

Delaware River Seine Survey: 2009 Sampling Summary



Fish and Wildlife workers hauling in a net

From June 15 to November 10, 2009, biologists conducted the Delaware River Seine Survey. Over the course of these five months, crews hauled 318 individual seines. In total, 55,510 fish were caught, averaging 174 fish per haul. The five most abundant species caught were: American shad, bay anchovy, white perch, banded killifish and blueback herring.

Common Name	Total Number	Relative Abundance	Frequency of Occurrence
American Shad	10,640	19.168%	66.981%
Bay Anchovy	6,415	11.556%	38.679%
White Perch	6,271	11.297%	63.836%
Banded Killifish	6,188	11.148%	54.717%
Blueback Herring	6,096	10.982%	43.082%
Mummichog	3,399	6.123%	39.308%
Atlantic Menhaden	3,071	5.532%	15.723%
Eastern Silvery Minnow	2,834	5.105%	47.799%
Striped Bass	2,328	4.194%	66.352%
Spottail Shiner	2,282	4.111%	44.340%
Herring Species	1,965	3.540%	0.314%
Atlantic Silverside	1,232	2.219%	30.818%
Tessellated Darter	841	1.515%	24.843%
Rough Silverside	409	0.737%	11.635%
Gizzard Shad	275	0.495%	17.296%
Alewife	269	0.485%	7.233%
Hogchoker	242	0.436%	10.692%
Channel Catfish	157	0.283%	15.723%
Blue Crab	111	0.200%	13.836%
Bluefish	79	0.142%	11.006%
Atlantic Croaker	62	0.112%	3.459%
Bluegill Sunfish	57	0.103%	9.119%
Pumpkinseed Sunfish	51	0.092%	6.604%
Inland Silverside	37	0.067%	3.459%
American Eel	26	0.047%	6.289%
White Sucker	21	0.038%	4.403%
Golden Shiner	19	0.034%	3.459%
Yellow Perch	15	0.027%	3.774%
Spot	13	0.023%	2.830%
Carp	12	0.022%	3.145%
Smallmouth Bass	11	0.020%	2.516%
Black Bullhead	8	0.014%	1.572%
Banded Sunfish	6	0.011%	1.887%
Crevalle Jack	6	0.011%	1.887%
Striped Anchovy	6	0.011%	1.258%
Weakfish	6	0.011%	1.572%
White Catfish	6	0.011%	1.887%
Atlantic Needlefish	5	0.009%	1.572%
Brown Bullhead	5	0.009%	0.943%
Comely Shiner	5	0.009%	1.258%
Four-spined Stickleback	5	0.009%	1.258%
Hickory Shad	5	0.009%	0.314%
Largemouth Bass	5	0.009%	1.258%
Summer Flounder	5	0.009%	1.572%
Walleye	3	0.005%	0.943%
Black Drum	2	0.004%	0.314%
Mosquitofish	1	0.002%	0.314%
Redbreast Sunfish	1	0.002%	0.314%
Silver Perch	1	0.002%	0.314%
Spanish Mackerel	1	0.002%	0.314%
Grand Total	55,510	100.000%	

The primary target species of this survey is striped bass. In 2009, this species was the ninth most abundant fish caught. In total, 2,328 striped bass were caught and 2,237 of those were young-of-year striped bass. This means that 96% of the striped bass caught were less than 1 year old.



Young striped bass caught during 2009 survey

One of the unique fish caught during the 2009 survey was the walleye. Biologists caught three walleye total. From 1980 through 2008, only 4 walleye had been caught in this survey. The smallest walleye caught to date was 186 mm (fork length), caught in 2004. However, two of the three fish caught in 2009 were smaller than 75 mm. These three fish were caught in Region 3, the northern-most region where the water is mostly freshwater. Some distinguishing characteristics of the walleye include:

- large mouth with large canine teeth
- opaque silver eye
- forked tail
- yellow-olive to brown top
- brassy yellow-blue sides
- 5-12 dusky saddles
- large black spot on first dorsal fin
- wavy dark brown bands on yellow fins
- white tips on anal fins and lower caudal fin



213 mm walleye caught during 2009 sampling

All water quality parameters for 2009 were within normal range. Water temperatures ranged from 10.5 to 28.5 degrees Celsius. Dissolved oxygen levels ranged from 4.6 to 10.2 milligrams per liter. Salinity values ranged from 0 to 7.4 parts per thousand.

Overall, 2009 was a typical survey year. There were no drought or flooding conditions to affect the catches, and other outside environmental influences were at a minimum. Here's to hoping that 2010 will be another successful survey year!