Name _____ Date_____

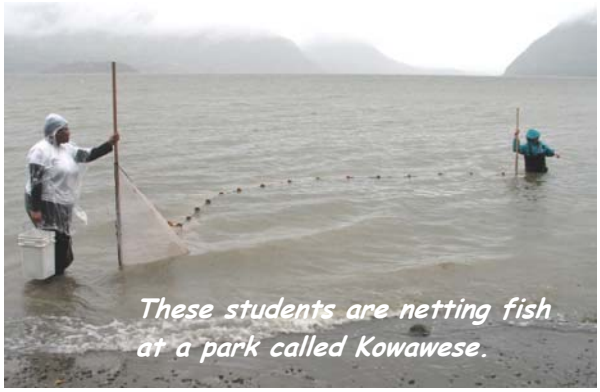
Which Fish Where?

Many kinds of fish live in the Hudson. However, not all of these fish live everywhere in the river. People live in different sorts of **communities**, and so do fish. Some like **salt water**; others like **fresh**. Some prefer to live among plants; others prefer open water.

Students collect fish with a seine net at the Cohotate Preserve.

The information in the graphs and tables below was collected by students during the Day in the Life of the Hudson River event. On this day each fall, students catch fish at many places along the river. Then they compare results to see where different kinds of fish live.

Each place where students catch fish is located using **Hudson River Miles** (abbreviated as HRM). Hudson River Mile 0 is in New York City. Going north, the mile numbers get higher.



These students are netting fish at a park called Kowawese.

For example, Kowawese (pronounced Cow-ah-wee-see) is located in New Windsor at Hudson River Mile 59. The Cohotate Preserve is in Athens at Hudson River Mile 115. Albany, the capital of New York, is at Hudson River Mile 145.

Hudson River Estuary

Fish Caught on A Day in the Life of the Hudson River
October 2, 2007

Hudson River Miles/Town		Fish Caught							
		spottail shiner	*banded killifish*	*Atlantic silverside*	*northern pipefish*	*white perch*	*striped bass*	*tessellated darter*	*hogchoker*
NORTH	*127/Stuyvesant*	51	5			5			1
	115/Athens	10	2			11		1	
	97/Ulster	14	1			26	15	7	15
	85/Staatsburgh	6	48					30	8
	76/Poughkeepsie	55	6			4	12	8	6
	59/New Windsor	8	1	15	1	32	40	1	
	55/Cold Spring	25	9	9		60	100	8	4
	41/Verplanck			180	1		12		
	36/Croton			9	2		107		
SOUTH	*25/Piermont*			113			26		
	18/Yonkers			67	1	2	16		1
	TOTALS	*169*	*72*	*393*	*5*	*140*	*328*	*55*	*35*

Use the table above to answer questions 1-4.

1. Which fish was caught in <u>greatest</u> numbers on October 2, 2007?

2. Which fish was caught in the <u>most places</u> on October 2?

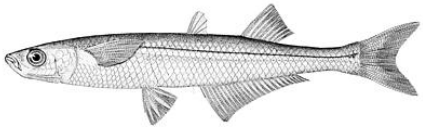
3. If you had fished at Hudson River Mile 106 on this day, which four of the eight fish in the table would you have been most likely to catch? Why?

Hudson River Estuary

4. Salt water pushes into the Hudson River **estuary** from the Atlantic Ocean. The estuary is very salty near New York City at Hudson River Mile 0. Moving upriver, the water becomes less salty and eventually fresh. Some fish prefer salt water, others prefer fresh water. A few can live in both salt and fresh water. In the table, look at the locations where each of these fish was found. Then circle ***salt***, ***fresh***, or ***both*** to show what kind of water the fish prefers.

spottail shiner *salt* *fresh* *both*

banded killifish *salt* *fresh* *both*



Atlantic silverside *salt* *fresh* *both*

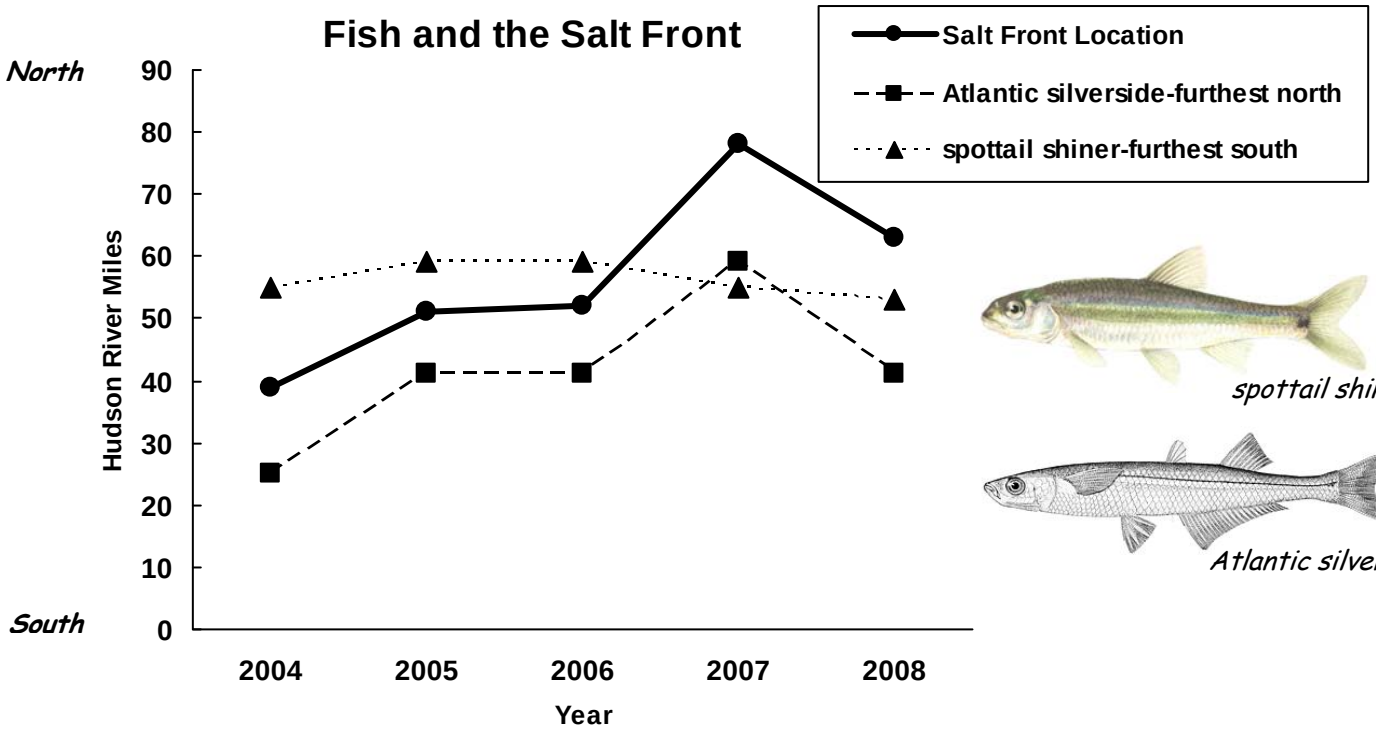
northern pipefish *salt* *fresh* *both*

white perch *salt* *fresh* *both*

hogchoker *salt* *fresh* *both*

Hudson River Estuary

5. The leading edge of salty ocean water moving up the Hudson is called the **salt front**. Water north of the salt front is fresh. Water south of the salt front becomes saltier towards New York Harbor at Hudson River Mile 0.



spottail shiner

Atlantic silverside

This graph shows how far <u>north</u> students found Atlantic silversides and how far <u>south</u> they found spottail shiners from 2004 to 2008. It also shows the salt front's location each year. **Use the graph to answer the questions below.**

(a) In what year was the Atlantic silverside found farthest north?

(b) In what year was the spottail shiner found farthest south?

(c) Do Atlantic silversides move up and down the river with the salt front? How can you tell?

(d) Do spottail shiners move up and down the river with the salt front? How can you tell?

Hudson River Estuary

6. The dots in these tables show the kinds of fish caught at the Cohotate Preserve, located in Athens, and at Kowawese, a park located in New Windsor, from 2006 to 2008. **Use these tables to answer the questions below.**

	Day in the Life Catches at the Cohotate Preserve, HRM 115									
Year	***herring***	***bay anchovy***	***spottail shiner***	***banded killifish***	***Atlantic silverside***	***northern pipefish***	***white perch***	***striped bass***	***sunfish***	***tessellated darter***
2006	●		●	●			●	●	●	●
2007	●		●	●			●		●	●
2008	●		●	●			●		●	●

	Day in the Life Catches at Kowawese, HRM 59									
Year	***herring***	***bay anchovy***	***spottail shiner***	***banded killifish***	***Atlantic silverside***	***northern pipefish***	***white perch***	***striped bass***	***sunfish***	***tessellated darter***
2006	●		●				●	●	●	
2007	●	●	●	●	●	●	●	●		●
2008	●			●			●	●		

(a) Over all three years, did students catch more kinds of fish at the Cohotate Preserve or at Kowawese?

(b) In which year and location did students catch the most different kinds of fish?

(c) At Cohotate, students caught the same kinds of fish almost every year. In which year did they catch something different? What kind of fish was it?

Challenge Question: Explain why more kinds of fish have been caught at Kowawese, and why the catch there varies from year to year.