

# Where Do Fish Live in the Hudson?

*Students will use tables of fish collection data to draw conclusions about where fish live in the Hudson estuary.*

**Objectives:** Students will use data presented in tables to:

- interpret organized observations and measurements;
- recognizing simple patterns, sequences, and relationships;
- understand environmental factors that influence where fish live and determine the makeup of fish communities.

**Grade level:** Elementary (Grades 3-5)

**Subject Area:** Math, Science

**Standards:** Mathematics, Science, & Technology Standards 1, 4

## **Skills:**

- Interpret data presented in table format.
- Observe, identify, and communicate patterns.
- Present inferences or generalizations indicated by data
- Add and subtract whole numbers to compare data.

**Vocabulary:** river mile, salt front, school (of fish), seine net, species

## **Duration:**

Preparation time: 5 minutes

Activity time: 30 minutes

**Materials:** Each student should have:

- ☐ Worksheet: Where Do Fish Live in The Hudson?
- ☐ Hudson River Miles map
- ☐ Pencil



Hudson River Estuary Program  
NYS Department of Environmental Conservation



## Background:

The Hudson is home to a great variety and abundance of fishes. Each kind has its habitat and lifestyle preferences. For example, the Hudson is an estuary in which salty ocean water and fresh water mix. Some of the river's fish are found only in salt water, others only in fresh; a few can live in either. Some fish swim in schools; others tend to keep to themselves. Given these preferences, fishes occur in communities—fishes of freshwater shallows, for instance.

During DEC's annual autumn Day in the Life of the Hudson River Estuary event, also called Snapshot Day, students collect fish at sites all along the tidal Hudson and New York Harbor. Of the 200+ kinds of fish found in the Hudson and its tributaries, 33 species have been caught on Snapshot Days since 2003. The tables in the worksheets show data for a handful of the varieties caught. To simplify, data from sites less than one mile apart were combined, and many sites were left out. Most of the fish recorded on Snapshot Days are caught in beach seines—curtains of netting with a pole at either end.

Locations along the Hudson are often measured in Hudson River Miles. Hudson River Miles start at the southern tip of Manhattan. This spot, called The Battery, is River Mile 0. The estuary part of the Hudson ends at the Federal Dam in Troy at River Mile 153.

## Activity:

1. Review the concept of estuary with the students.
2. Introduce the Hudson River Miles system.
3. Go over the worksheet with the class or hand out as an in-class or homework assignment.

## Assessment:

Have students share answers to questions from worksheets, or collect and grade sheets.

## Answers:

- |                                                                                                                                             |                                                                                                     |
|---------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------|
| 1. <i>mummichog</i>                                                                                                                         | 4. <i>mummichogs prefer habitats with plants; Inwood has them; Alpine &amp; Yonkers sites don't</i> |
| 2. <i>white perch, striped bass</i>                                                                                                         | 5. (a) <i>mummichog</i> ; (b) <i>smallmouth bass</i> ; (c) <i>Atlantic silverside</i>               |
| 3. (a) <i>Atlantic silverside, salt</i> ; (b) <i>tessellated darter, fresh</i> ; (c) <i>pumpkinseed, fresh</i> ; (d) <i>mummichog, salt</i> |                                                                                                     |

## Resources:

Illustrations of and information about the fish described in this activity can be found on the New York State Department of Environmental Conservation website at <http://www.dec.state.ny.us/website/dfwmr/fish/fishspecs/> The Atlantic silverside and other fish more common in salt water are described on the Virginia Institute of Marine Science's site [http://www.fisheries.vims.edu/femap/Bay\\_Fishes.htm](http://www.fisheries.vims.edu/femap/Bay_Fishes.htm) Information about and data from the Day in the Life of the Hudson River Estuary event is available at <http://www.ldeo.columbia.edu/edu/k12/snapshotday/>



Hudson River Estuary Program  
NYS Department of Environmental Conservation

