

AMERICAN SHAD IN CALIFORNIA

BY Dennis P. Lee



As I walked up the boat ramp, the elderly gentleman at the top asked the classic angling question, “*How’s the fishing*”. I smiled at him and responded, “*The fishing was so good I got tired of catching fish and going home early*”. This scene did not occur 40 years ago but just last year on a local Central Valley river.

Anglers who fished for shad in Central Valley rivers remember the 1960’s and 1970’s when it was not uncommon to catch over 50 shad in a day. Shad numbers have declined since the “*good old days*”, but runs in recent years still provide excellent fishing opportunities. Fly fishing for American shad remains popular with California anglers. Warm temperatures allow for shorts and wet wading, while summer evenings provide extra fishing hours. One California fly angler who reports his daily shad catch on the internet reported catching over 2,000 shad during the 2018 season!

Life History

American shad *Alosa sapidissima* are an anadromous clupeid (a fish family that includes herring, sardines and other species). Shad are native to the eastern North American coast from Newfoundland south to Florida. They belong to a group of fish called “*river herrings*” that also includes the smaller hickory shad and alewife.

American shad spend their adult life in the ocean before returning to freshwater to spawn. While in the ocean they feed primarily on small zooplankton. In the early spring, schools of shad migrate from the ocean to rivers to spawn. Studies in California report male shad mature at three to four years while females mature at four to five years. Male shad lead the migration and will appear at spawning areas earlier than females. Adult shad in California rivers range in weight from one to several pounds depending on sex. Male shad average about 1 ½ pounds while females average about 2 ½ pounds. Some female shad will reach larger sizes and fish over four pounds are not uncommon. The current California State Inland Angling Record shad weighed 7 pounds 5 ounces and was caught in 1985 from the Feather River. The International Game Fish Association world record shad was caught from the Connecticut River, Massachusetts in 1986 and weighed 11 pounds 4 ounces. Even larger American shad have been reported from east coast rivers.

Studies have shown the first appearance of shad in freshwater occurs when water temperatures reach and exceed approximately 54° F. Upstream migration is influenced by temperature and cooling water temperatures slows down migration. Shad may return to their natal watershed (i.e. Sacramento River/San Joaquin Watershed) but not necessarily the river in which they were

spawned. Studies and fishing success suggest shad tend to migrate to rivers with higher stream flows. Migration generally occurs during periods of low light. During daylight, schools of shad hold in deeper pools with moderate water current. Unfortunately, shad are not adept at negotiating dams, even those equipped with fishways, and natural barriers often block upstream migration.

American shad begin to spawn when water temperatures reach the upper 50°s and lower 60°s F. Most spawning occurs in large pools with a slight current and sometimes in the tail out. Spawning occurs in the late evening as female shad begin swimming near the surface. Males are attracted to the females and splashes at the surface attract more males. Eggs and milt are freely released during the spawning act. A female shad will produce from 100,000 to 600,000 eggs depending on fish size. Spawning occurs over a several week period and unlike Pacific salmon, shad do not die after spawning. Some will return to the ocean if the rigors of spawning and higher water temperatures do not result in mortality.

During spawning, the eggs are quickly fertilized and will drift downstream with the current for several days before hatching. Eggs hatch in 4 to 12 days and juvenile shad spend their first summer in freshwater. The juvenile fish grow to about 2 to 4 inches in length and by November most juvenile shad have migrated to the ocean.

American Shad in California

The specific name *sapidissima* means “*most delicious*”. Shad were an important and popular food fish in Colonial America. Major shad runs occurred on the Delaware and Potomac rivers. Colonists seasonally constructed rock dams, weirs, and fish racks to trap and capture shad. Because of their popularity, a large commercial

fishery developed until runs were depleted by dams, pollution, and overfishing.

American shad were first introduced into California waters by Seth Green. Green was an early fish culturist who established the first fish hatchery in the United States in Caledonia, New York. The introduction was made at the request of the California Fish Commission, established in 1870 from "*An Act to provide for the restoration and preservation of fish in the waters of this State*".

Green carried the first juvenile American shad to California on the newly constructed Transcontinental Railway. He began the trip with 12,000 newly hatched fry in four eight-gallon milk cans from his "*hatching establishment*" located on the Hudson River. Water was exchanged along the way and ice added to keep the water cool. The June trip took seven days to complete. After arriving in California, Green released an estimated 10,000 juvenile shad in the Sacramento River near the town of Tehama at 10:00 pm on June 27th, 1871.



INSIDE ONE OF THE "AQUARIUM CARS" USED TO TRANSPORT AMERICAN SHAD TO CALIFORNIA IN THE LATE 1800'S.

Following the initial release, Livingston Stone, a fish culturist with the United States Fish Commission, made a second shad introduction in July 1873 using a specially constructed Pullman fish transportation railroad car to

carry the fish from the east coast. Subsequent introductions occurred in 1876, 1877, 1878, 1880, and 1881.

The introductions were very successful and by the early 1900's shad were found in many California rivers and had migrated as far south as Los Angeles County and as far north as Puget Sound, Washington. California rivers that today support annual shad runs include the Klamath, Eel, Russian, Sacramento, Feather, Yuba, American and Mokelumne rivers. In 1916, the California Fish Commission established an experimental shad hatchery at the old Yuba City Water Works near the Feather River. Several thousand juvenile shad were produced and released in the Feather River. However, the hatchery operated for only one season.

As shad and striped bass populations increased, both species became important in the Sacramento-San Joaquin River commercial gill net fishery. Shad appeared in the San Francisco fish markets as early as 1879. Commercial shad catches reached their peak in the early 1900's and peaked in 1917 at 5.7 million pounds. At that time, commercial prices had dropped to about five cents per pound for female shad while males only brought one cent per pound. Higher prices were paid for female because of they contained "*roe*", the egg sacks that were considered a culinary delicacy. Later gill net catches fluctuated widely prior to banning the gill net fishery in 1957 when the catch was less than one million pounds.

The first California sport fishery for shad was the so-called "*bump net*" fishery in which long-handled wire meshed dip nets were fished from a dock or a slow-moving boat at night. Fish were attracted to splashing at the surface, often from an outboard motor propeller, and captured in the wire mesh net. It was not long

after that shad became a popular sport species with spin and fly anglers fishing the Sacramento, Feather, Yuba, and American rivers. As their popularity increased, they were affectionally called “*poor man’s tarpon*”.

While Central Valley rivers provided popular shad fishing opportunities, other northern California rivers also support shad runs. Both the Klamath and Eel rivers. The Humboldt Times newspaper indicated shad were caught in Humboldt Bay as early as 1887. In August 1937, the Ferndale Enterprise newspaper reported on a shad caught from the lower Eel River – “*Bud Olsen was exhibiting a freak fish caught near Fernbridge this week which was finally judged to be a shad common to northern waters. It weighed four pounds, was about 18 inches long and its meat was white.*” Shad were still found in both rivers in 1970’s but their current status is unknown.

The Russian River shad fishery became popular in the 1950’s. Unfortunately, summer dams constructed on the river hindered the upstream migration of shad. In the 1970’s, the Department of Fish and Game installed fishways on the summer dams but shad were reluctant to use them. In recent years summer dams have been installed at later dates. Shad migrate as far upstream as Healdsburg where a large seasonal dam is constructed in July at Veterans Memorial Park. The shad run remains fair in most years and fly anglers continue to look forward to shad fishing the river in May.

The Sacramento River historically supported the largest shad run in California. Based on historical commercial catches, the run may have exceeded 2 million fish annually. As early as June 1916, the Sacramento Union newspaper reported – “*Shad are running freely at present, a fact that is being taken advantage of by many Sacramento citizens who are using dip nets to catch this fish so much favored by the epicures.*”. Today, the shad run is likely smaller but still healthy.

Anglers fish the river from downstream the confluence of the American River upstream to just downstream the City of Red Bluff.

The Feather River continues to support a shad run although public access is limited. The river enters the Sacramento River near Verona about 20 miles upstream from the City of Sacramento and boat anglers often fish near the confluence. Shad are found throughout the river upstream as far as the outlet of the Thermalito Afterbay.

The Yuba river supports a good shad run although the fish are halted at Daguerre Dam, located about 12 miles upstream from the mouth. The dam was built in 1920 to prevent silt from gold mining to wash downstream and also provides for water diversion. There are two fishways at the dam although shad are not prone to use them.

Shad enter the American River during early-May and migrate as far upstream as Nimbus Dam. Spawning typically peaks in June and July and spent shad may be found in the river as late as October.

Shad have been reported from several California Delta sloughs although they do not support good sport fishing opportunities. The Mokelumne River maintains a good shad run as far upstream as Camanche Dam. Significant shad runs have not been observed in any other tributaries to the San Joaquin River.

Interestingly, American shad were introduced into Millerton Lake in Fresno County in 1955 and 1957 where they developed a self-sustaining population. The adult fish migrate from the lake upstream a few miles in the San Joaquin River to spawn. In past years shad have been caught by fly anglers above the lake in the springtime.

Equipment and Flies

Single-handed rods for shad are typically 8 ½ and 9-foot in length and rated for 6 to 8 weight lines. Although single-handed rods remain popular, many anglers have switched to 12 to 13 foot two-handed, and shorter switch rods designed for both overhead and Spey casting.

Sinking fly lines are the general rule for shad fishing and shooting heads with a monofilament running line are popular on single-handed rods. Anglers also fish a similar setup on two-handed rods but will use heavier Skagit style heads with sinking tip, or one of the new multi-density Scandinavian style shooting heads. Anglers need to experiment with lines and sinking tips to find the most effective depth. Shad are not leader shy and leaders from 4 to 6 feet in length tapering to 8 to 10-pound tippets are adequate. During low light periods when shad move to the surface, anglers can switch to full length weight forward sink tip lines and even floating lines.

Shad are hard fighting fish but do not make the long blistering runs characteristic of steelhead. As such, any good quality reel with a click or disk drag capable of holding 100 yards of backing and the fly line is adequate. Larger diameter reels retrieve the line quicker and also help reduce line coiling.

Early California shad flies mimicked east coast shad darts. Although darts came in a variety of colors, a popular early version had a silver or white body, a white tail and red head. In California, one early shad fly was tied with bead chain eyes and a white feather hackle collar. The fly was often tied on an Eagle Claw Model no. 1197 silver hook in size 6. Today's anglers have learned that larger size hooks are not necessary and often tear out of the fish's mouth. Modern west coast shad flies are less than one inch in length and tied on smaller size nos. 8 and 10 hooks, and sometimes even

smaller. Short shank saltwater stainless hooks are sharp and will hold the fish.

Fly color does not seem to be a major factor for shad flies but most anglers favor bright colors. Greens, pinks, reds, and orange colors are popular. Shad flies are often tied with fluorescent and phosphorescent colors, and ultraviolet materials.



ANGLERS SHOULD OFFER SHAD A VARIETY OF FLY COLORS TIED ON SIZE 8 AND 10 SHORT-SHANK HOOKS. CHARTREUSE, RED, PINK AND ORANGE AND POPULAR COOLRS.

Many anglers report fishing a caddis fly imitation on a floating line in the late evening. Caddis hatches are common in the summer on many Central Valley rivers and anglers suggest shad are feeding on the caddis adult flies. Deer hair bodied flies that float and skate on the surface are the most popular.

Fly Fishing Methods

Fly anglers fishing for shad use one of two methods. Historically, the traditional method was with a sinking shooting head and weighted fly. A cast is made across the river and the fly allowed to swing through the pool or run until it hangs directly below the angler. This method is generally referred to as a wet fly presentation and more recently as “*swinging*”. An upstream mend at the start of the swing can help improve fly presentation. Some anglers allow the fly to swing with no movement, while others impart

twitches to the line and fly. Takes can be both aggressive or very soft, sometimes going undetected. In addition, shad often hit as the fly hangs downstream at the end of the drift or as the fly is retrieved. Swinging remains an effective and fun way to catch shad.

The second method is to use a long leader with an indicator attached, and a suspended weighted fly attached at the end. This setup is fished on a floating line. Because long casts are difficult, this method is most effective when fished from a boat or raft. Anglers watch for the indicator to disappear as the fly drifts downstream.



AMERICAN SHAD HOLD IN LARGE POOLS DURING DAYLIGHT HOURS AND MOVE INTO RUNS AND RIFFLES IN THE EARLY MORNING AND EVENING. MANY CENTRAL VALLEY RIVERS CAN BE FISHED BY WADING OR FROM WATERCRAFT.

Shad hold in large pools with a slight current during the daylight periods. During periods of low light, they migrate and can be found in shallower runs and riffles. Additionally, as shad begin to spawn, they will swim near the surface and are more vulnerable. Once spawning commences, shad are not as willing to strike a fly. Many anglers fish for shad by wading in runs and riffles. Wading can be effective although a drift boat, small pram, or raft will sometimes help attain the best position to

swing a fly in a large pool or run. Often one angler will hook a shad on every cast while nearby anglers will not get a single hit.

Many California fly anglers look forward to the spring and summer shad season on Central Valley rivers. Central California rivers that support shad runs are open all year to angling while some north coast rivers have late summer low flow closures. Shad fishing is a great time to improve casting and fish fighting skills, while at the same time enjoying catching and releasing fish. Anglers wanting to learn more about the life history and habits of American shad should read “*The Founding Fish*”, by John McPhee, published in 2002 by Farrar, Straus and Giroux.

Where to Fish for Shad

Klamath and Trinity Rivers – American shad have been caught from the Klamath and Trinity rivers although neither river supports a significant fishery. High stream flows and poor access hinder fishing opportunities in the lower Klamath River. Upstream, Highway 96 along the Klamath and Trinity rivers provide easy access to many runs above the confluence of the two rivers in June and July. There are no major dams to halt migration although natural barriers at Ishi Pishi Falls on the Klamath near Somes Bar, and Grays Falls on the Trinity upstream from Willow Creek hamper migration.

Eel River – Shad fishing is most successful in the lower river pools during May and June when stream flows are low. Anglers can access the Eel River estuary at the Crab County Park. Shore access is limited at the park but there is a boat ramp. Upstream from the park unimproved gravel roads lead to lower river pools near Fernbridge. From Fernbridge upstream to the Van Duzen River, access is limited, but unimproved gravel roads lead to the lower river pools.

Russian River - Shad are caught from the lower river in late April and May. Historically, many of the pools near Guerneville and Rio Dell along Highway 116 have been popular locations. Several public and private beach areas provide shore access along with a number of public boat ramps.

Sacramento River - The first shad are caught in the Sacramento River downstream from the confluence of the American River. Most of this effort is from a boat since there is limited shore access. Fly anglers also fish the Sacramento River immediately downstream from the confluence of the Feather River from anchored boats launched at Verona. Further upstream the Woodson Bridge State Recreation Area and Tehama County River Park located between Chico and Red Bluff provide good shad fishing locations. Best fishing is from late May through July. Daytime temperatures will range from 85°F. to highs of 100°F. and anglers can wade and cast from the sandy beach areas. The recreation area and park are located off South Avenue just three miles west of Highway 99 at Vina, or six miles east of Interstate 5 at Corning.

Feather River – The shad run usually peaks in May and fishing success begins to decline in July. The Memorial Day weekend is often considered the peak of the shad fishing season. Shore access to the Feather River is poor but anglers can access the river at the Star Bend Boat Ramp, Boyd's Pump Boat Launch Facility and the Thermalito Afterbay outlet at the California Department of Fish and Wildlife Oroville Wildlife Area.

Yuba River - Similar to the Feather River, shore access is limited. Shad often stack up below the Daguerre Dam but there is no public access to the area. Hallwood Boulevard is located about 4 miles downstream from the dam on the north side and provides the only

public access to the river below the dam. This area is usually busy during the shad season. Anglers can also access the lower river with a jet boat by launching at Yuba City Boat Ramp on the Feather River just upstream from the confluence of the Yuba River. Due to obstructions in the river, boaters need to be very diligent.

American River – The first shad are caught in the river in early May. As water temperatures increase and more fish migrate upstream, fishing effort increases and success improves. The American River Parkway follows along the river and provides excellent shore access for fly anglers. In addition, several boat ramps are located along the lower river and provide boat and raft access, and motor-powered watercraft are allowed on the river from March 15 through the end of October. The maximum speed limit for the entire lower American River is 5 miles per hour. Parkway maps with access locations identifies are available from the Sacramento County Department of Region Parks.

Mokelumne River – The shad run in the Mokelumne River is usually overlooked due to poor public access. The Mokelumne Day Use Area immediately downstream from the dam provides slightly less than a mile of river access, however, spring and summer stream flows vary. Anglers can also float the river from the day use area downstream to the Stillman Magee Park off Mackville Road near the community of Clements, a distance of about four miles.

Sport Fishing Regulations

A current California fishing license is required to fish for shad in addition to a Steelhead Report Card. Shad may be taken all year and the daily bag limit is twenty-five fish. Anglers must use single barbless hooks when fishing anadromous rivers for shad although dip nets may be used to take shad in the Valley District.