

Can you tell the difference between a striped bass, a white bass and a striped bass hybrid?

Anglers need to know the differences between these species because different sizes, seasons and creel limits apply to striped bass and striped bass hybrids, and to white bass.

Knowing the differences between these species can also help you better understand Pennsylvania fishes and our waters. These fish belong to the family Moronidae, temperate basses, also known as “true” basses. In Pennsylvania, this family also includes the white perch.

Moronidae species are medium-sized to large-sized active predators and prized trophy and sport fishes. Some species live only in fresh water, while others are anadromous they spend much of their lives in salt water or brackish water but return to fresh water to spawn.

Striped Bass Morone saxatilis

Identification: The striped bass has a smoothly arched profile, slimmer and more streamlined than a striped bass hybrid, until it reaches a weight of five to 10 pounds, when its body becomes heavy-looking. The back is olive-green to steely blue-gray, sometimes almost black. The sides are silvery to pale silvery-green, shading to white on the belly. There are seven or eight distinct dark stripes that run laterally on the side of the body. Striped bass have two dorsal fins, the front spiny-rayed, the second mostly soft-rayed, separated by a notch. The back of the tongue has two tooth patches, unlike the white bass, which has one tooth patch at the base of its tongue. There are three spines and 11 soft rays on the anal fin, with the longest of these spines less than half the height of the anal fin. Young striped bass do not have dark lateral stripes, but instead have dusky bars.

Striped bass catches in the 15- to 20-pound range are not uncommon in Pennsylvania. For sea-living striped bass, sizes in excess of 100 pounds have been reported. The Pennsylvania state records both for marine and landlocked striped bass are over 50 pounds.

Life history: From their saltwater homes, striped bass migrate upstream in the spring to spawn, traveling into the mouths of large freshwater rivers. Over stony riffles, several males chase a large female in what appears to be a battle, but it is actually frantic spawning antics and frenzied swimming—the striped bass’s courtship and spawning ritual. Water temperature signals spawning time, with some spawning occurring at 55 degrees, but most at 60 to 67 degrees. Young females may release just 65,000 eggs.

Striped bass eggs are greenish and somewhat buoyant. After they are released, the eggs drift freely with the current until they hatch, usually in two or three days. Flowing water is critical to the success of striped bass spawning. That helps explain why there is no reproduction or little natural reproduction of the fish when they are confined to inland lakes. Striped bass eggs that sink to the bottom die, because they become covered with silt or because of other factors. Just-hatched striped bass grow



Striped Bass *White Bass* *Striped Bass Hybrid*

rapidly and stay in brackish bays at the end of their downstream float. Juveniles spend their first and second summers in the tidal Delaware River with most inhabiting that area from the Schuylkill River downstream into the state of Delaware. After several years in these “nursery areas,” the adult striped bass become free-ranging along the Atlantic Coast.

Marine striped bass make two migrations, one for spawning. The other, in fish two years old or older, occurs when a small percentage move out of their wintering areas, like the Chesapeake and Delaware bays, and travel north along the coast to New England and southern Canada. There they mingle with northern populations of striped bass during the summer. Then most return to their winter quarters. In reservoirs, the landlocked freshwater striped bass move according to temperature and dissolved oxygen in the lake, favoring cooler arms of the impoundment during the hot summer. Striped bass feed on just about anything alive that is available. They are a top-level carnivore whether found in salt water or fresh water. Young striped bass eat microcrustaceans, or zooplankton, and midge larvae. As they grow, their diet changes to large crustaceans, mollusks and especially other fish. As adults, striped bass live in roving schools, feeding mostly at night. Substantial increases in abundance of striped bass have occurred in the Delaware River since the mid-1980s because of improved river water quality and harvest restrictions.

White Bass Morone chrysops

Identification: The white bass is a medium-sized fish, silvery, with an arched look to its back. The maximum size is about

18 to 20 inches, with a two- or three-pounder a trophy. The more usual size is one-half to about two pounds. White bass have a deep body, compressed laterally. The back is blue-gray or steel-gray. The base color of the sides is silvery-white to silvery pale-green, with a yellow tinge on the lower edge. The body is marked with four to seven gray-brown or black horizontal stripes, not as distinct as the stripes of the striped bass. The two dorsal fins are separated by a notch, and the anal fin has three spines and 12 to 13 soft rays. The eye is yellow and the dorsal and caudal fins are clear to gray. White bass have teeth in a patch on the base of the tongue, unlike the white perch, which has a thin band of teeth around the front edge of its tongue. The white bass's mouth is basslike. The lower jaw projects beyond the upper jaw.

Life history: White bass are school fish, spawning, feeding and traveling in compact groups. In late April to early June, schools of white bass migrate to spawn over rocky or gravelly shoals, either going to that habitat in a lake or traveling upstream in a river to reach it. Spawning takes place near the surface in six or seven feet of water, at 58 to 64 degrees. The females release 25,000 to one million minute eggs into the current, accompanied by several spawning males. The eggs are adhesive, drifting to the bottom and sticking to the stones. They hatch in two or three days.

Young white bass quickly show their schooling tendencies, drifting in large groups and eating zooplankton. As they grow they switch to larger prey, like aquatic insects, crustaceans and their primary food, fish, especially consuming schooling forage fish like gizzard shad. Aggressive feeders, white bass may make a great commotion on the surface when they attack a school of forage fish or during spawning activities, a tip-off to anglers of this fish's presence.

Striped Bass Hybrid *Morone saxatilis x Morone chrysops*

Identification: The hybrid striped bass's body is stockier than that of a pure striped bass, and its lateral stripes are discontinuous and less distinct. Its back is dark, almost black. Its sides are silvery, with seven or eight faint and broken-looking lateral stripes, and its belly is white. The anal fin has 11 or 12 rays, and there are two tooth patches on the rear of its tongue. In size it grows to a length and weight midway between its parents. A 10- or 12-pounder is considered a big one.

Life history: The striped bass hybrid is fast-growing, which is typical of hybrids. It is generally sterile, and can be stocked instead of the purebred striped bass into waters to avoid the purebred's potential of reproducing too prolifically and outstripping its food source. However, occasionally fertile striped bass hybrids have occurred, and some states have reported the hybrid backcrossing with the white bass. Striped bass hybrids feast on forage fish as adults.

Pennsylvania Fishes



This poster's text and illustrations were taken mainly from the book *Pennsylvania Fishes*, published by the PA Fish & Boat Commission. The book is 6 inches by 9 inches, 170 pages and illustrated in full color. Included is information on 140 Pennsylvania fishes with species sections on identification, habitat and life history. The book also lists species by watershed and includes a glossary, reference section and resources list. Copies are \$9.43 each plus 57 cents PA state sales tax for orders shipped to PA addresses, plus \$3 shipping and handling for a total of \$13. Send checks or money orders (do not send cash) to: PA Fish & Boat Commission, Educational Media Section, P.O. Box 67000, Harrisburg, PA 17106-7000.



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