

The BIG Five

New Jersey's Most Popular Recreational Species



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Atlantic Striped Bass

Morone saxatilis

Atlantic striped bass stock status is assessed on a coastwide basis. The 2018 stock assessment indicated the stock is overfished and experiencing overfishing. Addendum VI to the Fishery Management Plan sought to end overfishing by reducing the bag and size limit to 1 fish at 28 inches to less than 38 inches. In August 2020, the Atlantic States Marine Fisheries Commission's (ASMFC) Striped Bass Management Board initiated the development of Amendment 7 to update the management program to reflect current fishery priorities.

New Jersey's recreational striped bass harvest (number of fish) is typically one of the highest harvests by state coastwide.

Research

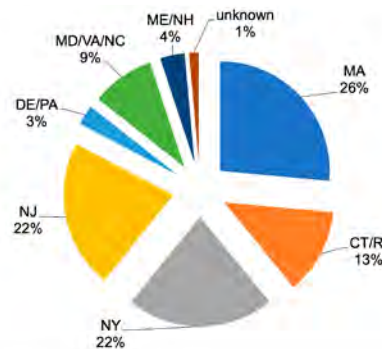
Atlantic striped bass is one of the most data-rich species along the coast. New Jersey Fish and Wildlife staff conduct multiple research projects to collect data on this important species.

New Jersey has participated in the U.S. Fish and Wildlife Service's (USFWS) **Cooperative Coastal Striped Bass Tagging Program** since 1989. Fish are tagged with pink tags and biological data is collected prior to release. More than 35,000 striped bass have been tagged by Marine Fisheries staff. (Figure 1)

The **Ocean Trawl Survey** samples the nearshore ocean waters of New Jersey and collects biological

data from many species, including striped bass. An index of abundance for striped bass is calculated using data collected in April.

Figure 1: Location of recaptured striped bass tagged by Marine Fisheries staff (1989–2020).



The **Delaware River Seine Survey** samples sites along the tidal portion of the Delaware River. The survey targets young-of-year striped bass to provide an annual index of striped bass recruitment.

Biological samples are also collected during **party/charter boat and tournament sampling**. All data collected is used for coastwide stock assessments and to

help characterize the striped bass fishery in New Jersey.

Since New Jersey does not allow netting or sale of striped bass, the commercial quota was transferred in 1990 to the recreational fishing sector in the form of the **Striped Bass Bonus Program**. Anglers provide valuable data for assessing stock status and fishing trends, making it an integral part of striped bass management.

Best Fishing Methods

- **Surf fishing:** Using artificial lures, teasers, surf rigs, flies or baits
- **Boat or kayak:** Trolling, live-lining, fly fishing, casting artificial lures
- **Best baits*:** Bunker, clams, eels and bloodworms

* *Reminder: Non-offset circle hooks are required when fishing for striped bass with bait, which is defined as any marine or aquatic organism live or dead, whole or parts thereof. This does not apply to any artificial lure with bait attached.*

Did You Know?

- In 1878, striped bass collected from the Navesink River were transported by rail and successfully introduced to the waters of California.
- New Jersey sits in between two of the three most important spawning areas for striped bass: the Hudson River and Delaware River.



Tautog (Blackfish)

Tautoga onitis

A 2021 stock assessment for tautog determined the stock in the New Jersey-New York Bight region had improved since the 2016 assessment. It remained overfished, but the region was no longer experiencing overfishing.

New Jersey's tautog fishery is predominantly recreational, accounting for more than 90% of the state's tautog landings in any year. NOAA tracks recreational fisheries landings and New Jersey's harvest has ranked within the top five states for 38 of the last 40 years in numbers of fish landed, and for 36 of those years in harvested pounds. Tautog were heavily harvested during the 1980s into the mid-1990s. With the implementation of a Fishery Management Plan in 1996, landings decreased as management measures went into effect. (Figure 2)

Research

The relative abundance and biomass indices for tautog on the **Ocean Trawl Survey** have been variable since 1989, showing a period of high abundance early in the time series followed by interspersed periods of declines and moderate recoveries. (Figure 3)

Best Fishing Methods

Tautog, also known as blackfish, are structure-oriented fish, often found in and around shipwrecks, artificial reefs and natural rock formations. The traditional rod and reel is the most common gear used, with a minimum 8-ounce sinker and 30-pound test line. Preferred bait is green crab, but they are also caught using other crab species, clam and conch. As mostly bottom-dwelling fish, they are vulnerable to barotrauma when being reeled up. More information on tog fishing can be found at <https://www.nj.gov/dep/fgw/arttautog08.htm>.

Did You Know?

Tautog are known for occupying tight spaces within reef structures or rock piles, sometimes lying on their sides to fit. This habit can account for instances of snagged and lost gear when fishing for tog, especially if you miss the initial, gentle *tap-tap* as the fish tests the bait before it quickly grabs it and scurries into a snug, sheltering nook.

Tautog can live into their 20s with some surviving over 30 years. Yet for such a long-lived species, they reach sexual maturity early with about 80% considered mature at age 3, and 100% fully mature at age 4.

Figure 2

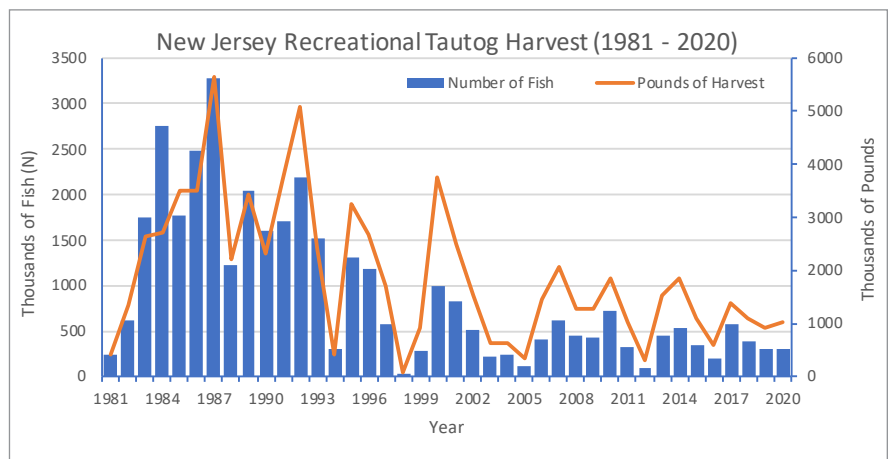
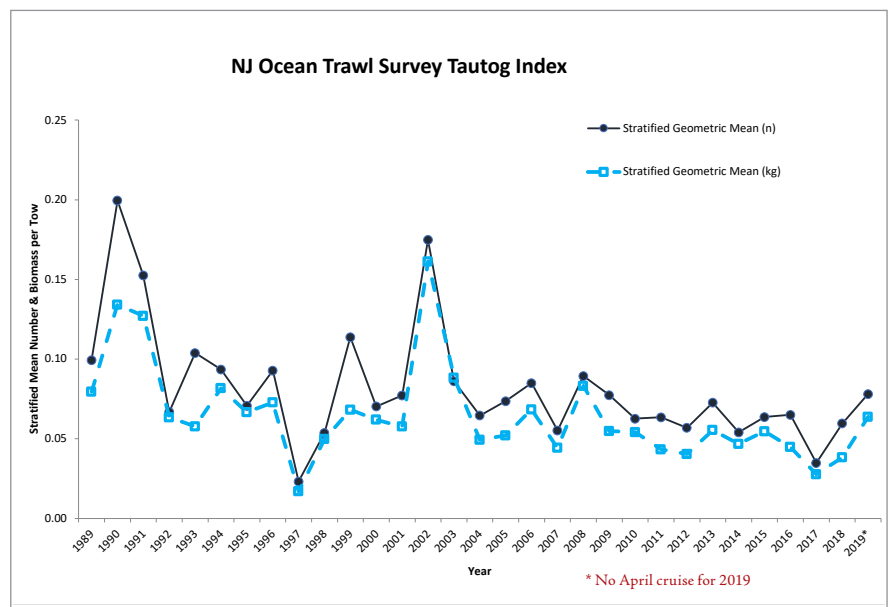


Figure 3





Summer Flounder (Fluke)

Paralichthys dentatus

ASMFC's 2021 stock assessment indicates that summer flounder is neither overfished nor experiencing overfishing. The stock has rebounded considerably from record low numbers in the 1980s and 1990s but is not considered rebuilt.

New Jersey typically lands roughly 47% of the coastwide recreational harvest and has landed more fluke than any other state on the east coast for the last five years.

Research

The **Ocean Trawl Survey** has collected over 40,000 summer flounder, annually averaging 1,300 fish. An annual index of abundance provides valuable data for the coastwide stock assessment. In recent years, the trawl has observed an increase in summer flounder abundance.

Best Fishing Methods

Fluke represent the quintessential New Jersey fish, providing some of the highest regarded table fare at restaurants and generating an enormous amount of saltwater angling effort along the coast. They are caught from sod banks, ocean beaches or by boat allowing access to all that have the desire to catch them.

Fishing starts towards the middle of May in the back bays and estuaries and ramps up to true door-mat hunting in the ocean by mid-June. July and August are typically the best months for ocean fishermen, however in recent years, inshore waters have been producing well during summer months.

There are generally two fishing approaches: strip bait or artificial grubs on the back of jigs. Depending on conditions, both methods have their dominance over the other and should be considered to increase the odds of producing a keeper.

Did You Know?

Found in both inshore and offshore waters from Canada to Florida, they are most abundant in the Mid-Atlantic region from Massachusetts to North Carolina.

Spawning begins at age two or three, at about 10 inches, in the fall while fish are moving offshore into deeper water. Larvae migrate to inshore coastal and estuarine areas from October to May.

Flounder lie in ambush and wait for their prey. They are quick and efficient predators with well-developed teeth allowing them to capture small fish, squid, sea worms, shrimp and other crustaceans.

Life starts as a laterally compressed fish with one eye on each side of the body. As they grow, their eyes migrate to a single side and the fish assume a dorso-ventrally compressed body type, meaning both of their eyes are found on the top of their head with a flat body. They are a left eyed flounder.

Bluefish

Pomatomus saltatrix

In 2021, the coastwide stock assessment for bluefish was updated with data through 2019 and showed that while fishing mortality was at sustainable levels, spawning stock biomass was not. The Mid-Atlantic Fishery Management Council and ASMFC recently approved a plan to rebuild biomass to target levels within 7 years. The assessment is currently undergoing a full review in a process called a *research track assessment* which will include data through 2021 and will form the basis of bluefish management in New Jersey.

New Jersey's recreational bluefish catch (harvest + live releases) is the second largest on the coast averaged over the last five years.

Research

Nearly 3,500 bluefish have been collected in the **Delaware River Seine Survey**. An annual abundance index includes data from June through the end of September.

The **Ocean Trawl Survey** has consistently high catches (and often the plurality of catches) during October sampling and this data is used to calculate an annual index of abundance for bluefish. (Figure 4)

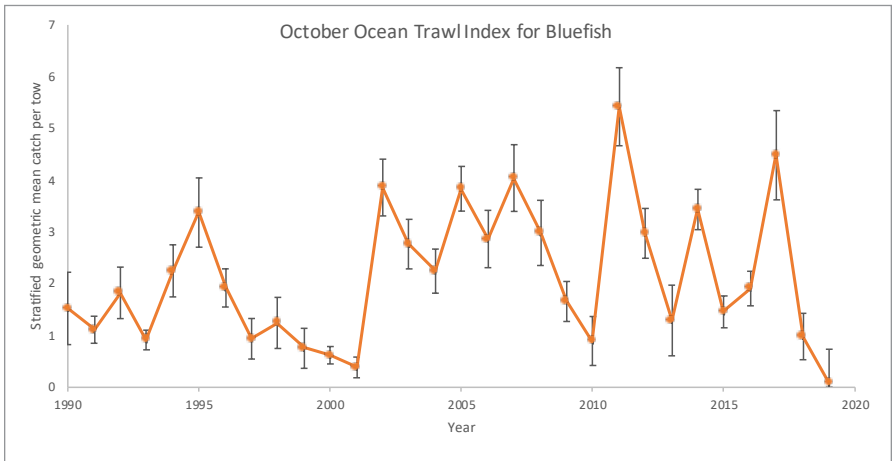
Best Fishing Methods

- For excellent tips, readers can find a 2016 article on fishing methods here (scroll to end): <http://www.njfishandwildlife.com/pdf/2016/digmar6-13.pdf>.
- Bluefish are voracious; heavy tackle is helpful.
- Use a lure that mimics the bait the fish are feeding on. Trial and error or experimenting may be necessary.

Did You Know?

- "...it is perhaps the most ferocious and blood-thirsty fish in the sea, leaving in its wake a trail of dead and mangled mackerel, menhaden, herring, alewives and other species on which it preys." From: http://gma.org/fogm/Pomatomus_saltatrix.htm.
- Bluefish are globally distributed.
- The largest bluefish caught was 31 pounds 12 ounces. From: <http://www.asmfc.org/uploads/file/5de573dfBluefishProfileOctNov2019.pdf>.
- Bluefish are considered mature at age two.

Figure 4





Black Sea Bass

Centropristis striata

There are two stocks of black sea bass: Mid-Atlantic and South Atlantic. Based on most recent stock assessments, neither stock is overfished nor is overfishing occurring. Biological characteristics of this species are not fully understood and data are lacking, resulting in stock assessments that have a high degree of uncertainty.

New Jersey typically lands roughly 22% of the coastwide recreational harvest and has had the first or second highest landings compared to any other state on the east coast for the last five years.

Research

Over 42,000 black sea bass have been collected in the **Ocean Trawl Survey**, annually collecting over 1,400 fish. Data is used for stock assessments. New Jersey's abundance index has been increasing steadily since 2015, corresponding with the latest coastwide assessment.

The **Ventless Trap Survey** samples three reefs off the coast using lobster traps to collect abundance data used to characterize fish populations inhabiting New Jersey reefs. In six years, over 1,500 sea bass have been collected.

Best Fishing Methods

Black sea bass represent the kickoff to the ocean fishing season in the spring, providing some of the best fishing opportunities available for ocean going anglers. With a stock nearly 240% of the target biomass, there are plenty available to catch.

Fishing mostly occurs on boats in 30–120 feet of water. The preferred method is to use a two-hook, high-low rig with fresh clam or squid as an offering. Black sea bass sharpies looking for larger fish use a variety of metal jigs enticing a reaction bite from the most dominant fish in the school. Since sea bass are a structure-dependent species, fishing on one of New Jersey's 17 artificial reefs is a great place to hone your skills.

Did You Know?

Inhabiting Atlantic coastal waters from the Gulf of Maine to the Florida Keys, they are concentrated in areas from Massachusetts to Virginia. They are typically found on rock bottoms around pilings, wrecks, jetties and artificial reefs. They summer in northern inshore water less than 120 feet deep and winter in southern offshore waters 240 to 540 feet deep.

Spawning occurs in coastal areas from January through July. Known as protogynous hermaphrodites, they start life as a female and change sex to become males around 9–13 inches at two to five years old. Following transition, a sea bass will either become a dominant male, characterized by a larger size and a bright blue nuchal hump during spawning season, or a subordinate male that has few distinguishing features.

Black sea bass rely on their large mouths to catch prey, eating whatever is available. They especially like crabs, shrimp, worms, small fish, clams and lobsters.



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An Agency's Commitment to Recreational Fisheries

Contributors: Maryellen Gordon, Principal Biologist; Amber Johnson, Assistant Biologist; Jonathan Klotz, Senior Wildlife Worker; NJFW staff and NOAA Fisheries

New Jersey DEP Fish and Wildlife's Marine Fisheries works tirelessly toward managing, maintaining and constantly striving to strengthen our state's recreational saltwater fishery. We rely heavily on our stakeholders and constituents, making this a massive group effort.

While the output of our hard work—and the subsequent decisions—may not, at first, appear to be in the anglers' immediate favor, tough calls are made to ensure healthy future stocks. Marine Fisheries staff are an integral part of our cherished recreational community. Most of the staff work in this field due to their love of the outdoors and

fishing, as well as sharing a common goal to protect the resources of our beautiful state.

NJDEP Fish and Wildlife's Marine Fisheries, in partnership with the National Oceanic and Atmospheric Administration (NOAA) Fisheries, conducts surveys of marine recreational anglers along with for-hire owners and operators to obtain information about their fishing catch and effort (number of angler trips taken) in marine recreational fishing. Included in these surveys is information about the demographic, social and economic characteristics of those who participate in saltwater recreational fishing in United States waters.

NOAA Fisheries' Marine Recreational Information Program (MRIP) is the state-regional-federal partnership that develops, implements and continually improves a national network of recreational fishing surveys to estimate total recreational catch. The data collected help scientists and managers assess and maintain sustainable fish stocks. Quantities taken, fishing effort plus seasonal and geographical distribution of catch and effort are required for the development of rational management policies and plans. Continuous monitoring is needed to better observe recreational fishing trends, to evaluate the impacts of management regulations and to project what impacts various management scenarios will have on a fishery.

Recreational fisheries data are essential for NJDEP Fish and Wildlife, NOAA Fisheries, Regional Fishery Management Councils, Interstate Marine Fisheries Commissions, other state conservation agencies, recreational fishing industries and others involved in the management and productivity of marine fisheries.

In addition to a number of MRIP surveys, Marine Fisheries conducts a variety of other surveys and programs that help fulfill our dedication to the recreational fisheries community.

Marine Fisheries' Maryellen Gordon and Jen Pyle tagging striped bass in the Delaware Bay.

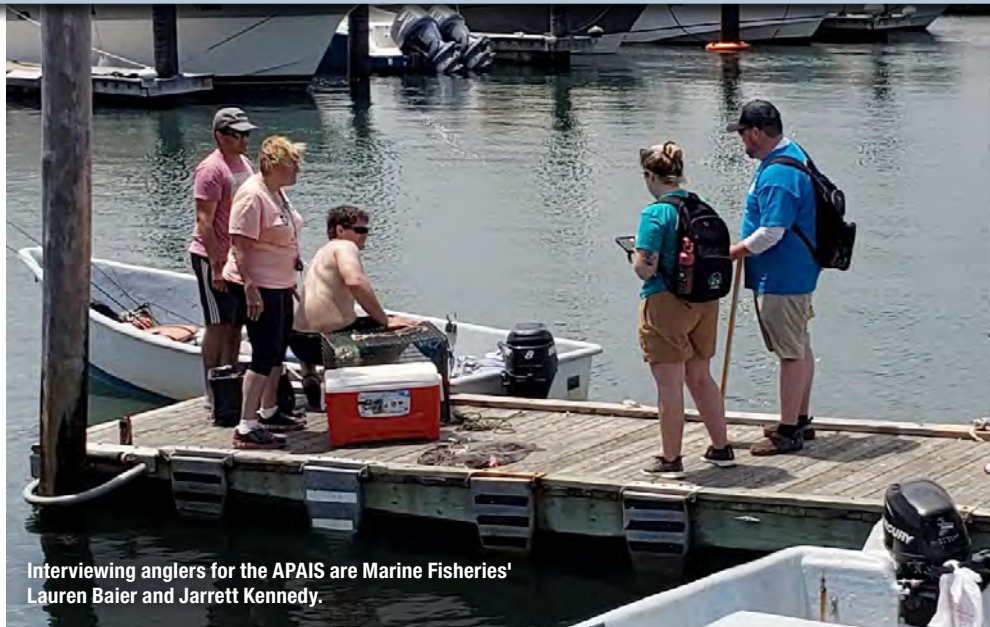


Access Point Angler Intercept Survey

The Access Point Angler Intercept Survey (APAIS) is an in-person recreational fishing survey that collects individual catch data, including species identification, total number of each species, individual fish length and weight, as well as angler-specific information about the trip and anglers' fishing behavior. The data are collected by trained field technicians who sample New Jersey's public fishing access sites (i.e., boat ramps, piers, beaches, jetties, bridges, marinas, etc.) interviewing recreational saltwater anglers at the end of their fishing trips.

Field technicians are assigned to visit public fishing access sites during specific times of day. Standard statistical methods are used to select sites that will produce a representative sample of fishing trips using site-specific information found within the Public Fishing Access Site Register. There is also a headboat component of the survey. Field technicians ride along on assigned vessels, interview all anglers on board and take a sub-sample of those anglers to document and measure every single fish they catch and release.

The survey data are used to generate estimates that are used in stock assessments for recreational species and ultimately lead to regulation updates such as smaller or larger bag limits or changes to the open/closed seasons to ensure healthy sustainable stocks. These field intercept surveys are conducted by each of the 13 Atlantic states extending from Maine to Georgia, as well as the Gulf states and Hawaii.



Interviewing anglers for the APAIS are Marine Fisheries' Lauren Baier and Jarrett Kennedy.

Fish and Wildlife has committed to increasing total APAIS sampling by over 40% to strengthen the estimates used in recreational fisheries management.

Month	Headboat Assignments	Site Assignments				Current Total
		2020	2021 Add-Ons	2022 Add-Ons	% Increase	
March	5	36	0	0	0	36
April	5	80	18	33	41%	113
May	11	122	28	56	46%	178
June	12	122	28	56	46%	178
July	13	125	28	56	45%	181
August	13	146	28	56	38%	202
September	12	111	28	56	50%	167
October	11	108	28	56	52%	164
November	7	104	28	56	54%	160
December	5	98	18	32	33%	130

For-Hire Telephone Survey

The For-Hire Telephone Survey (FHTS), or For-Hire Survey, is a telephone survey that collects trip information from for-hire operators to estimate fishing effort.

Every week from March through December, a call list is generated from the known fleet of charter and headboats that are presumed to be operating during that time period in New Jersey. Calls are made to the vessel representatives for each vessel drawn. Information collected includes number of fishing trips within a specific week, number of anglers fishing and the target species for the trip.

The Large Pelagic Telephone Survey (LPTS) is added on to the FHTS between the months of June and October. For-hire operators and anglers with charter/headboat category Highly Migratory Species permits are required to participate in the survey. Questions are specific to trips that targeted any large pelagic species, including but not limited to tuna, shark, billfish, dolphin and wahoo.

These data are paired with data collected through the APAIS charter and headboat intercepts to estimate total for-hire catch, which is used by fisheries scientists and managers.



Anglers enjoying the day aboard one of New Jersey's for-hire fishing vessels.

On average, over 50 for-hire vessels are contacted weekly. The table shows the % of surveys with responses as compared to those with no responses, as well as refusals.

New Jersey	Wave 1 (JAN/FEB)	Wave 2 (MAR/APR)	Wave 3 (MAY/JUN)	Wave 4 (JUL/AUG)	Wave 5 (SEP/OCT)	Wave 6 (NOV/DEC)
# Vessels Contacted Weekly	0	25	62	63	64	42
% Positive Surveys		69.33%	62.70%	58.02%	55.38%	41.01%
% Non-response		30.27%	36.70%	40.78%	43.42%	58.19%
% Refusal		0.40%	0.60%	1.20%	1.20%	0.80%



Sinking the Joan LaRie III on the Axel Carlson Reef.

Striped Bass Bonus Program

Marine Fisheries initiated the Striped Bass Bonus Program (SBBP) in 1990 to allow the harvest of an additional striped bass for New Jersey recreational anglers. Since New Jersey does not allow netting or sale of striped bass, this commercial quota was transferred to the recreational fishing sector forming the basis of the SBBP. The main goal of the SBBP is to allow anglers to participate in the management process while enjoying their favorite recreational pastime. It is a popular program that provides valuable data for assessing stock status and fishing trends, making it an integral part of New Jersey's striped bass management.

Artificial Reef Program

Since 1984, Fish and Wildlife's Marine Fisheries has been involved in an intensive Artificial Reef Program consisting of reef construction and biological monitoring. The purpose is to create a network of artificial reefs in the ocean waters along the

New Jersey coast to provide a hard substrate for fish, shellfish and crustaceans, fishing grounds for anglers and underwater structures for scuba divers. Currently, Marine Fisheries maintains 17 reef sites.

Various reefs are monitored through a Ventless Trap Survey that entails randomly placing traps throughout three reef sites off the coast of New Jersey onto different substrates. Biologists tend the traps and record data (such as length, weight, sex, etc.) on the different species that are captured before the animals are returned to the water. Once emptied, the traps are put back in the same location where they were pulled so data collection and sites remain consistent. The benefited species (like black sea bass, tautog, summer flounder, lobster and various crabs) are endemic to New Jersey but are limited in extent and abundance by the lack of hard substrate.

Through this survey, we can determine how species utilize different material types and how they use the reefs during different seasons. Using the data collected, scientists can perform different analyses to determine the success and productivity of current reef sites, as well as planning for future reef projects to enhance recreational enjoyment.

Recreational Fishing Data:
www.CountMyFish.noaa.gov

APAIS:
<https://www.fisheries.noaa.gov/recreational-fishing-data/access-point-angler-intercept-survey-glance>

MRIP Surveys Overviews:
<https://www.fisheries.noaa.gov/recreational-fishing-data/types-recreational-fishing-surveys>

Site Register Access:
<https://www.st.nmfs.noaa.gov/msd/html/siteRegister.jsp>

About the Site Register:
<https://www.fisheries.noaa.gov/recreational-fishing-data/public-fishing-access-site-register>

NJ Saltwater Recreational Registry Program:
<https://www.nj.gov/dep/saltwaterregistry/>

Recreational Saltwater Volunteer Angler Survey:
https://www.njfishandwildlife.org/marinesurvey_intro.htm

Striped Bass Bonus Program:
<https://www.njfishandwildlife.org/bonusbas.htm>

Artificial Reef Program:
<https://www.nj.gov/dep/tgw/artreef.htm>

Record Fish Program:
<https://www.njfishandwildlife.org/recfish.htm>

New Jersey Saltwater Recreational Registry Program


The New Jersey Saltwater Recreational Registry Program (NJSRRP) is an important tool that helps anglers and policy makers work together to better account for the contributions and impacts of saltwater anglers on ocean ecosystems and coastal economies. In 2006, NOAA Fisheries was charged with creating a universal registry of all current saltwater anglers fishing in the United States. States were allowed to establish their own registry program for saltwater anglers that fished in their state.

New Jersey established a free registry program that became effective May 4, 2011 through Administrative Order No. 2011-05. The NJSRRP is only one part of the national overhaul of the way NOAA Fisheries collects and reports recreational fishing data. The goal of the Marine Recreational Information Program is to provide the most accurate information possible that can be used to determine the health of fish stocks.

Reliable, universally trusted data will, in turn, aid anglers, fisheries managers and other stakeholders in their combined effort to effectively and fairly set the rules that will ensure the long-term sustainability of recreational fishing.

Volunteer Angler Survey

The Recreational Saltwater Volunteer Angler Survey (VAS) was implemented by Marine Fisheries to collect information on recreationally important marine finfish species. Information collected through this voluntary survey will provide data that may support alternative management strategies that increase fishing opportunities for the public.

The focus of this voluntary survey is to collect information on catch and effort from recreational fishing trips in marine and estuarine waters of the state and surrounding areas. For catch information, Marine Fisheries staff are interested in collecting information on the number and size of both kept and released species and should not be used only for successful trips. *Trips with zero catch are important to report, also.* Documenting zero catch trips in recreational fishing data help to accurately estimate fishing effort and to make sure reported trips are representative of all trips taken. 



Tom Corbett landing a keeper striped bass.



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