

Data Summary of 2016 Delaware River Seine Survey



From June 14 to November 9, 2016, biologists conducted the Delaware River Seine Survey. Over the course of these six months, crews hauled 285 individual seines. In total, 22,993 fish were caught, averaging 80 fish per haul. The five most abundant species caught were: bay anchovy, banded killifish, Atlantic silverside, white perch and Eastern silvery minnows.



The primary target species of this survey is striped bass. In 2016, this species was the sixth most abundant fish caught. In total, 1,476 striped bass were caught and 942 of those were young-of-year striped bass. This means that 64% of the striped bass caught were less than 1 year old.

SPECIES NAME	TOTAL # CAUGHT	RELATIVE ABUNDANCE (%)
Bay Anchovy	4,922	21.407%
Banded Killifish	3,849	16.740%
Atlantic Silverside	2,464	10.716%
White Perch	1,944	8.455%
Eastern Silvery Minnow	1,788	7.776%
Striped Bass	1,476	6.402%
Atlantic Menhaden	1,449	6.302%
Spottail Shiner	944	4.106%
Mummichog	745	3.240%
Blueback Herring	721	3.136%
American Shad	548	2.383%
Gizzard Shad	365	1.587%
Blue Crab	328	1.427%
Tessellated Darter	257	1.118%
Hogchoker	243	1.057%
Atlantic Croaker	163	0.709%
Bluefish	126	0.548%
Rough Silverside	96	0.418%
Southern Kingfish	87	0.378%
Bluegill Sunfish	73	0.317%
Channel Catfish	72	0.313%
Pumpkinseed Sunfish	44	0.191%
Inland Silverside	40	0.174%
Redbreast Sunfish	40	0.174%
Northern Kingfish	39	0.170%
American Eel	36	0.157%
Black Drum	23	0.100%
Gray Snapper	18	0.078%
Yellow Perch	15	0.065%
Striped Anchovy	12	0.052%
Largemouth Bass	10	0.043%
Spot	8	0.035%
Striped Killifish	8	0.035%
Goldfish	6	0.026%
Silver Perch	5	0.022%
Weakfish	5	0.022%
Brown Bullhead	4	0.017%
White Sucker	4	0.017%
Golden Shiner	3	0.013%
Striped Mullet	3	0.013%
Northern Pipefish	2	0.009%
Summer Flounder	2	0.009%
Carp	1	0.004%
Comely Shiner	1	0.004%
Crevalle Jack	1	0.004%
Hickory Shad	1	0.004%
Naked Goby	1	0.004%
Northern Snakehead	1	0.004%
Smallmouth Bass	1	0.004%
Sunfish Species	1	0.004%
White Catfish	1	0.004%
White Mullet	1	0.004%
Grand Total	22,993	100.000%

During 2016, several species yielded significantly lower catches than in 2015. These decreases **do not** mean that the species are at risk – some of these species had higher than normal catches during 2015. The table below shows which species had the most significant decreases:

TOTAL NUMBER CAUGHT			
Species	2015	2016	% Difference
American Shad	5,627	548	90.26
Crevalle Jack	7	1	85.71
White Sucker	25	4	84.00
Blueback Herring	4,417	721	83.68
Carp	5	1	80.00
Rough Silverside	402	96	76.12
Mummichog	1,886	745	60.50
Brown Bullhead	9	4	55.56

During 2016, several species yielded higher than normal catches. Some increases could be a result of low numbers caught in 2015. In addition, sampling limitations yielded 285 hauls during the 2016 sampling season. This was 19 less hauls that were completed in 2016. The table below lists the species with the greatest increases:

TOTAL NUMBER CAUGHT		
Species	2015	2016
Striped Bass	881	1,472
Atlantic Menhaden	1,073	1,449
Blue Crab	64	328
Gizzard Shad	189	365
Atlantic Croaker	31	163
Banded Killifish	2,262	3,849



All water quality parameters for 2016 were within normal range. Water temperatures ranged from 11 to 31 degrees Celsius. Dissolved oxygen levels ranged from 1 to 14.9 milligrams per liter. Salinity values ranged from 0 to 9.6 parts per thousand. pH was also collected for the first time. Normal ranges for the Delaware River will be determined after a few years of collecting this data. However, all data collected averaged to 7.9, which is considered more basic than acidic.

Setbacks which occurred during 2016 sampling were due to staff limitations, bad weather (such as wind and tidal surges) and dredging/beach replenishment.



NJ Department of Environmental Protection
Division of Fish and Wildlife
Marine Fisheries Administration
www.NJFishandWildlife.com