

Data Summary of the Delaware River Seine Survey 2020-2022



Due to the COVID-19 pandemic, the Delaware River Seine Survey was not conducted during 2020 and a shorter sampling period was conducted in 2021 when biologists sampled from August 2 to November 1, 2021. Over the course of those three months, crews hauled 191 individual seines. In total, 22,045 fish were caught, averaging 115 fish per haul. The five most abundant species caught were: American shad, blueback herring, Atlantic menhaden, white perch and Eastern silvery minnow.

In 2021, the target species (striped bass) was the fourteenth most abundant fish caught. In total, 329 striped bass were caught and 299 of those were young-of-year (YOY) striped bass. This means that 91% of the striped bass caught were less than 1 year old. The YOY index (geometric mean) for 2021 was 0.67, which ranks thirtieth out of the 42-year time series.

Routine sampling resumed during the summer of 2022 and biologists conducted the survey from June 20 to November 1, 2022. During those six months, crews hauled 287 individual seines catching 60,631 total fish, averaging 211 fish per haul. The five most abundant species caught were: Atlantic menhaden, blueback herring, American shad, spottail shiner and Eastern silvery minnow.

In 2022, striped bass was the eleventh most abundant fish caught. In total, 622 striped bass were caught and 532 of those were young-of-year (YOY) striped bass meaning that 86% of the striped bass caught were less than 1 year old. The YOY index (geometric mean) for 2022 was 0.77, which ranks twenty-eighth highest out of the 42-year time series.





All water quality parameters for 2021 and 2022 were within normal range. Water temperatures ranged from 12.7 to 31.5 degrees Celsius. Dissolved oxygen levels ranged from 2.7 to 10.7 milligrams per liter. Salinity values ranged from 0 to 17.2 parts per thousand. pH values collected during 2021 and 2022 averaged 7.5 and 7.8 respectively, which are considered slightly more basic than neutral (7.0).

Catch totals by species for 2021 and 2022 can be found below:

2021 CATCH TOTALS

COMMON NAME	TOTAL NUMBER	RELATIVE ABUNDANCE
Alewife	142	0.644%
American Eel	9	0.041%
American Shad	3,207	14.548%
Atlantic Croaker	65	0.295%
Atlantic Menhaden	2,711	12.298%
Atlantic Needlefish	1	0.005%
Atlantic Silverside	525	2.381%
Banded Killifish	1,308	5.933%
Bay Anchovy	1,756	7.966%
Black Bullhead	1	0.005%
Black Drum	4	0.018%
Blue Crab	223	1.012%
Blueback Herring	2,952	13.391%
Bluefish	36	0.163%
Bluegill Sunfish	40	0.181%
Brown Bullhead	1	0.005%
Carp	7	0.032%
Channel Catfish	31	0.141%
Comely Shiner	1	0.005%
Crevalle Jack	5	0.023%
Eastern Silvery Minnow	1,956	8.873%
Flathead Catfish	1	0.005%
Fourspine Stickleback	1	0.005%
Gizzard Shad	109	0.494%
Golden Shiner	3	0.014%
Goldfish	10	0.045%
Hogchoker	365	1.656%
Inland Silverside	122	0.553%
Largemouth Bass	5	0.023%
Mummichog	960	4.355%
Pumpkinseed Sunfish	5	0.023%
Redbreast Sunfish	5	0.023%
Rough Silverside	333	1.511%
Spanish Mackerel	3	0.014%
Spot	3	0.014%
Spotfin Shiner	3	0.014%
Spottail Shiner	1,880	8.528%
Striped Anchovy	1	0.005%
Striped Bass	329	1.492%
Striped Killifish	9	0.041%
Striped Mullet	2	0.009%
Summer Flounder	4	0.018%
Tessellated Darter	365	1.656%
Threadfin Shad	1	0.005%
Weakfish	2	0.009%
White Catfish	8	0.036%
White Perch	2,516	11.413%
White Sucker	8	0.036%
Yellow Perch	11	0.050%
GRAND TOTAL	22,045	100.000%

2022 CATCH TOTALS

COMMON NAME	TOTAL NUMBER	RELATIVE ABUNDANCE
Alewife	195	0.322%
American Eel	29	0.048%
American Shad	5,377	8.868%
Atlantic Croaker	6	0.010%
Atlantic Menhaden	20,349	33.562%
Atlantic Needlefish	5	0.008%
Atlantic Silverside	735	1.212%
Banded Killifish	4,392	7.244%
Bay Anchovy	4,742	7.821%
Black Drum	14	0.023%
Blue Crab	268	0.442%
Blueback Herring	6,833	11.270%
Bluefish	41	0.068%
Bluegill Sunfish	8	0.013%
Brown Bullhead	1	0.002%
Carp	4	0.007%
Channel Catfish	28	0.046%
Crevalle Jack	7	0.012%
Eastern Silvery Minnow	4,969	8.195%
Flathead Catfish	1	0.002%
Fourspine Stickleback	2	0.003%
Gizzard Shad	120	0.198%
Golden Shiner	20	0.033%
Goldfish	5	0.008%
Hogchoker	144	0.238%
Horse-eye Jack	1	0.002%
Inland Silverside	44	0.073%
Largemouth Bass	11	0.018%
Mosquitofish	1	0.002%
Mummichog	2,705	4.461%
Northern Hog Sucker	1	0.002%
Northern Kingfish	1	0.002%
Pumpkinseed Sunfish	23	0.038%
Redbreast Sunfish	4	0.007%
Rough Silverside	238	0.393%
Silver Perch	35	0.058%
Smallmouth Bass	2	0.003%
Smallmouth Flounder	1	0.002%
Southern Kingfish	3	0.005%
Spanish Mackerel	3	0.005%
Spot	182	0.300%
Spottail Shiner	5,313	8.763%
Striped Anchovy	14	0.023%
Striped Bass	624	1.029%
Summer Flounder	4	0.007%
Tessellated Darter	558	0.920%
Weakfish	14	0.023%
White Catfish	3	0.005%
White Perch	2,535	4.181%
White Sucker	6	0.010%
Yellow Perch	10	0.016%
GRAND TOTAL	60,631	100.000%