.
- Scroll down and click "Submit Query."

1. What is the trend in the number of fish caught each year?

_____

_____

2. Hypothesize why the catch might be so low after 1987.

_____

_____

- Click "Back" twice to return to the Fisheries "Gather Data.2" web
  page.
- Click "Forward" at the bottom of the page.

C. Commercial Regulations

- Click on the "Commercial Regulations" site.
- Read about "Spanish Mackerel" and answer the following questions.

1. Is a permit required to catch Spanish Mackerel? _____

2. What is the minimum size Spanish Mackerel you can keep?

_____

3. What laws apply to "gill net" fishing for Mackerel?

_____

_____

_____

4. What time of year can you fish for Spanish Mackerel?

_____

5. How much Spanish Mackerel can you catch in a year?

- Click "Back" to return to the Fisheries "Gather Data.2" web page.
- Click "Forward" at the bottom of the page.
- Click on the "Other Regulations" site.
- Scroll down to the "Big Changes for Mackerel" section.

6. What business must you have already been in to qualify for a commercial Mackerel permit?

_____

_____

- Click "Back" to return to the Fisheries "Gather Data.3" web page.

D. Recreational Red Snapper Landings

- Click on the "Red Snapper" site.
- Scroll to the "Year Range" section.
- Click the "From" box, then select 1981.
- Scroll to the "State/Area" box and select "LOUISIANA."
- Scroll to the "Species" box.
- Click the "Species" box and select "RED SNAPPER."
- Scroll to the "Fishing Area" box and select "STATE WATERS."
- Scroll down the page and click "Submit Query."
- Scroll down to the bottom of the page that appears and again click "Submit the Query."

1. After a few years of catching large amounts of fish, what happens to the number of fish caught per year?

_____

_____

E. Graph the Recreational Red Snapper Catch

1. Graph the catch of RED SNAPPER in the STATE WATERS of LOUISIANA from 1981 to 1997.

- Plot the points of numbers of fish caught each year, and then draw a line connecting the points.
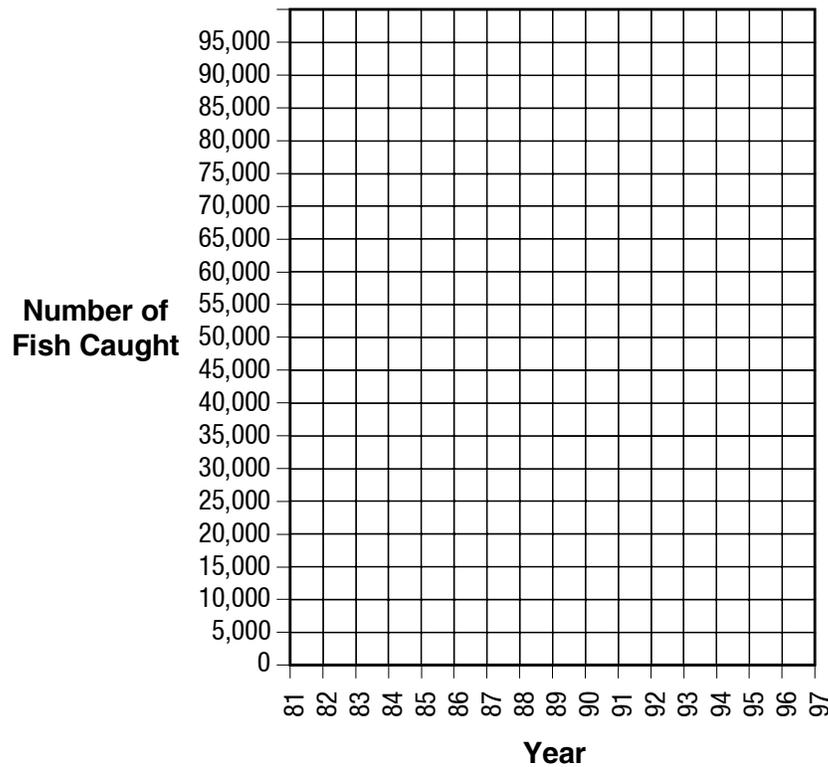
Number of Fish Caught

95,000
90,000
85,000
80,000
75,000
70,000
65,000
60,000
55,000
50,000
45,000
40,000
35,000
30,000
25,000
20,000
15,000
10,000
5,000
0

81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97

Year

- Click "Back" to return to the NOAA Research "Fisheries" main page, or choose "Fisheries" from your Bookmarks or Favorites.

- Click "Application."

IV. Application

A. Effect of Fishing Methods Improvement

1. What would happen if fishing methods improved but there were no regulations on how many fish could be caught?

    _____

    _____

    _____

    _____

2. List any fishing methods or equipment that helps people know where fish are.

    _____

    _____

    _____

    _____

B. Commercial (for profit) Fishing Problems

1. Why should the number of commercial fishing licenses be controlled?

_____

_____

_____

_____

C. Recreational Fishing Problems

1. Why should you report the number of fish you catch?

_____

_____

_____

2. How else can you help the National Marine Fisheries Service protect your natural resources?

_____

_____

_____

3. What types of illegal activities should you report to the National Marine Fisheries Service?

_____

_____

_____

- Click "Back" to return to the NOAA Research "Fisheries" main page, or choose "Fisheries" from your Bookmarks or Favorites.

V. Enrichment Activities

A. Interview

1. Interview commercial fishermen. Ask them about the type of training needed to fish for a living. Ask about problems they've encountered. Find out what the job is like – what good and bad points are there? See if they like their jobs. Ask them how many fish they catch per year and what might influence the catch besides limits imposed by the government.

B. Local Limits

1. Different areas allow different amounts of fish to be caught. Find out the catch limits in your area for your favorite types of fish.

C. Diet

1. For a week, list everything you eat that comes from the water.

D. Research Other Harvested Species Besides Fish

1. Crabs
2. Shrimp
3. Clams
4. Oysters
5. Whales

E. Plan for the Future

1. Develop a plan to conserve fish so they can always be harvested. What limits would you put on commercial fishers and recreational fishers?

F. Related Web Sites

1. National Marine Fisheries Service Home Page
   http://www.nmfs.noaa.gov/

2. Fisheries Statistics and Economic Division
   http://www.st.nmfs.gov/st1/

3. Atlantic and Gulf Coast Local Fish Names
   http://www.st.nmfs.noaa.gov/st1/recreational/Local_Fish_names.htm

4. A Brief History of Ground Fishing
   http://www.noaa.gov/nmfs/groundfish/grndfsh1.html

5. NOAA Sustainable Fisheries Regional Projects
   http://www.noaa.gov/nmfs/sustain.html

6. Responsible Marine Wildlife Viewing
   http://www.nmfs.noaa.gov/pr/education/viewing.htm