

Fish Topic by Species

Striped Bass

Striped Bass Information

As the California Delta water starts to settle-out from the series of 2016 El Nino storms, striped bass respond with their annual spring migration with thousands of line-sides attacking most anything that moves. Knowledge about this special sports-fish will give you an edge over the guess-by-gully striper fisherman. The following is an 8-page collection of Delta Striper articles and data well-worth the time to read.

There were originally no striped bass in California. They were introduced from the East Coast, where they are found from the Gulf of St. Lawrence to Alabama. The initial introduction took place in 1879, when 132 small bass were brought successfully to California by rail from the Navesink River in New Jersey and released near Martinez. Fish from this lot were caught within a year near Sausalito, Alameda, and Monterey, and others were caught occasionally at scattered places for several years afterwards. There was much concern by the Fish and Game Commission that such a small number of bass might fail to establish the species, so a second introduction of about 300 stripers was made in lower Suisun Bay in 1882.

Antioch Bridge and the mouth of Middle River, and other channels in this area, is an important spawning ground. Another important spawning area is the Sacramento River between Sacramento and Princeton. About one-half to two-thirds of the eggs are spawned in the Sacramento River and the remainder in the Delta. Female striped bass usually spawn for the first time in their fourth or fifth year, when they are 21 to 25 inches long. Some males mature when they are 2 years old and only about 11 inches long. Most males are mature at age 3 and nearly all females at age 5.

Stripers are very prolific. A 5-pound female may spawn 180,000 eggs in one season and a 15-pound fish is capable of producing over a million eggs. This great reproductive potential and favorable environmental conditions allowed striped bass to establish a large population within a few years after their introduction in California. Striped bass often spawn in large schools. On one occasion, CDF&W biologists observed a school of several thousand bass at the surface along the bank of the Sacramento River above Knights Landing. Small groups of three to six bass frequently segregated from this school and splashed and churned in the main current of the river in the act of spawning. At times, five or more groups of bass were observed spawning at once. Usually, a large female was accompanied by several smaller males. While the eggs are still in the female, they are only about 1/25 inch in diameter, but after release, they absorb water and increase to about 1/8 inch in diameter. The eggs are then transparent, making them virtually invisible. During the spawning act, eggs and milt are released into the water. The milt contains microscopic sperm cells which penetrate the eggs and cause them to develop. Striped bass eggs are slightly heavier than water, so a moderate current is needed to suspend them while they develop. Without adequate water movement, they sink to the bottom and die. The eggs hatch in about two days, although the length of time may be somewhat shorter or longer depending upon temperature; hatching is quickest in warm water. The newly-hatched bass continue their development while being carried along by water currents. At first, the larval bass are forced to subsist on their yolk, but in about a week they start feeding on tiny crustaceans which are just visible to the naked eye. By August, they are about two inches long and are feeding primarily on mysid shrimp and amphipods, both bottom-dwelling crustaceans. At this time, they are most numerous from the western Delta to Suisun Bay.

Striper Life History

Striped bass are members of the temperate bass family. They appear to depend rather strongly on an **anadromous** existence (meaning they migrate from salt water to spawn in fresh water). Although landlocked populations exist in California, many of these groups are not self-reproducing. Landlocked striped bass succeed in breeding only when there are rivers long enough and with sufficient flow to keep the eggs suspended until they hatch (about two days, depending on temperature).

Adult sea-run striped bass begin moving into fresh water in October and November. Spawning commences in the spring when the water temperature reaches 58° F. These bass spawn in fresh water from April through mid-June, and then begin moving out to salt water again. Striped bass are broadcast spawners that gather in large groups at the surface to reproduce. Spawning occurs in moderate to swift currents, where the transparent eggs drift suspended in the water until they hatch. The young swim or drift downstream to estuarine nursery areas and eventually make their way out to sea. Striped bass are fast growing fish. They are only about 1/6 in. long at hatching and grown to 4 in. at one year, 10 in. at two years, 16 in. at three years, and 20 in. at four years.

Striped bass are voracious feeders. They generally feed on the most available and abundant invertebrates and forage fish of the appropriate size. Initially, small bass feed on tiny crustacean plankton, but, after a few weeks, the favorite food becomes the mysid shrimp and amphipods. Mysid shrimp are most numerous where salt levels are 1–20 percent of sea water. Young striped bass are most numerous in the same area. Larger stripers tend to prefer larger food items. In San Francisco Bay, anchovies, shiner perch, and herring are important in the diet. Anchovies, sculpins (bullheads), and shrimp make up the bulk of the diet in San Pablo Bay. In the Delta and upriver areas, larger bass feed mainly on threadfin shad, young striped bass, and other small fish.

Sub-legal striped bass, fish under 18 inches long, are found all year in large numbers above San Francisco Bay. It is not known whether they have a definite migratory pattern or just wander about in response to environmental cues, such as food availability. Most adult bass, after spawning in the spring in the San Joaquin Delta and upper Sacramento River, move downstream into brackish and salt water for the summer and fall. Many bass spend this period feeding in the bays, particularly San Francisco Bay. Some fish enter the ocean, but the actual number doing so varies considerably from year to year. Some of the larger bass move up and down the coast and are occasionally caught as far south as Monterey and as far north as Bodega Bay. During late fall and winter, some fish move back upstream into the fresh water of the Delta and lower Sacramento River. While this general migration pattern applies to most bass, there are always exceptions. For instance, some fish remain in the American and Feather rivers during the summer and good fishing sometimes occurs in San Francisco Bay in the spring. Therefore, many striped bass anglers have had the experience of catching fish at unexpected times and places.

Five Things You Probably Didn't Know About Striped Bass

#5. Aquaculture Accounts for Over FIFTY Percent of Stripers Sold - In fact, it's closer to sixty percent. Hybrid striped bass production is one of the fastest growing forms of aquaculture (farm raised fish) in the United States. Annual production has increased over two-hundred percent in recent years as scientists refine efficient and highly productive ways to raise stripers. Commercial fishing for wild striped bass has a long history but don't let anyone fool you into thinking you shouldn't eat stripers if they weren't caught in the wild. In fact, you'll eat better if you eat farm-raised stripers. Those of us who catch and eat fish right off the boat are used to great-tasting fish, but hybrid stripers have a slightly sweeter flavor and a more delicate texture than wild-caught fish. And you don't risk the contamination of high levels of mercury and PCBs found in larger stripers. Striped bass aquaculture is a sustainable method for providing healthy,

high-quality fish to restaurants, grocery stores, and seafood markets, check them out at Costco, Walmart, and other big box stores.

#4. Stripers Have FOUR Nostrils – Look closely at the next striper you catch. Unlike most fish, line-siders have a pair of nostrils on both sides of their nose through which water enters. Each nostril has two openings separated by a thin membrane of skin. Water circulates continuously through these short passages where tiny hairs detect odors and transmit them to the brain. Stripers can smell a lot better in the water than you can in the air, maybe even a hundred times better. Many researchers believe that striped bass develop an even better sense of smell as they get older. Some studies suggest that bass are repelled by smells they don't like such as sun block, bug spray, or petroleum or smoking products. If you add scents to your lures you'll attract more and bigger fish and you'll mask the bad smells stripers don't like.

#3. At Least THREE 100+ Pound Stripers Have Been Documented - When left alone, striped bass can generally grow to lengths of up to 59 inches with weighs in the 55 to 77 pounds. Oh, but there are occasional monsters. The largest striped bass on record is a 125-pound female caught off Edenton North Carolina in April, 1891. A striper of 112 pounds – said to have been at least 6 feet long – is recorded from Orleans, Massachusetts. A striped bass of 100 pounds was taken in a herring weir in Casco Bay, Maine in the 1880s. Are big stripers unusual? You bet, but in 1876, a haul-seine off the beach of Avoca, North Carolina netted 350 striped bass averaging 65 pounds each. The world record for hook-and-line is 81.88 pounds taken by Greg Myerson fishing off the coast of Westbrook, Connecticut. In the Chesapeake Bay, the striped bass record is just under 68 pounds but bigger fish have been caught and released by both hook-and-line and nets. A 92-pound striper was netted by the Maryland Department of Natural Resources at the mouth of the Patuxent River during a research project in 1995. In May of 1992 Maryland Charter Boat Captain Ed Darwin boated a 56-inch striper that the experienced captain estimated to be more than 80 pounds. Because it was a pregnant female, he let her go (Thank you!).

#2. A Scale Can Reveal TWO Important Things About Striped Bass - Examined under a microscope, a striper scale can reveal the age and size of your fish. The winter is a period of slow growth for stripers, during which a series of closely spaced rings form around the edge of each scale. Similar to counting rings in the trunk of a tree, the age of an individual fish can be determined by counting the number of rings, called *annuli*. The examination of many thousands of scales has provided a reliable database for determining the rate at which striped bass grow. On average, bass are four to five inches long at the end of the first year, 11 inches at the end of the second, 16 inches at the end of the third, and 20 inches at the end of the fourth year. A striped bass that is 36 inches long normally is about 12 years old. A bass 48 inches long, and weighing over 50 pounds, is over 20 years old. The oldest documented striper was 31 years old. The next time you catch and release a large striper, keep a couple of scales and look at them with a magnifying glass as proof of their approximate age.

#1. Stripers Are Responsible for the FIRST Fisheries Management Law in America - Yup, in 1649 the General Court of the Massachusetts Bay Colony banned the use of striped bass as fertilizer. Stripers were once that plentiful. For 362 years we've been struggling to manage the harvest of striped bass. In 1770, the New Hampshire government declared "fishing hath almost extirpated the bass in the Piscataqua River."

CATCH & RELEASE STRIPED BASS TODAY - To Help Build Our Delta Fishery For Tomorrow!

Releasing a striped bass is more than just yanking the hook out, and throwing it back into the water. Many factors determine whether the fish survives or dies after they swim away often several days later due to poor handling actions of the angler. Although striped bass inhabit the Sacramento-San Joaquin

Estuary year-round, in fall and winter months they move from coastal San Francisco Bay waters by large numbers into the Delta. During this time of the year as the Delta cools, they hold and feed preparing for their spring migration up-river to spawn. Especially in March, the stripers are hungry, aggressive, and an exciting hard-fighting fish to catch. Some mature female stripers ('hens') can reach thirty-pounds or more and are the most-in-need to be carefully released since they produce the largest number of eggs. Based on California DF&W guidelines, stripers eighteen- twenty five inches long, are about three-years old, and weigh approximately 8-10 pounds. Stripers less than eighteen-inches in length ('shakers') are the most prolific but fun to catch but must be released by regulations. A 30" striper is approximately seven years old and may weigh approximately 25-35 pounds and the future of the Delta striper fishery.

What determines how many caught stripers survive release depends on tackle, hookup, fight, handling, and how quickly they are released back into the water. The use of circle hooks, treble hooks replaced with a large single hook, or hooks with flattened barbs allow for easier removal and faster release. Stripers caught on natural baits such as sardine or herring fillets, squid, or minnows, tend to ingest the bait deeper and are more apt to die from hook removal or related injuries. Stripers that are caught on plugs and other hard-baits with modified hooks survive the longest since most are apt to be lip-hooked.

TIPS FOR SUCCESSFUL STRIPER CATCH & RELEASE - START BY BEING PREPARED

- Stripers released in early spring or late fall/winter colder water have a greater chance of survival when the water is less than 70F.
- Use heavy-action stiffer rods, 20 pound+ line (braided is a good choice) to land a fish quickly to minimize stress and injuries.
- Use circle hooks; replace treble-hooks with large single hooks; hooks with flattened barbs; or barb-less hooks for easier hook removal.
- Use artificial lures instead of natural baits to reduce the chance of deep hooking. If the striper is 18" or longer, but bleeding heavily, keep it since its survival is poor.
- Once the striper is subdued, don't bring it out of the water! Do not bring it on-board the boat if possible!
- Carefully remove hooks with a de-hooker tool, long-nosed pliers, or with large hook-removal-forceps. If the hook is too deeply located in the throat or gut, cut the line as short as possible and leave hook in place. The hook will eventually deteriorate as long as it is not made of stainless steel.
- Do not allow the fish to thrash-around; stripers can be calmed-down by carefully covering their eyes with a wet-rag or turning them on their back. Another reason to leave the striper in the water is that their dorsal fins as well as a plug's spinning hooks can cause some significant injuries to the angler.
- If the fish must be body-handled out of the water, use wet gloves, wet rag, or last-choice of well wetted hands. Never pull the striper out of the water via their gill plate/mouth, a favorite black bass angler's TV tactic pose...
- If weighing or measuring the fish, keep it submerged in a soft mesh net, until ready, than using a lip-grip-type scale or handy ruler to quickly calculate its weight and length.
- Promptly take photographs with the striper still in the water if possible. Return it as quickly with the least amount of handling.
- Resuscitate a slightly submerged striper by holding it by its tail and gently pulling it back-and-forth so water their flows through its gills until it pulls-away from being held.

Catch & Release striped bass today will ensure a bright, fun, and successful day on future Delta striper Rooster Tail Member fishing trips! Enjoy the fight and the fact that some-day, the striped bass you released will once again give you the fight of your life of still a stronger, bigger fish in the future!

Determine the Approximate Age of Your Striped Bass

Length	Age	Weight Maximum (lbs)	Average	Minimum		Length	Age	Weight Maximum (lbs)	Average	Minimum
12"	1	1.0	1.0	1.0		34"	9	19.0	16.5	14.0
13"	1	2.0	1.5	1.0		35"	10	20.5	18.0	15.5
14"	2	2.5	2.3	2.0		36"	10	22.0	19.5	16.8
15"	2	3.0	2.5	2.0		37"	11	23.5	20.7	17.5
16"	2	3.5	3.0	2.5		38"	12	25.5	22.0	19.0
17"	3	4.0	3.5	2.8		39"	12	27.2	24.5	20.7
18"	3	4.5	4.0	3.0		40"	13	29.5	26.0	22.0
19"	3	5.0	4.3	3.5		41"	13	31.0	27.3	23.0
20"	3	5.5	4.8	4.0		42"	14	33.5	29.7	25.0
21"	4	6.0	5.0	4.3		43"	14	36.3	32.0	27.0
22"	4	6.8	5.8	4.8		44"	15	39.0	34.0	29.0
23"	4	7.5	6.3	5.0		45"	15	41.0	36.0	30.5
24"	5	8.3	7.0	6.0		46"	16	44.0	38.7	32.5
25"	5	8.8	7.8	6.3		47"	16	47.5	42.0	35.0
26"	6	10.0	8.5	7.0		48"	17	51.0	44.0	37.0
27"	6	11.0	9.8	8.0		49"	17	54.0	47.0	39.0
28"	6	12.0	10.3	8.8		50"	18	58.0	50.0	42.0
29"	7	12.9	11.0	9.7		51"	18	62.0	55.0	45.0
30"	7	14.0	12.3	10.3		52"	19	65.0	58.0	47.0
31"	8	15.0	13.0	11.0		53"	19	68.0	60.0	49.0
32"	8	16.7	14.5	12.0		54"	20	73.0	64.0	52.0
33"	9	17.8	15.8	13.0		55"	20	80.0	70.0	56.0

The average size is just the median of both weights. It is a more realistic maximum in the late fall after the striper has fattened itself up for the winter. Feeding will slow when water temperature drops below 50 degrees, so in the spring the minimum weights are then more accurate. This of course does not apply to a roe laden female. There has been much discussion about the variants in weights. There are many factors that contribute to weight or lack thereof. A good digital flat scale will put less stress on the fish

than those lip grip types and are more accurate. A measurement should be taken while the fish is on a flat surface from the tip of the nose to the outer most point of the tail. Please release all fish not kept for table fare.

There is no substitute for an accurate scale but to estimate the weight and age of your striped bass, the formula is as follows:

$$\frac{\text{Length X Length X Length}}{\text{Divided by 1,950}}$$

For example: a 30 inch striped bass weighs
30" X 30" X 30"
1,950 = 14 pounds

You fought! You fought! And you lost that trophy striper!

You've fished all the best tides, night and day, you've landed some nice fish in the past but are still looking for that trophy and you get a solid whack on a sub surface swimming plug, line melts off the spool, you can't remember if you "reset" your drag after the last fish, so in a desperate move you tighten the drag... the line goes slack, the line parted or the plug pulled loose.... sound familiar?

THE FOLLOWING ARE SOME OF THE REASONS WHY LARGE STRIPED BASS ARE LOST...

Reason #1: Too little line on the spool, this is probably the main reason that large fish are lost, all spools should be filled to 1/8 of an inch from the lip of the spool, having less than that affects the drag in several ways, **(A)** by having too little line, the starting drag is increased from what the factory designed it to be, a violent strike often ends in a broken line because the drag cannot slip as designed unless too loose, **(B)** the running drag is affected because the drag coefficient *INCREASES* as the spool diameter *DECREASES*, often exposing any weakness in the system, usually in the form of a erratic, jerky drag or broken line...

Reason #2: Improper drag settings, how many people really know how much drag tension they have versus the breaking strength of the line? Set all drags with a spring scale, 1/4 the breaking strength of the line is the recommended setting by most line and reel manufactures. This leaves a solid safety margin. Some anglers go as high as 1/3, some anglers prefer to "thumb" the spool on a "runaway" fish, if you feel that you need a little more pressure on the fish...to do this, your index finger can be *LIGHTLY* applied to the edge of the spool to add additional drag, thus preventing "monk-eyeing" with your original drag setting on a running fish; same applies to using your thumb on a conventional reel, but you must make sure you don't allow your thumb to get pulled into the cross brace...it hurts!

Reason #3: Rod position, some anglers fail to use the rod as a tool for fighting a fish, if a fish makes a long run, keeping the rod at about 1:00 position will maintain maximum pressure and also give a "spring like" cushion to the line, once the fish is close to the boat the rod should be lowered to the 2:00 position to relive some of the pressure, if the fish should make a surge, drop the rod tip (maintaining slight pressure, this is called bowing to a fish, a tactic also used for "jumpers") pointing the rod at the fish, as the fish gets further away bring the rod tip up to maintain control...

Reason #4: Pumping in the fish... OK your fish is whipped; she's laying out there, now what? Slowly, methodically "pump" the rod applying pressure between the 1:00 and 3:00 positions, *NEVER*, reel if the drag is paying out line, this will lead to twisted line, tangles and lost fish, lift the rod from 3:00 to the 1:00

position, reel down, keeping slight pressure on the fish, if the weight of the fish makes the drag slip while you are "pumping" the fish, slight finger pressure to the spool with an 'educated' finger will provide the needed resistance to get the fish close...if the fish makes a sudden surge, point the rod right at it, this will give you the best chance of keeping the fish from breaking the line..

TYPES OF FIGHTS:

Not all bass fight the same; they have personalities... that's what makes them great! **Screamers**, the name speaks for itself, you set the hook and they *SCREAM!* Often taking 50-75 yards at a run, fish in the 38-45lb class seem most prone to this; they make several long powerful runs and tire themselves out... **Kamikazes**: these fish are nuts, probably the hardest fish to land, these fish tend to be in the 20-35lb range, they are wild and crazy, they'll scream off, turn and run at you, requiring both a good drag and a fast retrieve to take up the slack, they often times will do several about faces requiring quick reflexes, steady nerves and a perfectly functioning drag. The **Bull-Dogs**: these are usually the "Big-uns", 45lbs and up, most have been hooked before, they don't burn themselves on long sizzling runs, they head out to sea slow and steady, turn, slow deliberate circles, roll on the line, shake their heads violently, rub bottom and look for structure to foul the line, then use their big broom like tails to dig deep or slash the surface, all the while rolling, smashing and shaking their heads, steady rod pressure is a must, bowing (pushing the rod tip towards the fish) is critical when one of these brutes rolls on a line close up, these fish often win their freedom with these tactics, angler awareness, prepared equipment and a good deal of luck are needed to put the brakes on a trophy striper...

JUST A REMINDER... Let mama-striper and her 'big-ins' go and let them do their thing, take a quick photo and put them back in the water as quickly as you can. Other than bragging to your friends that you just killed a big striper does nothing to enhance you as a fishing-legend or to perpetuate the future of the species... **BTW** they are not good to eat anyway and probably contain more Placer-mining-mercury than the 18-inchers! Good Luck!