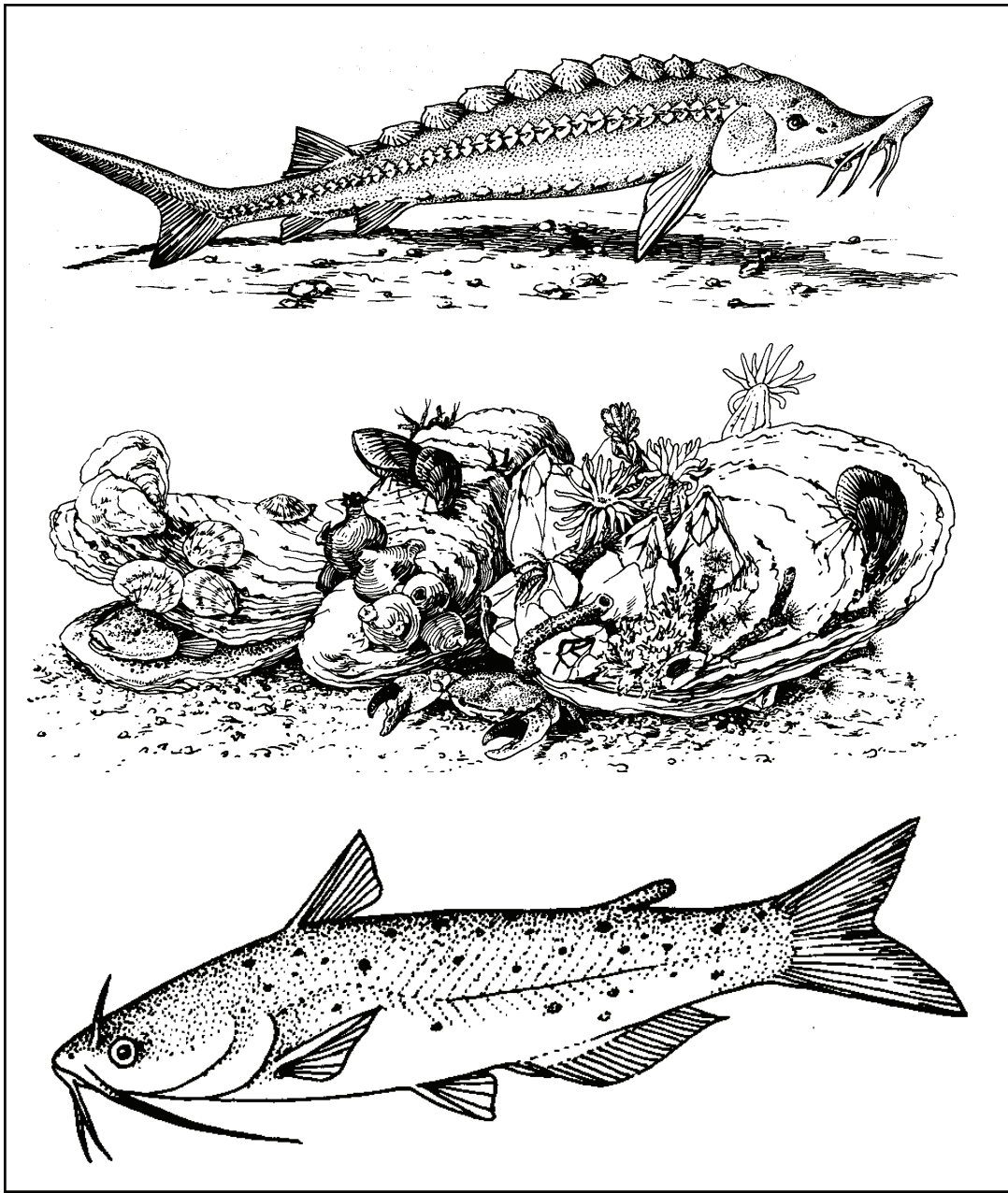


Bounty of the Bay



Historic Accounts of
Chesapeake Bay Fisheries

Historic Accounts of Chesapeake Bay Fisheries

As part of its mission, Sultana Projects, Inc. promotes stewardship of the Chesapeake Bay's environmental legacy. Truly comprehending this legacy is perhaps one of the greatest challenges facing the modern student. For many of us, the Bay has looked more or less the same since our childhood. To fully understand what has already been lost, and to appreciate the Bay's potential for productivity, it is helpful to listen to the words of the first explorers who witnessed and experienced the Chesapeake estuary in its most pristine state. Time and time again, colonists and visitors alike were awestruck by the abundance of marine life in Chesapeake Bay. Their accounts of haul seines which netted 5,000 fish, prodigious spawning runs of shad, rockfish, and herring, oyster reefs which stuck out above water at low tide, and sturgeon so plentiful that they frequently jumped *into their boats* seem almost unbelievable to the contemporary reader. Here, then, are some selected accounts of what the Chesapeake Bay of yesteryear had to offer.

ACCOUNTS OF NATIVE AMERICAN FISHING TECHNIQUES:

The first people to take advantage of the abundance of marine life in the Chesapeake Bay were the Native Americans who inhabited her shores. They had access to an estuary that was completely unspoiled and free of pollution. Huge, old growth trees dominated the landscape and vast submerged grass beds provided ideal habitat for crabs and juvenile fish. They were able to harvest fish using a variety of techniques, some of which are described below:

Their fishing is much in boats. These they call quintans, as the West Indians call their canoes. They make them with one tree, by burning and scraping away the coals with stones and shells till they have made them in the form of a trough. Some of them are an ell deep and forty or fifty foot in length

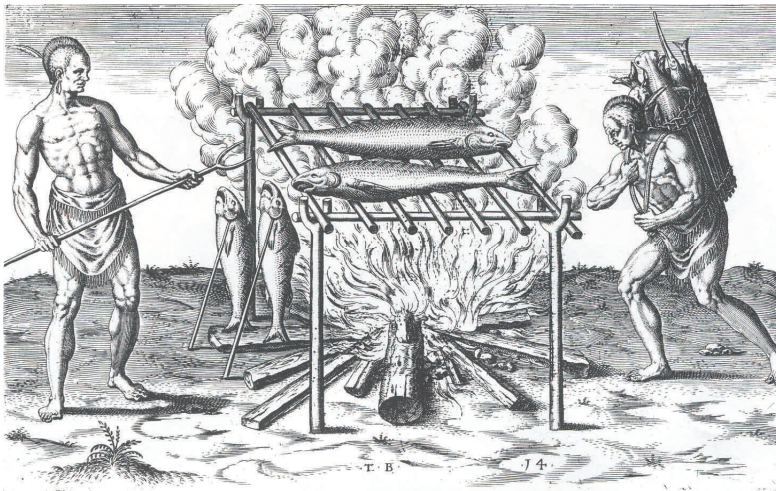


and some will transport forty men, but the most ordinary are smaller and will ferry ten or twenty, with some luggage, over their broadest rivers. Instead of oars, they use paddles and sticks, with which they will row faster than we in our barges. They have nets for fishing, for the quantity as formerly braided and meshed as ours and these are made of bark of certain trees, deer sinews, or a kind of grass, which they call pemmenaw, of which their women between their hands and thighs, spin a thread very even and readily, and this thread serves for many uses, as about their housing, their mantles of feathers, and they also with it make lines for angles.

Their angles are long small rods at the end whereof they have a cleft to which the line is fastened, and at the line they hang a hook, made either of a bone grated (as they nock their arrows) in the form of a crooked pin or fishhook, or of the splinter of a bone, and with a thread of the line they tie on the bait. They use also long arrows tied on a line, wherewith they shoot at fish in the rivers. Those of Accowmack use staves, like unto javelins, headed with bone; with these they dart fish swimming in the water.

By their houses they have sometimes a high stage, raised like a scaffold, or small spelts, reeds, or dried osiers covered with mats which gives a shadow and is a shelter ... where on a loft of hurdles they lay forth their corn and fish to dry ...

They are inconstant in everything but what fear constrain them to keep; crafty, timorous, quick of apprehension, ingenious enough in their own works, as may testify their weirs in which they take



their fish, which are certain enclosures made of reeds and framed in the fashion of a labyrinth or maze set a fathom deep in the water with divers chambers or beds out of which the entangled fish cannot return or get out, being once in. Well may a great one by chance break the reeds and so escape, otherwise he remains a prey to the fishermen the next low water which they fish with a net at the end of a pole.

-William Strachey, Secretary of State of Virginia, taken from his *The Historie of Travaile into Virginia Britannia*, early 1600s

Before the arrival of the English there, the Indians had fish in such vast plenty that the boys and girls would take a pointed stick and strike the lesser sort as they swam upon the flats. The larger fish that kept in deeper water, they were put to a little more difficulty to take. But for these they made weirs, that is, a hedge of small rived sticks or reeds of the thickness of a man's finger. These they wove together in a row with straps of green oak or other tough wood, so close that the small fish could not pass through. Upon high water mark they pitched one end of this hedge and the other they extended into the river to the depth of eight or ten foot, fastening it with stakes, making cods out from the hedge on one side, almost at the end, and leaving a gap for the fish to go into them. These were contrived so that the fish could easily find their passage into those cods when they were at the gap, but not see their way out again when they were in. Thus if they offered to pass though, they were taken.

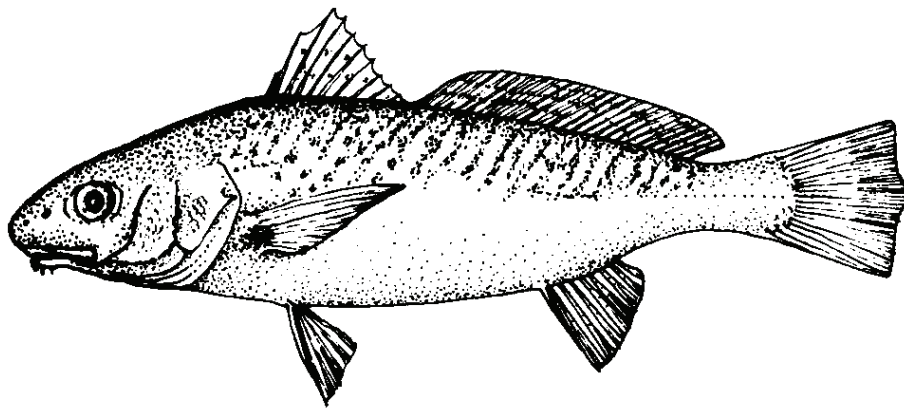
Sometimes they made such a hedge as this quite across a creek at high water and at low would go into the run, so contracted into a narrow stream, and take out what fish they pleased.

At the fall of the rivers where the water is shallow and the current strong, the Indians use another kind of weir thus made. They make a dam of loose stone, whereof there is plenty at hand, quite across the river, leaving one, two, or more spaces or tunnels for the water to pass through. At the

mouth they set a pot of reeds, wove in the form of a cone, whose base is about three foot wide and ten foot perpendicular, into which the swiftness of the current carries the fish and wedges them so fast that they cannot possibly return...

They have also another way of fishing like those on the Euxine Sea, by the help of a blazing fire by night. They make a hearth in the middle of their canoe, raising it within two inches of the edge. Upon this they lay their burning lightwood, split into small shivers, each splinter whereof will blaze and burn end for end like a candle. 'Tis one man's work to tend this fire and keep it flaming. At each end of the canoe stands an Indian with a gig or point spear, setting the canoe forward with the butt end of the spear as gently as he can, by that means stealing upon the fish without any noise or disturbing of the water. Then they with great dexterity dart these spears into the fish and so take them. Now there is a double convenience in the blaze of this fire, for it not only dazzles the eyes of the fish, which will lie still glaring upon it, but likewise discovers the bottom of the river clearly to the fisherman, which the daylight does not.

-Historian Robert Beverly, 1705

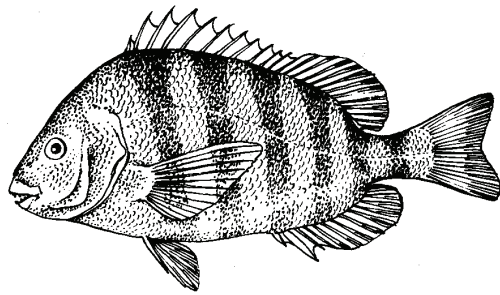


ACCOUNTS OF THE ABUNDANCE OF FISH IN GENERAL:

The first Europeans who explored the Chesapeake, and the settlers who followed, were amazed by the immense schools of fish they encountered. Beginning in early spring, great spawning runs of shad, herring, rockfish, and sturgeon filled the fresh water tributaries. Near the mouth of the Bay, larger fish including porpoise, drum, and even whales were encountered on a regular basis. Ironically, it took nearly 150 years to fully take advantage of these fisheries due to a lack of salt for long term preservation.

Of fish we were best acquainted with sturgeon, grampus, porpoise, seals, stingrays whose tails are very dangerous, brits, mullets, white salmon, trouts, soles, plaice, herring, conyfish, rockfish, eels, lampreys, catfish, shad, perch of three sorts, crabs, shrimps, crevices, oysters, cockles, and mussels. But the most strange fish (the seahorse) is a small one so like the picture of St. George's dragon as possibly can be, except his legs and wings; and the toadfish which will swell till it be like to burst when it comes into the air.

-John Smith, early 1600s



Sheepshead (to 20")
Archosargus probatocephalus

The main river (James) abounds with sturgeon, very large and excellent good, having also at the mouth of every brook and in every creek both store and exceedingly good fish of divers kinds. In the large sounds near the sea are multitudes of fish, banks of oysters, and many great crabs rather better, in fact, than ours and able to suffice four men. And within sight of land into the sea we expect at time of year to have a good fishing for cod, as both at our entering we might perceive by palpable conjectures, seeing the cod follow the ship ... as also out of my own experience not far

off to the northernward the fishing I found in my first voyage to Virginia...

-Captain Christopher Newport, 1607

To the natural commodities which the country has of fruit, beasts, and fowl, we may also add the no mean commodity of fish, of which, in March and April, are great shoals of herrings, sturgeon, great store commonly in May if the year be forward. I have been at the taking of some before Algernoone fort and in Southampton river in the middle of March, and they remain with us June, July, and August and in that plenty as before expressed.

Shad, great store, of a yard long and for sweetness and fatness a reasonable food fish; he is only full of small bones, like our barbels in England. There is the garfish, some of which are a yard long, small and round like an eel and as big as a mare's leg, having a long snout full of sharp teeth.

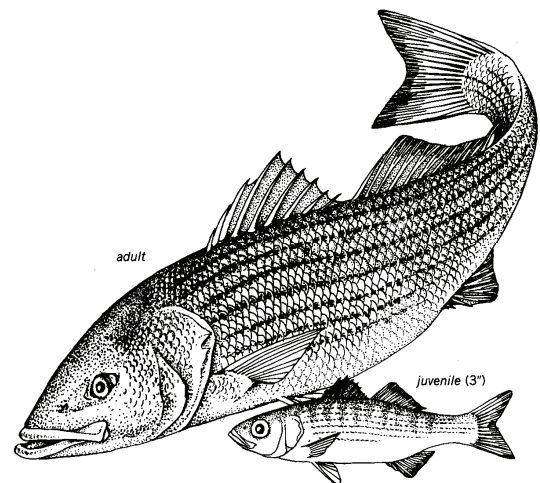
-William Strachey, 1612

The rivers abound with fish both small and great. The sea-fish come into our rivers in March and continue the end of September. Great schools of herrings come in first; shads of a great bigness and the rockfish follow them. Trout, bass, flounders, and other dainty fish come in before the others be gone. Then come multitudes of great sturgeons, whereof we catch many and should do more, but we want good nets answerable to the breadth and depth of our rivers ... I cannot reckon nor give proper names to the divers kinds of fresh fish in our rivers. I have caught with mine angle, carp, pike, eel, perches of six several kinds, crayfish and the torope or little turtle (diamond-back terrapin), besides many small kinds.

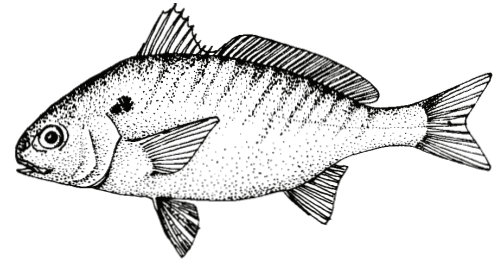
-Alexander Whitaker, 1613

For fish, the rivers are plentifully stored with sturgeon, porpoise, bass, rockfish, carp, shad, herring, eel, catfish, perch, flat-fish, trout, sheepshead, drummers, jewfish, crevices, crabs, oysters, and divers other kinds. Of all which myself has seen great quantity taken, especially last summer at Smith's Island at one haul a frigate's lading of sturgeon, bass, and other great fish in Captain Argall's seine, and even at the very place which is not above fifteen miles about Point Comfort. If we had been furnished with salt to have saved it, we might have taken as much fish as should have served us that whole year.

-Ralph Hamor, 1614



About two years since, Sir Thomas Dale ... found out two seasons in the year to catch fish, namely, the spring and the fall. He himself took no small pains in the trial and at one haul with a seine caught five thousand three hundred of them, as big as cod. The least of the residue or kind of salmon trout, two foot long, yet he durst not adventure on the main school for breaking his net. Likewise, two men with axes and such like weapons have taken and killed near the shore and brought home forty (fish) as great as cod in two or three hours space...



-John Rolfe, 1616

What multitudes of fish to satisfy the most voluptuous of wishes, can China glory in which Virginia may not in justice boast of? Let her publish a precedent so worthy of admiration (and which will not admit belief in those bosoms where the eye cannot be witness of the action) of five thousand fish taken at one draught near Cape Charles, the entry into Chesapeake Bay, and which swells the wonder greater, not one fish under the measure of two feet in length.

-Edward Williams, Virginia, mid-1600's

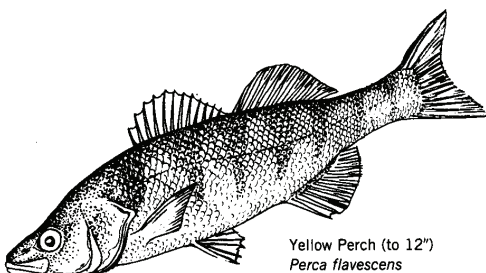
In the rivers are great plenty and variety of delicate fish. One kind whereof is by the English called a sheephead from the resemblance the eye of it bears with the eye of a sheep. This fish is generally about fifteen or sixteen inches long and about half a foot broad. It is a wholesome and pleasant fish and of easy digestion. A planter does often times take a dozen or fourteen in an hour's time with hook and line.

There is another sort which the English call a drum, many of which are two foot and a half or three foot long. This is likewise a very good fish, and there is plenty of them. In the head of this fish there is a jelly, which being taken and dried in the sun, then beaten to powder and given to broth, procures speedy delivery to women in labour.

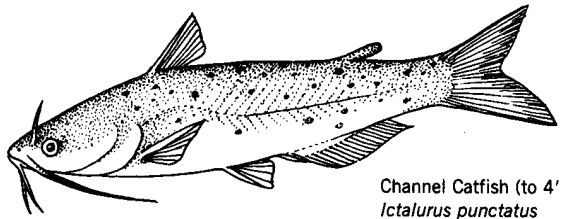
At the heads of the rivers there are sturgeon and in the creeks are great store of small fish, as perch, croakers, taylors, eels, and divers others whose name I know not ... There is also a fish called a stingray, which resembles a skate, only on the side of his tail grows out a sharp bone like a bodkin about four or five inches long, with which he sticks and wounds other fish and then preys upon them.

-Thomas Glover, *An Account of Virginia*, 1676

The water is no less prolific, because an indescribably large number of big and little fish are found in the many creeks, as well as in the large rivers. The abundance is so great and they are so easily caught that I was much surprised. Many fish are dried, especially those that are fat. Those who have a line can catch as many as they please. Most of them are caught with the hook or the spear, as I know from personal experience, for when I went out several times with the line, I was surprised that I could pull out one fish after another, and *through the clear water* I could see a large number of all kinds, whose names are unknown to me. They cannot be compared with our fish, except the herring, which is caught and dried in large numbers. Thus the so-called catfish is not unlike the large turbot. A very good fish and one easily caught is the eel, also like those here (in Switzerland). There is also a kind like a pike. They have a long and pointed mouth,



Yellow Perch (to 12")
Perca flavescens



Channel Catfish (to 4')
Ictalurus punctatus

with which they like to bite into the hook. They are not wild, but it happens rarely that one can keep them on the line, for they cut it in two with their sharp teeth. We always had our harpoons and guns with us when we went out fishing, and when the fish came near we shot at them or harpooned them. A good fish, which is common and found in large number is the porpoise. They are so large

that by their unusual leaps, especially when the weather changes, they make a great noise and often cause anxiety for the small boats or canoes ... The waters and especially the tributaries are filled with turtles. They show themselves in large numbers when it is warm. Then they come to the land or climb up on pieces of wood or trees lying in the water. When one travels in a ship their heads can be seen everywhere coming out of the water.

-Swiss explore Francis Louis Michel, 1701

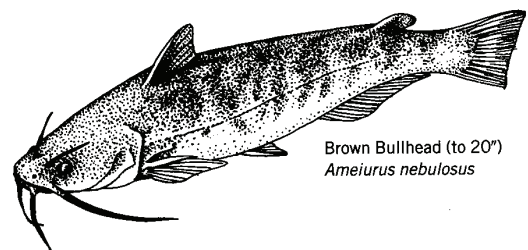
As for fish, both of fresh and salt water, of shellfish, and others, no country can boast of more variety, greater plenty, or of better in their several kinds There comes up into the freshes from the sea multitudes of shad, rock, sturgeon, and some few lampreys ... They continue their stay there about three months. The shad at their first coming up are fat and fleshy, but they waste so extremely in milting and spawning that at their going down they are poor and seem fuller of bones, only because they have less flesh. As these are in the freshes, so the salts afford at certain times of the year many other kinds of fish in infinite shoals, such as the oldwife, a fish not much unlike a herring, and the sheepshead, a sort of fish which they esteem in the number of their best.

There is likewise great plenty of other fish all the summer long and almost in every part of the rivers and brooks there are found of different kinds ... Those which I know myself, I remember by the names of herring, rock, sturgeon, shad, oldwife, sheepshead, black and red drums, trout, taylor, greenfish (bluefish?), sunfish, bass, chub, plaice, flounder, whiting, fatback, maid, wife, small turtle, crab, oyster, mussel, cockle (conch), shrimp, needlefish, bream, carp, pike, jack, mullet, eel, conger eel, perch, and catfish.

Those which I remember to have seen there of the kinds that are not eaten are the whale, porpoise, shark, dogfish, gar, stingray, thornback, sawfish, toadfish, frogfish, land crabs, fiddlers, and periwinkle.

-Historian Robert Beverly, 1705

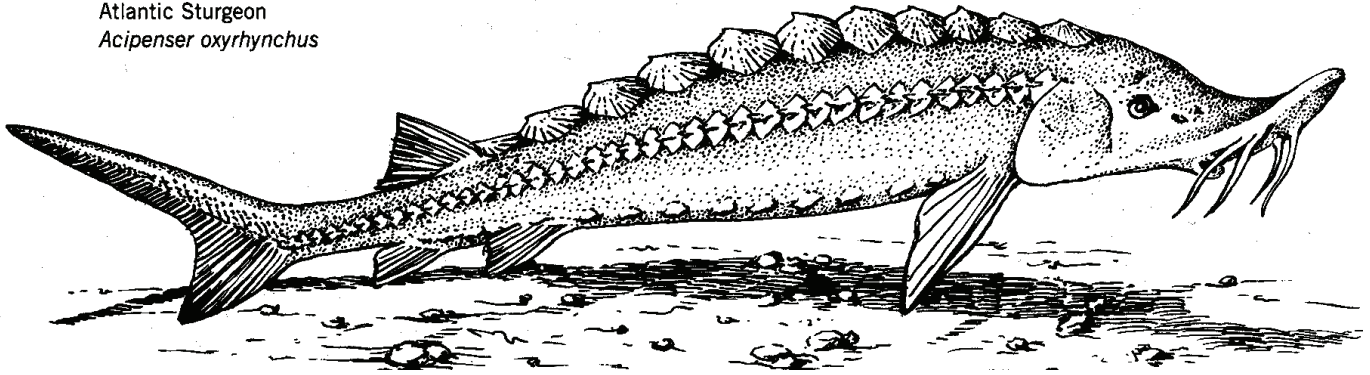
Fish is the commodity that sells for a ridiculously low price in Norfolk. One can purchase weakfish weighing more than twenty pounds for 4 or 5 francs and sometimes one that weighs three times more for a gourde, 5 francs, 10 sous. Drum is also very cheap. Sturgeon, some weighing up to 60 pounds, can be bought for 6 French sous a pound, about the same price paid for little codfish that are brought in alive and are delicious to eat. Shad is also plentiful there. In addition, one can get perch, porpoise, eels, leatherjackets, summer flounder, turbot, mullet, trout, blackfish, herring, sole, garfish, etc. In short, fish is so abundant in Norfolk that sometimes the police find it necessary to throw back into the water those that are not bought.



Brown Bullhead (to 20")
Ameiurus nebulosus

-French visitor Moreau de Saint Mery, 1794

Atlantic Sturgeon
Acipenser oxyrinchus



ACCOUNTS OF THE ABUNDANCE OF STURGEON:

A rarity in today's Chesapeake Bay, the Atlantic Sturgeon was apparently so plentiful in the 1600's and 1700's that they could regularly be caught simply by drifting a hook over the side of a boat to snag the giant fish. They are mentioned prominently in nearly all accounts of the early Chesapeake fisheries, and their roe was valued for its sweet salty taste. Sturgeons in the two to five foot range were everywhere; larger fish of eight feet or more were common. Several accounts mention the sturgeon's aerial acrobatics, and one fisherman recalls having an eight foot sturgeon jump clear of the water and *land in his boat*.

In summer no place affords more plenty of sturgeon, nor in winter more abundance of fowl, especially in time of frost. There was once take fifty-two sturgeon at a draught, at another draught sixty-eight. From the latter end of May till the end of June are taken few but young sturgeon of two foot or a yard long. From thence till the midst of September them of two or three yards long and a few others. And in four or five hours with one net were ordinarily taken seven or eight; often more, seldom less. In the small rivers all the year there is good plenty of small fish, so that with hooks those that would take pains had sufficient.

-John Smith, early 1600s

In going down to Jamestown on board of a sloop, a sturgeon sprang out of the river, into the sloop. We killed it, and it was eight feet long. This river is full of sturgeon, as also are the two rivers of New Netherland. When the English first began to plant their colony here, there came an English ship from England for the purpose of fishing for sturgeon; but they found that this fishery would not answer, because it is so hot in summer, which is the best time for fishing, that the salt or pickle would not keep them as in Muscovy whence the English obtain many sturgeon and where the climate is colder than in the Virginias.

-Dutch explorer David De Vries, 1644

The Indian way of catching sturgeon, when they came into the narrow part of the rivers, was by a man's clapping a noose over their tails and by keeping fast his hold. Thus a fish, finding itself entangled, would flounce and often pull him under water. Then that man was counted a cockarouse, or brave fellow, that would not let go till with swimming, wading, and diving, he had tired the sturgeon

and brought it ashore. These sturgeon would also leap into their canoes in crossing the river, as many of them do still every year into the boats of the English.

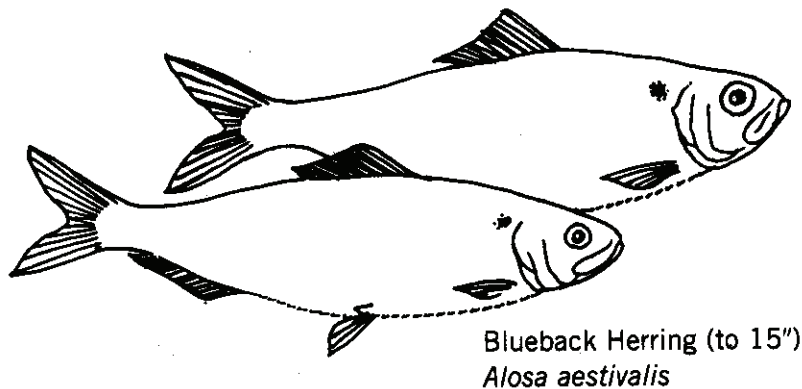
-Historian Robert Beverly, 1705

Sturgeon and shad are in such prodigious numbers that one day within the space of two miles only, some gentlemen in canoes caught above six hundred of the former with hooks, which they let down to the bottom and drew up at a venture when they perceived them to rub against a fish; and of the latter above five thousand have been caught at one single haul of a seine.

-English traveler Andrew Burnaby, 1759

As I was walking by the river side (James near Westover), I saw two negroes carrying an immense sturgeon, and on asking them how they had taken it, they told me that at this season they were so common as to be taken easily in a seine and that fifteen or twenty were found sometimes in the net; but that there was a much more simple method of taking them, which they had just been using. This species of monster, which are so active in the evening as to be perpetually leaping to a great height above the surface of the water, usually sleep profoundly at mid-day. Two or three negroes then proceed in a little boat, furnished with a long cord at the end of which is a sharp iron crook, which they hold suspended like a log line. As soon as they find this line stopped by some obstacle, they draw it forcibly towards them so as to strike the hook into the sturgeon, which they either drag out of the water, or which, after some struggling and losing all his blood, floats at length upon the surface and is easily taken.

-French traveler Francois J. de Chastellux, 1781



ACCOUNTS OF THE ABUNDANCE OF HERRING

In the early days of the Chesapeake fisheries, perhaps no fish appeared in greater numbers than the herring. Those who observed the great runs of river herrings stood staring in disbelief at the quantities of fish they witnessed ascending the Bay's freshwater tributaries. Seine hauls which netted herring by the tens of thousands were a common occurrence. George Washington himself set up a prolific herring fishery at his Mount Vernon estate. Unfortunately, the use of dams to generate mill power, combined with intense over-fishing, quickly led to the demise of this industry. Still, it is awe inspiring to hear descriptions of this fishery during its heyday.

Herring are not as large as the European ones, but better and more delicious. When they spawn, all streams and waters are completely filled with them, and one might believe, when he sees such terrible amounts of them, that there was as great a supply of herring as there is water. In a word, it is unbelievable, indeed, indescribable, as also incomprehensible, what quantity is found there. One must behold oneself.

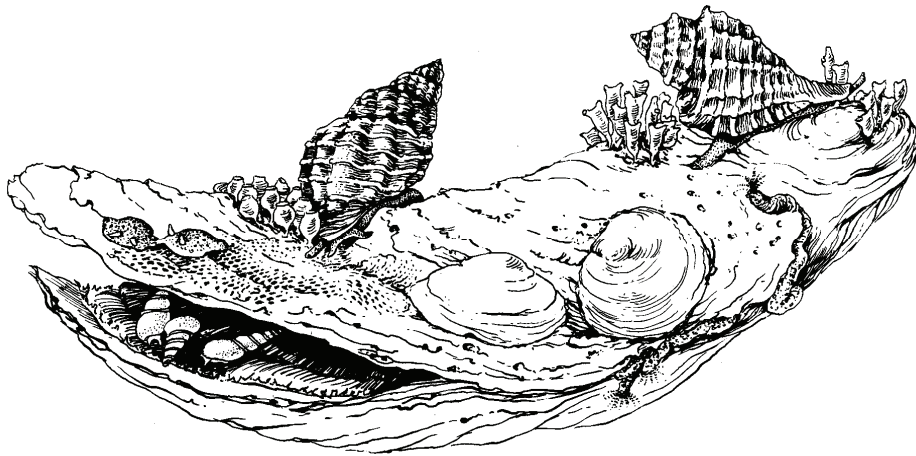
-William Byrd II (Virginia), early 1700s

In the spring of the year, herrings come up in such abundance into their brooks and fords to spawn that it is almost impossible to ride through without treading on them. Thus do those poor creatures expose their own lives to some hazard out of their care to find a more convenient reception for their young, which are not yet alive. Thence it is that at this time of the year, the freshes of the rivers, like that of the Broadruck, stink of fish.

-Historian Robert Beverly, 1705

Saw a seine drawn for herring and caught upwards of 40,000 with about 300 shad fish (!!!). The shads they use but the herrings are left upon the shore useless for want of salt. Such immense quantities of this fish is left upon the shore to rot, I am surprised it does not bring some epidemic disorder to the inhabitants ...

-English visitor Nicholas Cresswell, 1777



ABUNDANCE OF OYSTERS

No accounts of the early Chesapeake are complete without descriptions of the vast amounts of oysters that were present throughout the main stem of the Bay and its tidal tributaries. Scientists estimate that before the arrival of Europeans, there were enough oysters in the estuary to filter the Bay's entire water volume in one to three days. Today, with oysters at only 2% of their historic levels, the same process takes over a year. The great oyster mounds, which had built up over time, were so large that they stuck out above water at low tide and posed navigational hazards to unwary sailors. Foreign travelers were consistently amazed at the oysters' size and quality. Today there are extensive efforts to restore the Chesapeake's oyster population, but we will never again see the bounty recorded in the following accounts:



Oysters there be in whole banks and beds, and those of the best. I have seen some thirteen inches long. The savages use to boil oysters and mussels together and with the broth they make a good spoon and husbandry with them to hang the oysters upon strings ... and dried in the smoke, thereby to preserve them all the year.

-William Strachey, 1612

Here are such plenty of oysters that they may load ships with them. At the mouth of Elizabeth River, when it is low water, they appear in rocks a foot above water. There are also in some places great store of mussels and cockles (conch).

-Thomas Glover, *An Account of Virginia*, 1676

Fish too is wonderfully plentiful. There are so many shell oysters that almost every Saturday my host craved them. He had only to send one of his servants in one of the small boats and two hours after the ebb tide he brought it back full. These boats, made of a single tree hollowed in the middle, can hold as many as fourteen people and twenty-five hundredweight of merchandise.

-French tourist, 1687

The abundance of oysters is incredible. There are whole banks of them so that the ships must avoid them. A sloop, which was to land us at Kingscreek, struck an oyster bed, where we had to wait about two hours for the tide. They surpass those in England by far in size, indeed, they are four times as large. I often cut them in two, before I could put them into my mouth. The inhabitants usually catch them on Saturday. It is not troublesome. A pair of wooden tongs is needed. Below they are wide, tipped with iron. At the time of the ebb they row to the beds and with the long tongs they reach down to the bottom. They pinch them together tightly and then pull or tear up that which has been seized. They usually pull from six to ten times. In summer they are not very good, but unhealthy and can cause fever.

-Swiss explorer Francis Louis Michel, 1701

THE END OF AN ERA

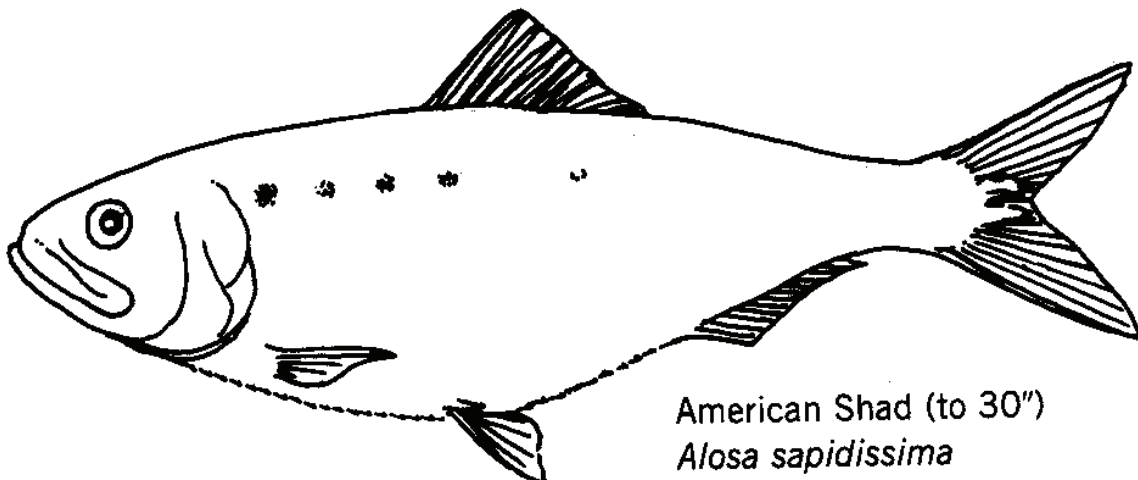
By the mid 1800s, it was becoming clear that many of the Bay's fisheries were in decline, as is evident in this 1875 account of Virginia's shad and striped bass fisheries by Colonel T. J. Randolph:

Shad were abundant in the Rivanna (River, near Charlottesville, VA) at my earliest recollection, say prior to 1800. They penetrated into the mountains to breed. I have heard the old people, when I was young, speak of their descending the rivers in continuous streams in the fall, as large as a man's hand. The old ones so weak, that if they were forced by the current against a rock they got off with difficulty. Six miles north of Charlottesville three hundred were caught in one night with a bush seine. A negro told me he had caught seventeen in a trap at one time. I recollect the negroes bringing them to my mother continually ... The dams absolutely stopped them, but they had greatly declined before their erection. In 1810 every sluice in the falls at Richmond was plied day and night by float seines ... Rockfish were hunted on the Eastern Shore on horseback with spears. The large fish coming to feed on the creek shores, overflowed by the tide, showed themselves in the shallow water by a ripple before them. They were ridden on behind and forced into water too shallow for them to swim well, and were speared ... When young, I have heard the old people speak of an abundance of other fish. The supposition was that the clearing of the country, and consequent muddying of the streams, had destroyed them.

By sluicing the dams, and prohibiting fishing in sluices, or trapping, or anything that should bar their progress, I do not see why the shad should not return.

-Col. T. J. Randolph of Edgehill, VA recounting his earliest memories of the Virginia fisheries, 1875

The shad never returned to the Virginia highlands, and today we find ourselves at a crucial point in the evolution of the Chesapeake Bay and its fisheries. Through careful management of these fisheries, combined with habitat restoration, responsible waste disposal, well planned development and education, perhaps one day future generations will once again experience the Chesapeake Bay at its productive peak.



American Shad (to 30")
Alosa sapidissima