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AERICAN FISH

AND

HOW TO CATCH THEM

A HAND-BOOK FOR FISHING

BY

An Old Angler

NEW YORK
FRANCIS P. HARPER
4 BARCLAY STREET
1885

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THE author of this volume has taken pains to make it a practical manual for amateur as well as professional anglers. The disciple of Isaak Walton will find that, while the subject matter is condensed and made free from technicality and literary extension, nothing of value has been omitted. The work covers a ground embraced by no other volume, and will prove valuable as a reference-book to all lovers of the gentle art.

The extent of the territory and waters referred to does not range beyond the inland streams and sea-coast of our Eastern and Middle States. Apart from a few kinds of fish that swim in the great chain of Northern Lakes, save Black Fresh-water Bass and Pike-Perch, hardly any

varieties occur inland, toward the Mississippi River, that draw the attention of either naturalist or angler. Not until the shores of the far Pacific are reached does angling again become remunerative and interesting.

CONTENTS.

	PAGE		PAGE
<i>Alosa Præstabilis</i>	29	Eel	40
American Butter-fish ...	54	<i>Esox Estor</i>	58
Do. Yellow Perch	35	<i>Do. Reticulatus</i>	37
<i>Anguilla Tenuirostris</i> ..	40	Fishing in the Pacific ...	83
Barb	45	Flounder	39
Big Porgee	42	Fresh-water Bass	24
Black Bass	21	Glass-eyed-Pike	35
Black-fish	48	Green-fish	33
Black Fresh-water Bass.	21	<i>Gunnellus Mucronatus</i> ..	54
Black Sea-Bass	25	Herring	79
Blue-fish	33	Horse-Mackerel	33
Bonito	46	Implements	7
Brook Trout	60	King-fish	45
Butter-fish	54	<i>Labrax Lineatus</i>	26
<i>Catostomis Communis</i> ..	28	Lake Trout	67
Cat-fish	53	Do. White-fish	47
<i>Centrarchus Aeneus</i> ...	24	Lafayette-fish	51
Do. <i>Fasciatus</i> .	21	<i>Leiostomus Oblitqueus</i> ...	51
<i>Centropristes Nigricans</i> .	25	Localities	10
Chub	28	<i>Lucioperca Americana</i> .	35
Cod	52	Mackerel	31
Common Cat-fish	53	Mackinaw Salmon-Trout	59
Do. Sucker	28	Massachusetts Flounder .	39
<i>Coregonus Albus</i>	47	<i>Merlangus Purpureus</i> ..	55

	PAGE		PAGE
Memoranda.....	17	<i>Salmo Salar</i>	71
<i>Morrhua Americana</i> ...	52	<i>Sargus Ovis</i>	43
Muskellunge	58	Scappaug	42
New York Black-fish .	48	<i>Scomber Colias</i>	32
Do. Flat-fish... 39		<i>Do. Vernalis</i>	31
Do. Pollack.... 55		Sea-Bass.....	25
Do. Tautog.... 48		Sea-Chub.....	51
New York Retail Market		Shad	29
Prices	94	Sheepshead.....	43
<i>Osmerus Viridescens</i> ...	56	Smelt	56
Oswego Bass.....	24	Spanish Mackerel.....	32
<i>Otolithus Regalis</i>	49	Spotted Bass.....	25
<i>Pagrus Argyrops</i>	42	Do. Gunnel.....	54
<i>Pelamys Sarda</i>	46	Spring Mackerel.....	31
<i>Perca Flavescens</i>	35	Striped Bass.....	26
Pickrel.....	35, 37	Do. Bonito.....	46
Pike	35, 37	Do. Sea-Bass.....	26
Pike-Perch.....	35	Sucker.....	28
<i>Pimelodus Catus</i>	53	Tautog	48
<i>Platessa Plana</i>	39	<i>Tautoga Americana</i> ...	48
Porgee	42	<i>Temnodon Saltator</i>	33
Pollack.....	55	Trolling in Barnegat	
Prefatory	3	Bay	13
Rock Bass	24	<i>Umbrina Alburnus</i>	45
Rock-fish	26	Wall-eyed Pike	35
<i>Salmo</i>	67	Weak-fish	49
Salmon.....	71	White-fish.....	47
Salmon-Trout.....	69	White Trout	67
<i>Salmo Amethystus</i>	59	Whiting	45
<i>Do. Confinis</i>	69	Yellow Perch	35
<i>Do. Fontinalis</i>	60	Yellow Pike-Perch....	35

IMPLEMENTS.

RODS.—The strongest and most elastic are of split bamboo ; ash-wood and lance-wood are sometimes used. For fish of from two to three pounds, rods of from six to seven ounces are taken ; for six-pound fish, corresponding rods should be from eight to nine ounces. Trolling-rods with rings attached.

REELS.—Plain click-reels are to be commended, of sizes to carry the required length of lines. Brass ones, stained black, are favored.

LINES.—Of water-proof braided silk, braided raw-silk, braided linen or flaxen, braided cotton, India-grass as may be preferred. The silk and hair combination has many opponents. Lines are made water-proof by being soaked overnight in fish-oil and hung up to drain for a day ; thereafter dried in sawdust.

LEADERS.—Of silk-worm gut, varying in sizes, and in lengths ranging from five to eight feet. Let them be round, smooth, and well-tapered.

SINKERS.—Leaden, ringed or cast, according to fancy.

HOOKS.—The preferred patterns are “Limerick,” “Kendal,” and “Carlisle.” Trout, Cod, Black-fish hooks, and several others are graded specially.

ARTIFICIAL FLIES.—The use of three or four different colors and varying shapes is recommended for one kind of fish ; their employment varied in accordance with the attendant success. It is not pretended that Salmon-flies really imitate the color or form of any known insects, but are spontaneous evolvments from the consciousness of anglers and tackle-makers.

General shape, general color, and size, are all that can be distinguished by the fish. These are the points, therefore, to be kept in view in the construction of artificial flies.

The object of the dry-fly is evident from its name—it is made to float dry on the water, like the natural insect.

ARTIFICIAL FLY-BOX.—Flies should be carried in a box, instead of being pressed together in a book, a process which robs them of elasticity.

ARTIFICIAL BAIT.—Squids of nickel-plated, burnished tin, bone, or pearl, imitations of small fish and insects, and red rags, attract all kinds of ravenous feeders.

SNELLS made of piano-forte wire take the place of gut leaders with large fish.

FLOATS are either of cork, quills, reed, or hollow red-cedar.

GAFF-HOOKS.—Japanned, with six or seven foot handles of hickory, for landing large fish stranded in shallow water, or when fishing from a boat.

SWIVELS attached to sinkers ; those of brass or steel are to be commended.

LANDING-NET, with handle from four to five feet in length.

LOCALITIES.

MAINE.

Large Rivers.—Salmon.

Small Rivers.—Black Bass, Sucker, Perch, Trout.

Lakes.—Trout, Perch, Pickerel, Pike-Perch.

Bays and Coast.—Bass, Mackerel, Weak-fish, Flounder, Cod, Pollack.

MASSACHUSETTS, ETC.

Rivers.—Black Bass, Perch, Sucker.

Bays and Coast.—Mackerel, Cod, Tautog, Blue-fish, Bass, Weak-fish, Flounder, Porgee, Bonito, Butter-fish, Pollack.

RHODE ISLAND, ETC.

Bays and Coast.—Bass, Tautog, Spanish Mackerel, Blue-fish, Flounder, Porgee, Butter-fish, Cod, Pollack.

CONNECTICUT, ETC.

Large Rivers.—Shad, Yellow Perch.

Small Rivers.—Black Bass, Sucker,
Perch.

Coast.—Bass, Tautog, Flounder.

LONG ISLAND.

Bays and Coast.—Lafayette-fish, Cod,
Butter-fish, Pollack, Mackerel, Porgee,
Flounder, Blue-fish, Sheepshead, King-
fish, Bonito, Bass, Tautog.

NEW YORK.

Large Rivers.—Shad, Yellow Perch, Bass,
Sucker, Smelt.

St. Lawrence River, etc.—Muskellunge,
Salmon-Trout, Pickerel, Pike-Perch,
Salmon, Black Bass.

Small Rivers, etc.—Black Bass, Rock
Bass, Cat-fish, Sucker, Perch.

Adirondack Brooks.—Brook Trout.

Large Lakes.—Cat-fish, Muskellunge,
Lake Trout, White-fish, Black Bass,
Oswego Bass, Pike-Perch, Pickerel.

Small Lakes.—Lake Trout, Pike-Perch, Yellow Perch, Black Bass, White-fish, Rock Bass, Pickerel, Cat-fish.

New York City Bays.—Bass, Tautog, Porgee, Sheepshead, Smelt, Butter-fish, Weak-fish, Flounder.

NEW JERSEY.

Rivers.—Sucker, Perch, Cat-fish, Bass, Smelt.

Lakes.—Pickerel, Cat-fish.

Bays and Coast.—King-fish, Lafayette-fish, Smelt, Butter-fish, Tautog, Bass, Weak-fish, Sheepshead, Blue-fish, Porgee, Flounder, Bonito.

PENNSYLVANIA.

Rivers.—Perch, Weak-fish, Pickerel, Bass, Sucker, Shad, Pike-Perch, White-fish, Cat-fish.

Lakes.—Pickerel, White-fish, Cat-fish, Lake Trout.

LARGE NORTHERN LAKES.

Muskellunge, Mackinaw Salmon-Trout, Salmon-Trout, Pike-Perch, Rock Bass, Cat-fish, Pickerel, White-fish.

TROLLING IN BARNEGAT BAY.

IN the lower end of Barnegat Bay, south of the inlet, there are numbers of pound and gill seines set, and quantities of fine fish are caught in them; but that mode of fishing is not permitted above the inlet. Except in the two channels, where the water varies from 9 to 14 feet in depth, the bay generally is shallow, say from 18 inches to 7 feet at high water, and at low water wide expanses of sedge and eel-grass are exposed. From the 1st of July until well on in September each incoming tide brings from the ocean great schools of Weak-fish, big, yellow-finned, "tide-runners." They dart over the flats where the water is only three or four feet deep and scour the sloughs and along the edges of the channels, snapping up shrimp, small fishes, soft crabs, and any other edibles

that come in their way. Here and there, where there are patches of coral, Sheeps-head abound, some of them ranging as high in weight as 17 to 18 pounds. King-fish and Blue-fish—seldom more than two pounds in weight—are numerous; but the most abundant is the Weak-fish. It is not at all an uncommon thing for an expert angler to take from 200 to 300 on a single tide, if he goes simply for numbers and is satisfied with small fish; but even of the big ones, ranging from two to three pounds, he may easily get from 50 to 75 on a tide if he goes out with a “skipper.”

When the Weak-fish season is drawing to a close, on such days as the weather permits—and there are few exceptions to that condition—the cat-rigged sloops used in the bay go outside, over the bar, and there is grand sport fishing for Blue-fish and “croakers”—the latter a white fish, very good to eat, weighing from five to eight pounds. When the frost comes the Bass appear all along this coast in myriads and penetrate the bay, where they are caught

until so late in the year that they have to be dragged out through holes cut in the ice. That there are, in season, Flounders galore in the bay goes without saying, and now and then one pulls up a skate; but this body of water is comparatively singularly free from those common nuisances and curses to anglers in salt waters near New York—the Sculpins, Gurnards, Sea-spiders, Begalls, Dog-fish, Hammer-headed Sharks, and other pertinacious bait thieves.

The hotels of Ocean County charge \$2 a day; that includes the ample lunch aboard the boat, free transportation to the landing-place and back as often as desired, cold storage for the catch of fish, etc. The hire of the boats—cat-rigged sloops, 20 to 24 feet in length—is \$4 per diem, for which the captain not only sails the boat as long as desired, but cleans the fish, gathers the fresh cedar swamp moss to pack them in, packs them in boxes or baskets, and stows them away in the ice-house ready for shipment next day. Shrimps, for bait, cost

seventy-five cents per quart, and are exceedingly small. It takes three to make a decent bait. Shedder-crabs are uncertain of supply, and when found are small ; those who want that sort of bait had better bring it from New York. The Weak-fish here are not so dainty in their tastes as they seem to become by the time they get to Prince's Bay, and Shedder-crab is by no means a necessity for catching them. Not infrequently when they are running in on a flood tide they will snap eagerly at a chunk of fresh Blue-fish or even a piece of a Weak-fish. It is not advisable to send fish back to the city by the express company if it can be avoided. Delivery is too much delayed and uncertain.

MEMORANDA.

AN angler standing without motion is unheeded by the fish. As a general thing he should be concealed. It is well to be attired in plain, dark clothing and wear hob-nailed shoes, to prevent slipping off rocks and stones into the water.

Before casting, unreel of line three or four times the length of the rod. As soon as the flies have touched the water, the rod should be gradually raised toward the perpendicular.

The fly, after being thrown, should be kept gently moving, immediately above the surface of the water. Cast quietly and carefully around big stones, at the edge of weed-beds and the like. Always use a landing-net. In a lake to drag a fish out by the line is almost sure to lose it.

In *drawing* hold the rod with the left

hand and reel with the right. When the fish is hooked be on the alert to get away from logs and briers.

Trolling is done from the stern of a boat, with a guide to row or sail the craft. Fish on the hook are disposed to run under the boat, for succor or shelter. Some think that the calm after a storm is the best time for trolling; others, that a windy day is best. It is good weather when the mercury is well up in the barometer and there is a gentle breeze; also when the sun looks with a modest face, it is much better than when the god of day is red, or glares with a golden stare. The best fishing is had just after sunrise and at or just after sundown, when most fish are in quest of food. Settled weather is favorable; changeable weather prognosticates uncertain sport.

In all fly-fishing, whether on lake or river, a moderate, rippling breeze and a checkered sky are advantages; doubtless because they help conceal the counterfeit fly and lessen the glitter of the gut.

The best places to fish in any river are usually not where there are the most fish, but where they can be most easily caught. These places are moderately rapid runs ; scours, or " stickles," where the water is of a medium depth, and carries a brisk ripple or curl ; pools with a sharp current through them ; and mill-tails, weirs, and eddies.

Deep, stagnant, lagoon-like reaches can only be fished with success when there is a good breezy ripple on them.

Water that is *thickened* is always bad. It prevents the fish seeing the flies on the top, and brings down with it ground-food, which fixes their attention on the bottom. The presence of any large number of natural flies on the water is bad.

When the fishing season is over, your rod should be cleaned, oiled, and put away in a cool place, in readiness for the next campaign. The best of wood that a rod can be composed of, if exposed for a length of time in a dry atmosphere, will shrink. All lines, after being used, should be run off from the reel and laid out, or

stretched on pegs to dry. Should they have been lying by for any length of time, they should be examined and tried in every part before using. Lines will chafe and fray out by constant use.

BLACK FRESH-WATER BASS.

Centrarchus Fasciatus.

COMMONLY known as "Black Bass." This fish inhabits the lakes and rivers of the Middle and New England States, including the Niagara and St. Lawrence Rivers.

They are sought for from May to July, and again in September and October. August is their spawning time, when the fish are in poor condition.

Among the denizens of our inland waters, with the single exception of Trout, no fish are such favorites with anglers. Their capture affords much sport, and the kitchens delight in their presence. Black fresh-water Bass are active, muscular, and free biters. They harbor frequently

on bars and shoals, near rocks. Usual weight from two to four pounds.

For tackle use rod of from nine to twelve feet; line, fly tapered, of from one hundred to two hundred and fifty feet; silk-worm-gut leader of four or five feet; hook, small Bass size. For trolling use rod from eight to eleven feet, with click-reel, and spoon or other artificial bait. For bait use worm, frog, crawfish, and small live fish.

The respective merits of the Brook Trout and the Black Bass as a game fish have long been a question for debate between anglers, and the result has been the publication of much valuable information upon the respective fish. Their habits from their birth to their capitulation are now thoroughly understood, but where they most abound is not so well known, and fishermen who may happen to alight upon good ground generally conceal its location.

Lake Gagebic and other waters in Michigan are noted for their plenitude of Black fresh-water Bass.

There are no fish in Gagebic save the two species of Bass, the small mouth and the large mouth (Oswego); the former predominate as about four to one. They appear in schools covering acres in extent and playing near the surface of the water.

In two hours a party took seventy Bass, of which forty were returned to the water uninjured, as being under weight, while all weighing upward of one pound and a half were preserved, the largest barely reaching the four-pound notch on the scale.

The lure in general use is a No. 4 trolling-spoon. When once this fish grasps the triple hook in his ravenous manner, he is fatally impaled in both jaws, and rarely escapes. The favorite bait is live minnows, pieces of fins, artificial *helgramite*, or any other decoy that can be used on a single hook. The supply of Bass in Gagebic is inexhaustible, and any person can at any time take all the fish he wants legitimately with hook and line.

OSWEGO BASS.

We are not familiar with the scientific name of this species. It is frequently confounded with the fresh-water Black Bass, but seems to differ in several particulars—being larger-bodied, larger-headed, broader, with tail more forked, larger-scaled, and *eye devoid of red*. Weight from five to eight pounds. In point of flavor it does not rival the other species. As a fish, however, it is equally active and gamy.

Taken in most New York lakes and interior streams; also in the Ohio and St. Lawrence Rivers.

Fishing is similar to that of the fresh-water Black Bass.

ROCK BASS.

Centrarchus Æneus.

Sometimes called "Fresh-water Bass." Found in all the Great Northern Lakes; also in Champlain Lake, Oneida Lake, and other lakes; also in the Upper Hud-

son and other rivers of the interior of New York State.

Rock Bass favor shallows and the outlets of brooks. Usual weight, half to one and a half pound. They are fair game and bite freely. Of common occurrence.

Are taken with squids and artificial bait; also with crawfish, Shiner, clam, and grasshopper.

SPOTTED BASS.

Its scientific name is unknown to us, and its habits are unfamiliar.

A fresh-water fish, of good flavor. Said to be common in the inland waters of the Middle and near-by Western States.

Taken with the feathered squid and other artificial lure. For bait the use of small fish and grasshopper are recommended.

SEA-BASS.

Centropristes Nigricans.

More correctly "Black Sea-Bass." Come to New York in shoals from the South, and continue from May to August.

Black Sea-Bass are deep-water bottom-feeders, fond of mussel-beds and sea-weed. They mostly feed between change of tides and rarely venture beyond bays and inlets. Are wild, ravenous, and bite freely.

Habitat from Maine to Georgia. Ordinary weight from three to five pounds.

For tackle use strong flaxen line of from two hundred to two hundred and fifty feet. Herring's Sea-bass Hooks, Nos. 12T to 20T (or Kirby's Nos. 1 and 2), and sinker of one pound.

Bait with shrimp, clam, soft-crab. Draw in with taut line. After their bite pull resolutely and quickly.

STRIPED SEA-BASS.

Labrax Lineatus.

Also known as "Striped Bass" and "Rock-fish." Found off the coast and in bays and estuaries from Maine to Carolina. They breed at the fresh-water heads of ocean-debouching streams. Said to reach Lake Ontario by way of the St.

Lawrence River. Usual weight from five to twelve pounds ; but some grow to seventy-five pounds. They are captured off New York from May to October. Large schools are on the move off Long Island and New Jersey during September.

Small and medium striped Sea-Bass are rated among our best fishes ; large ones are coarser and less desirable. Many are taken on rocky shoals and in quiet waters. They are active and bite boldly. Occasionally they are angled for with a fly of the large and gaudy kind. The best sport is had in trolling with squid or artificial bait.

For tackle use stout rod from eight to nine feet ; line of flax or silk, from three hundred to four hundred feet ; hook—Salmon 7/0 on single gut leader ; use swivel sinker, and gaff-hook for securing large fish. Bait with clam, crawfish, shrimp, and small fish.

SUCKER.

Catostomis Communis.

ALSO known as "Common Sucker" and "Chub." Found in the Hudson and Delaware Rivers and their tributaries; also in other rivers and many of the lakes of the Middle and New England States. Taken from August to November.

A low-priced and abundant fish in our markets, of little account for table use. But like the Carp, if well spiced, seasoned, and gravied, this fish may be rendered quite palatable.

Tackle same as for Trout. For bait, worms are preferred.

SHAD.

Alosa Præstabilis.

ARE rarely angled for in Northern waters, but taken in large numbers with gill-nets, as they ascend rivers from the sea.

These they enter and descend for the purpose of spawning, and after annual ocean visitations the Shad return, in separate divisions, to their native streams.

“Up-river” Shad are marketable; “down-rivers” out of condition and not captured. They enter the Hudson in March or April, and descend in May and June.

Epicures prize the unctuous females and their roe. Male Shad are smaller fish; but their flesh is firmest and finest grained. Connecticut River Shad have a predominant reputation for flavor. Usual weight from three to five pounds.

Within the past few years net-fishing has been recklessly pursued, and the fish are becoming less numerous.

We first hear of Shad on our coasts in January and February, when they ascend the Savannah River. Thereafter they advance northward, and are announced as successively entering the North Carolina sounds, Norfolk Bay, James River, Chesapeake Bay, Potomac River, Delaware River, Hudson River, Connecticut River, and so on as far as the waters of Maine.

For angling use a strong Trout-rod, long line and large, gaudy fly.

MACKEREL.

Scomber Vernalis.

ALSO known as "Spring Mackerel."

The well-known "crop" fish that haunts the Northern American Continent in countless numbers. Very plenty off the coast of Maine and Massachusetts; less plenty on New York and New Jersey shores.

They appear on the broad ocean, off Long Island, in May and June. In more southerly latitudes these fish become less frequent, and the fishery is unimportant.

Market providers give some attention to mackerel-fishing; with anglers their catch is of no account.

Mackerel are easily captured; they appear in large numbers and bite freely. As they rarely enter bays or inlets, the fishing is done from boats.

Use for hook, "Limerick Salmon"
No. 0; bait with red flannel.

A handsome, active, and gamy fish ;
but too oily to be easily digestible.

SPANISH MACKEREL.

Scomber Colias.

A highly prized variety. Most frequent southward, but ranging from Georgia to Massachusetts. In New York they are taken during August and September.

A remarkably handsome fish. Usual weight from two to six pounds. They appear in shoals off shore.

Trolling is the preferred way for taking them ; rod and reel are rarely used. The fishing-line should be snelled. Squids are employed ; for baiting use shedder, shrimp, or small fish.

BLUE-FISH.

Temnodon Saltator.

Also known as "Horse-Mackerel" and "Green-fish." Their arrival in numbers off the shores of Long Island was first remarked in 1817. Before that time they were rarities. The present distribution extends from Massachusetts to Florida and into more southerly countries.

Immense schools move off the shores of Long Island and New Jersey from June to September. Usual weight from two to six pounds; some of twenty and twenty-five pounds are taken.

Their visits are somewhat erratic and their numbers greatly varying.

When freshly drawn and promptly served for the table few fish are as highly flavored; but if laid by several hours their quality is greatly impaired.

In the wide ocean, near shore, schools of these fish may be seen preying on Weak-fish, King-fish, and Menhaden.

Blue-fish are voracious and far from shy. They are mostly taken from boats with squids of burnished tin, bone, pearl, or cedar. Sometimes red flannel is used. Off the New Jersey shores amateur fishermen throw long lines from shore, far away into deep water, and draw in their squids rapidly, hit or miss, along the sandy bed of the ocean.

From boat haul in briskly, with an even, steady pull.

Tackle: bamboo or ash rod of from eight to ten feet; line of braided cotton, from seventy-five to two hundred feet; attach eight-inch snell of piano-wire; hook, sizes 6/0 to 10/0. Bait with flesh, or any small live fish.

YELLOW PERCH.

Perca Flavescens.

ALSO known as "American Yellow Perch." Usual weight from one to three pounds. Common in the interior streams and lakes of New York, Pennsylvania, Ohio, and the Eastern States, and in the large Northern lakes.

Taken at all seasons from schools, in shoal water near shore, and on bars in deep water. They bite boldly, prefer sunshine to shade, and are wary of anglers. In best condition from May to July.

For tackle use rod short and stiff; Limerick Trout-hook Nos. 4 to 8; Trout-line; sinker. Bait with worm, shrimp, or small fish.

PIKE-PERCH.

Lucioperca Americana.

Vulgo, "Wall-eyed Pike," "Glass-eyed Pike," "Pike," "Pickerel." Cor-

rectly, "Yellow Pike-Perch." A true Perch.

Usual weight from five to ten pounds. Inhabits all the Great Lakes, the smaller lakes of New York and Pennsylvania, the Mohawk and other rivers of Western New York and Pennsylvania, the Ohio River, Maumee River, etc.

They often lie at the foot of rapids, beneath mill-dams, hid under the shade of weeds and grass, in ambush for prey.

Pike-Perch bite ravenously, particularly so during thunder-showers. Are favorite game with anglers. In deep waters their range is from thirty to fifty feet below the surface.

For tackle use strong line, two hundred to three hundred feet, kept taut and gently in motion; rod same as for Striped Bass; hook, Limerick Salmon, Nos. 4 and 5; bait, squids, or small live fish, crawfish, live frog, etc.

PICKEREL.

Esox Reticulatus.

ALSO known as "Pike." Inhabits the Great Northern Lakes, the lakes and rivers of the Eastern and Middle States, Ohio and St. Lawrence Rivers, etc.

Their ordinary weight ranges from eight to twelve pounds, but occasionally much heavier ones are captured.

Pickerel can be taken from May onward, but are at their best within the months of autumn. They swim singly, are fond of concealment and shade, and favor the outlets of small streams. Do not swim deeply. They are gamy, bold, and voracious.

For tackle use stout Bass-rod, of from ten to fourteen feet, with click-reel; stout silken or oiled flaxen line, of from one hundred and fifty to two hundred and

fifty feet, protected with gimp or wire near the hook; hook, Limerick or Kirby Salmon, Nos. 0 to 5; sinker is useful in running streams. Trolled for with artificial minnow and spoon. For bait use small live fish, live frog, or large worm.

FLOUNDER.

Platessa Plana.

ALSO known as "New York Flat-fish" and "Massachusetts Flounder." *Habitat* from Maine to Delaware.

The color of Flounders is variable. They occur in plenty in bays and estuaries, and run up rivers as far as salt-water extends. Are fond of soft, mud bottoms. May be taken from June to November, but are at their best during autumn.

Tackle same as for small Perch ; hooks, Nos. 7, 8, and 9 ; bait with clam.

EEL.

Anguilla Tenuirostris.

STRANGE so lowly a thing should have so extraordinary a scientific name !

This water "sarpint" is hardly fair game for so dainty and epicurean a hunter as the angler ; but since Walt Whitman has "done him up" with his "eel-spear" in the form of "Great American" poetry, we are not justified in excluding the Eel from our list of fishes.

Eels are practically taken with the eel-pot, and by torch-light with the eel-spear, or with set lines.

They feed voraciously on all kinds of animal matter, fresh or stale ; thrive equally well in salt or fresh water ; surmount rapids and rocks by serpentine crawling among the crevices ; sometimes migrate by night overland from stream to stream, or enter

kitchen-gardens, for a change to vegetable diet.

Being abundant, savory, and nutritious, they are sought for by boys, tramps, and amateur negro fishermen in the soft bottoms of our bays and creeks during the greater part of the year. To the angler their capture affords no sport and is deemed a laborious, lowly business.

For tackle use flaxen line, protected with gimp or wire near the hook ; hooks, from Nos. 7 to 9 ; let sinker touch bottom. Bait with worm, frog, clam, shrimp, flesh, etc.

PORGEE.

Pagrus Argyrops.

ALSO known as "Big Porgee" and "Scappaug." Common in bays and inlets, all the way from Massachusetts to Georgia. Most frequent during the summer months.

A coarse-boned fish, held in little estimation.

Taken in great numbers in the bays surrounding New York City. Usual weight from half to two pounds.

For tackle use strong flaxen line, two hundred to three hundred feet; rod ten to twelve feet; Black-fish hook No. 3; pound sinker with swivel; leader of single gut. Bait with shrimp or clam.

SHEEPSHEAD.

Sargus Ovis.

ONE of our best flavored fishes. Among the angling fraternity it is deemed a "plug," as its capture is laborious and affords no sport. Most are taken in a matter-of-fact way, with nets and spears. They are wary, resentful, and difficult to land.

Usual weight from eight to twelve pounds. Sheepshead frequent bays, lying on submerged rocks, in mussel-beds, and near old wrecks.

They migrate in schools. The catch lasts from June to October. *Habitat*, from New York to Georgia.

For tackle use stout flaxen or cotton twisted line, two hundred to four hundred

feet, large Black-fish hook, and one-pound sinker.

Sheepshead are best managed with hand-line. If the rod is preferred, let it be stiff and stout, and use landing-net.

KING-FISH.

Umbrina Alburnus.

Also known as "Whiting" and "Barb." Abundant off the coast of Florida and far as North Carolina; uncommon near New York, and rarely seen off the shores of Massachusetts.

Usual weight half to three pounds. Prized for its flavor. Gradually becoming rarer.

The habits of the King-fish are little known. It enters lagoons and inlets, is partial to deep water, and bites freely.

For tackle use rod of from eight to ten feet; fine linen line, two hundred to three hundred feet; hook, Limerick Salmon No. 4, or Bass No. 6; leader of gut, three feet. Use swivel, sinker, and float. Bait, soft crab, shrimp, and shedder.

BONITO.

Pelamys Sarda.

ALSO known as "Striped Bonito." The common name is evidently Spanish. Usual weight from six to ten pounds.

A recent comer from the South to more northerly shores, in limited numbers, far as the coast of Massachusetts.

The Bonito is gamy. Its flesh is prized for the table. Small schools run along the shores of Long Island from the middle of August to the middle of October.

Trolling is done with squids of metal, bone, or cedar-wood. Use large-sized Blue-fish tackle and fish same as for Blue-fish.

WHITE - FISH.

Coregonus Albus.

Also known as "Lake White-fish." A northerly species. Taken extensively in Lakes Huron, Michigan, and Superior; fewer in Lakes Erie and Ontario. They also occur in Central New York and the New England States.

Usual weight from three to five pounds.

Most are netted from July to September. Trolling is done with spoon, or small live fish. They are wary of hook and line, and not angled for with the fly.

TAUTOG.

Tautoga Americana.

Also known as "New York Tautog" and "New York Black-fish." They frequent our coast from Massachusetts to Virginia, from May to October. Usual weight from two to four pounds; some few attain ten or fifteen pounds.

Tautogs are found near rocks, reefs, and wrecks, in shoal water; do not ascend rivers. They retire into deep water in gloomy weather, and are shy of thunder. No fish of their size pull more strongly or bite sharper.

The angling is all bottom-fishing. Trolling is done with a stout rod of from twelve to fifteen feet. Line flaxen, from seventy-five to one hundred feet, with snell; hook, Black-fish, from No. 10 downward; use sinker. Bait with clam, crab, shrimp, worm, mussels, or flesh. Pull firmly and quickly.

WEAK-FISH.

Otolithus Regalis.

A "WEAK-MOUTHED" fish, that easily tears away from the hook. It is found off our coast all the way from Maine to Florida, and from June to November.

Usual weight from one to four pounds. Occasionally one of twenty and twenty-five pounds has been captured. The flesh is of secondary quality.

Weak-fish are savagely pursued by the mightier Blue-fish, and from year to year, since the advent of the "Blues," have become scarcer in our markets.

They move in shoals, entering inlets and bays and the tidal parts of rivers, but do not ascend to fresh-water heads of streams. In New York bays they are chased by Porpoises. Weak-fish bite sharpest at ebb-tide, and are angled for in shoal water.

Tackle : stiff rod from eight to nine feet ;
line of linen, two hundred to three hundred
feet ; leader of gut ; hook, No. 1 Kirby,
snelled ; sinker with swivel ; bait, shrimp,
crab, clam, Menhaden. Troll with squids.

LAFAYETTE-FISH.

Leiostomus Obliquus.

SOMETIMES called "Sea-Chub."

First appeared in numbers in 1824, during the last visit of General Lafayette to this country; hence their popular name. They continue to visit us, being rare in some years and in others quite plenty.

Although small, these fish are highly prized for flavor.

Taken from June to August in bays, shoal waters, and river-mouths by the sea.

Habitat, New York to Georgia.

COD.

Morrhua Americana.

PROFESSIONAL Cod-fishing is too well known as an important commercial industry to call for any remark in our short treatise. Their range is from the coast of New York northerly beyond the Banks of Newfoundland. Usual weight from five to fifteen pounds. In the New York markets the inferior Haddock (*Morrhua Æglefinus*), in the language of marketmen, is sometimes "shoved off" for genuine Cod-fish. The counterfeit is smaller sized, with different markings, and dryer flesh.

Off New York Cod are fished for from boats. For tackle use from one hundred to two hundred feet stout cotton or hempen line; small Cod hook or large Black-fish hook; pound sinker. Bait with clam, Menhaden, small fish, or soft crab.

Cod swim in schools. They bite sharply and voraciously.

CAT-FISH.

Pimelodus Catus.

ALSO known as "Common Cat-fish."
Inhabits all the Great Lakes; also the inland waters of New England and all the Middle, Southern, and Central-western States, far as the Mississippi River.

Usual weight from half to three pounds. A mud-bottom fish; abundant and easily captured. They bite freely, but faintly. Are frequent above mill-dams. Taken from April until November.

Fish with rod or hand-line; use Limerick Salmon-hooks, Nos. 1 to 5; bait with worm, cheese, meat, insects, or small fish.

BUTTER-FISH.

Gunnellus Mucronatus.

Also known as "Spotted Gunnel" and "American Butter-fish." *Habitat*, from Massachusetts to New York. They are taken in New York Bay and Newark Bay.

Butter-fish are local and of limited range. They are small, and in form elongated.

Fished for on shoals and among rocks. Swim rapidly when alarmed and are partial to mud bottoms.

POLLACK.

Merlangus Purpureus.

ALSO known as "New York Pollack."

By no means common off the coast of New York, but numerous in spring and autumn directly north of Cape Cod. They range far north as Maine.

Usual weight from eight to ten pounds.

Tackle : use same as for Tautog.

SMELT.

Osmerus Viridescens.

DIFFER from the Smelt of Europe in several particulars.

The name refers to their peculiar "smell," which resembles the odor of cucumbers, and is strongest when the fish are first captured. Dishonest dealers sell "Tom-cod" for Smelt. These are low-priced, inferior, and without odor or flavor.

Smelt are plentiful in the neighborhood of New York City, in such waters as the Passaic, Hackensack, Raritan, and Hudson Rivers, and small tidal creeks. They spawn at the head of fresh-water streams.

Emigrating from the north they appear in New York Bay in November and December. The catch extends from Maine to Maryland.

For tackle use silk line, or silk and hair line; Limerick Trout hooks, Nos. 2 to 5, on single gut leaders; a sinker is recommended, to overcome the tide. Bait with shrimp, minnow, or piece of frog.

MUSKELLUNGE.

Esox Estor.

FOUND in Lakes Huron, Michigan, Erie, and others; also St. Lawrence River, Niagara River, and sundry large streams, of Western New York.

A bold, ferocious Pike, wild and strong on the hook. Usual weight from five to twelve pounds, but frequently attains to thirty and over. Prized for its flavor.

Many are taken with the seine. They prefer muddy water, lying among weeds, in ambush for smaller fish. This water-tiger will successfully attack any marine animal, up to its own size, including Pickerel and Pike-Perch.

Trolled for, they bite freely at tin squid, red rag, artificial minnow; are fond of worm, pork, frog, and small live fish.

For tackle use rod of ten feet, Cod line, and Cod hooks.

MACKINAW SALMON-TROUT.

Salmo Amethystus.

SOMETIMES called "Mackinaw Salmon." A gigantic lake trout, and the largest species of the genus *Salmo*. The flesh is reddish. Its usual weight runs from twelve to fifteen pounds, but specimens have been taken that exceeded one hundred pounds. The fish has little flavor.

Habitat, the cold, deep Lakes Superior, Huron, and Michigan; some few find their way into the shallow waters of Lake Erie.

Mackinaws are bold and powerful, and bite freely; large fish run away with bait, hook, and man. In summer they home in deep water, but in spring approach the shore for feeding purposes. The early part of the year is the usual time for

angling. After a bite allow the fish to gorge the bait, and then pull alertly and steadily.

Fishing is mostly done with set lines, or by trolling. A gaff-hook will be found useful.

For tackle use rod stiff and heavy; line, oiled flaxen, same as for large Cod; leader four feet long, of twisted gut; swivel sinker; hook, large Cod, or No. 1 Limerick Salmon. For fly-fishing employ large gaudy fly. Bait, squids, red rag, small live fish, and pieces of flesh.

BROOK TROUT.

Salmo Fontinalis.

Inhabit the brooks and small mountain streams of the wild and untravelled parts of our Middle and Eastern States. Some few are found in the northern parts of the near-by Western States. A century ago all the small interior running waters of New York and New England were plentifully supplied with these fish.

With anglers Trout are the universal favorites, their pursuit and capture affording the maximum of piscatorial recreation and enjoyment. As fish they are unsurpassed for beauty of form and colors; for sprightliness and gamesomeness they have few equals. In the city Trout are a luxury, found on the tables of high-priced restaurants.

Whether or not Brook Trout, Lake Trout, and Salmon-Trout were originally the same stock, now modified by transplantation and other conditions, is a moot-point, not fully determined. All we know is their tendencies have undergone modification, their development is influenced, and their flavor affected by change of food and habit.

The usual weight is from half to one pound; in Maine some have been taken of eight pounds; in the Adirondacks above five pounds. They spawn in shallows, at the head of brooks, in September and October, and are angled for in spring, until the early part of summer.

Tackle: rod of split bamboo, ash, or lance-wood, with click-reel attached, from twelve to sixteen feet ; line of braided silk, or hair, or grass, fly-tapered, from fifteen to twenty feet ; single leader of silk-worm gut ; hooks, Nos. 5, 6, 7, and 8 ; of bright artificial flies about six kinds of differing colors. For bait use live minnows or red worm.

Successful fly-fishing demands skill, obtained by practice and observation. In casting shake the fly immediately over the face of the water and throw anew repeatedly and gently. If the lure prove unattractive change its shape and color. Strike by turn of wrist, and not with the forearm. Large fish must be allowed to tire themselves out in the water before being landed. Heavy Trout hook themselves more readily than small ones. It is advisable to learn to use the rod with either hand.

Like Salmon at spawning-time, Trout overcome rapids and other obstacles by leaps. Their natural feeding-time is at dusk of morning and evening, when they

may be seen in shallow water chasing natural flies and minnows; then they bite most freely. Many hide beneath tree-roots and boughs that overhang banks, or lurk in overgrown or weedy holes.

Trout seem to be well informed about pole, line, and fisherman. The following hints are taken from the note-books of expert anglers :

In working toward an old Trout, lying in shallow water, never cast at him until within reach, but cast to one side; when within a fair distance, drop the flies lightly in front of him, and he will take them. When a fish is hooked, the rod should be reversed by holding it in the left hand and reeling it up with the right; that bends the rod the other way, and in that manner it will remain straight.

In angling in much-fished streams caution is necessary in wading and casting. In some of the New York and Pennsylvania brooks one can distinguish Trout fifty to one hundred feet ahead in shallow clear water, by their shadow; a long delicate

cast, with a fine leader and small flies, is necessary to insure success. It is not uncommon to see anglers come from a day's fishing with no Trout, or only a few fingerlings, when a good fisherman, fishing scientifically, will show a full creel. The reason: one uses coarse tackle, gut leaders strong enough for Salmon, and flies big enough for Bass; while the other uses the finest leaders and flies—so small and delicate that the average angler will not believe they will hook a minnow, much less a pound Trout.

Do not fish with your back to the sun. Stand as far from the stream as circumstances will allow. Always throw your line from you—never whip it out.

Let the fly gradually float down, and if possible fall into the eddies where the fish retreat in case of alarm. Let your line fall into the stream lightly and naturally, and when you raise it, do so gently and by degrees.

In fishing with the fly, only a small part of the line is allowed to be in the water.

If you stand on the bank throw your line far up as possible ; you cannot expect to catch a Trout opposite or below where you are standing. If bushes intervene do not rustle them or make a noise.

Some of the largest Trout lie in the shallow water, faced up stream. They are found on the south, or shady side of the stream. It is necessary to be cautious and not show yourself ; if they see you they vanish for the day.

After a rain, when the water of the brook is a little riley, you can catch Trout with worm. A single split shot will sink your line, unless the stream is deep and rapid. Keep the point of your rod above the bait, steadily following it, as the bait drags along the bottom. When the fish takes the bait, do not let him run with it, but keep a steady hand. Do not jerk, but play with him. If the day be clear, and the stream shallow, wade up-stream cautiously, throwing your line far beyond, letting it come gradually toward you.

The largest Brook Trout are taken in the

Rangely Lakes in Maine and the Nepigon River emptying into Lake Superior. On September 29, 1883, a New York gentleman hooked at one cast in the rapid waters of Rangely two Brook Trout, both of which he landed in safety and whose united weight was sixteen and one-fourth pounds—a deed without a parallel. These were not Lake Trout, but the genuine Brook Trout—*Salmo fontinalis*. The weight given is accurate, although anglers who follow only the brooks and know nothing of the wonderful Maine waters will find it a difficult figure.

The Adirondacks still offer some good Trout-fishing, and the streams of Quebec and the Muskoga Lakes of Ontario are also excellent ground. Beyond these there is very little good trouting in the East, and the many beautiful lakes and streams in New England and New York that were once teeming with Trout now offer only the charms of solitude and lovely scenery, for the fish are gone.

The Superintendent of the New York,

Ontario & Western Railway says that the fishing in the streams along their road is much better of late years, because they are stocked with young Trout from the State fisheries. They have put millions of fish in the head-waters of the streams of Sullivan County, and the company intend to fit up a number of cars comfortably another season, and lease them to fishermen by the day. They can be sidetracked at places convenient to the best fishing, and with a porter to care for them and comfortable beds, sportsmen could enjoy a "good time" in the woods free from the restraints of hotel life.

LAKE TROUT.

Salmo.

Also known as "White Trout."

Have paler flesh, less flavor, and attain to larger size than Brook Trout. They are found in Lake Ontario, Niagara River, in many lakes of Northern New York and Pennsylvania and in those of the New England States.

Usual weight from three to five pounds. These fish mostly swim near the bottom, from fifty to one hundred feet beneath the face of the water, and in warm weather rarely rise to the fly.

The best spots for fishing in lakes are outfalls of streams, rocky patches and banks, the edges of reed-beds, and the sloping shores at the point where, without being shallow, *the water is not too deep for the bottom to be seen.* The use of a boat is an advantage in lake-fishing, as by its means not only can a greater range of water be fished, but fished in shorter time. Moreover, the margins of reed-beds and submerged banks, usually amongst the best casts, can rarely be commanded from the shore, even with wading.

Lake Trout are caught either by trolling or still-fishing. For tackle use stiff Bass rod, from twelve to sixteen feet, with click-reel attached; Cod line of silk, or silk and hair, of one hundred and fifty to two hundred and fifty feet; leaders of silk-worm gut six feet; small Cod hooks; gaff-hook

and landing-net. The fish are lured with the phantom minnow, or small spoon. If bait is preferred let it be crawfish, or small live fish.

SALMON-TROUT.

Salmo Confinis.

By some this is deemed a mere variety of Brook Trout, improved and developed by sea voyaging. Salmon-Trout are higher flavored and deeper colored than either Brook or Lake Trout.

They frequent the St. Lawrence River and its tributaries, and many smaller streams that empty into the ocean from Long Island and the Eastern States. Like Salmon, these fish run up to fresh-water river-heads and shallows during spawning time. Usual weight from two to five pounds.

Salmon-Trout are greedy feeders and make havoc among minnows and other small fish. Unlike Salmon, their stomachs are, normally, gorged with food.

When in full season, and tolerably fresh

from the sea, Salmon-Trout are bright ; but as autumn spawning-time approaches, the fish lose their brilliancy and acquire a reddish or blackish tinge.

For angling use rod from ten to twelve feet ; line of two hundred feet with click-reel ; leader of silk-worm gut ; Salmon hooks Nos. 3 and 4 ; flies of various colors, particularly red or orange ones.

SALMON.

Salmo Salar.

WERE it not that some few native streams, far north as Maine, still harbor this royal denizen of the deep, we would have no occasion to include it among our list of fishes. Alaska, Oregon, and California are too distant for our purpose; the icy rivers that flow into the Gulf of St. Lawrence lie in other territory and are controlled by foreign mastery. Time was when every large stream leading to the coast, from the Delaware to the Penobscot and beyond, was stocked with these fish. But they were driven from their homes by steamers and mill-dams, and poisoned in masses by dust from saw-mills and the acrid chemical waste of factories.

Salmon are eminently a clear and cold water fish. Mud and sewage in their na-

tive element are not to their liking. Like Shad, if unrestrained, they return again and again to their original natal streams. Their force and power of propulsion are such that Pickerel never venture to attack them. Usual weight from eight to twelve pounds.

Some few are captured in the St. John's River and Penobscot River; occasionally stragglers enter Lake Ontario by way of the St. Lawrence. Those caught in the ocean show no evidence of feeding.

Salmon come and depart in shoals, swimming in deep water.

For tackle use rod from fifteen to eighteen feet, with click-reel; line from two hundred and fifty to three hundred and fifty feet; leaders from nine to twelve feet; Limerick hooks of various sizes; flies large and gaudy; gaff-hooks about three inches distant across band; landing-net.

We subjoin a number of hints chosen from the experience of noted specialists.

The three principal hindrances to Sal-

mon-fishing are: the trouble in obtaining either a lease of a stream, or a permit for the best part of the season ; the great distances to be travelled, and consequent loss of valuable time ; and the expense as compared with other sorts of out-door amusements. The Canadian Government exercises complete control of the principal Salmon-streams, both in their tidal and fluvial parts. Leases are commonly given for several years.

In Canada, all Salmon-breeding rivers are leased, inspected, guarded, and yearly reported upon by a special commissioner in the Department of Marine and Fisheries. Salmon rivers are also Sea-Trout rivers, and good fishing can only be obtained, except in streams too insignificant to be worth preserving, by taking either a lease of a Salmon stream, or a license from a lessee to fish one.

Salmo salar is uncertain. Sometimes he comes early and sometimes late ; sometimes he goes leisurely up the rivers, lingering at the pools, in good mood for

sporting with flies, and sometimes, when kept back by a late spring, he goes for head-waters at once, only stopping when compelled by fatigue.

Salmon, guided by caprice in the choice of location, so that the stone behind which the fly must fall to give a chance of success, has often to be pointed out by the local assistant. The tackle used is so strong, and generally the nature of Salmon casts so open, that with ordinary skill a fish once fairly hooked has little chance of breaking away.

Alarmed, they move rapidly in the water, and go a distance without stopping. It is necessary to be cautious in fishing them. Wary and scientific anglers have their patience tried in taking this fish, whose instinct leads it to artful and singular efforts to escape. The feeding grounds of the Salmon are swift streams, and deep lakes, with gravelly and pebbly bottoms, where there are easy outlets to the sea; the time for fishing, from May until August. In the first of the season, worms,

small fish, or shrimp is the usual bait ; but in July and August they are partial to the fly.

Particular stones are not unfrequently haunted by Salmon with a pertinacity which is remarkable.

Salmon begin to run up Northern rivers in April, and stay until the latter end of July, when they return to the sea. It is while thus running that they are taken by anglers and fishermen. They deposit their spawn at the extreme point they reach on the river.

The general proportion of Salmon upon the spawning beds is three males to one female. These males fight with one another, and whether in consequence of the wounds received in these encounters or other causes, the greater number of dead fish found are males.

Having selected a pool or run in which he knows that there are plenty of Salmon, the angler generally remains at the same place, shifting his ground a few paces at a time, higher or lower. The usual symp-

tom of a bite is a stoppage of the bait, followed by gentle twitching. Sometimes the Salmon takes the bait in a more reckless fashion, and remains nearly motionless for some little time, and then moves steadily away. This is the moment to strike, and as the bait is invariably swallowed or pouched, there is little fear of the fish being missed. Should the fish move away at once after biting, line and time must be given him to pouch the bait. To provide for the contingency of any sudden moves on the part of the fish, and against any sudden check on the part of the angler, it is wise to keep a yard or two of spare line loose in hand between the bottom ring and the reel.

If a Salmon has missed the fly, he will frequently rise a second, and sometimes a third time, and be hooked. When a Salmon has risen, instead of immediately throwing again, let the angler sit down quietly on the bank for a few minutes, and carefully cast over the fish again, beginning a few yards above the spot where the rise

took place, and bringing the fly gradually over it. If the fish does not rise, a short interval should be allowed, the fly changed for one of another color, and the same process repeated. Some good fishers advise changing the fly the first time of recasting, and a second or even third time afterward.

Salmon-flies should be dressed with gut-loops, with the double object of strength and durability, and for the purpose of making the fly swim straight when attached to the casting-line.

Resist for a moment the inclination to strike; only for one moment, but long enough to allow the fish to take and turn down again with the fly; then strike—not a slight hesitating blow, but a determined stroke bringing the line up flat, and driving the hook-point well in over the barb.

Next to the number of Salmon lost through striking too quickly are those lost from striking too feebly. Strike strongly and hard, and *repeat the stroke* by way of making sure. If the tackle will

not stand this strain it is not fit for Salmon-fishing. A weak stroke is worse than useless ; it fails to make the hook penetrate, and it provokes the fish to a violent effort to rid himself of it, and thus lessens the chance of his being hooked.

The mode of worm-fishing as commonly practised is simple : a large single hook, say No. 14 or 15, is whipped on to two or three yards of salmon-gut. A supply of lob-worms having been obtained, and, if feasible, previously scoured, the hook is passed through the middle inch or two of two or three of them, the last worm being so put on that no part of the hook or barb is visible. Large split shot should then be fixed to the line about $1\frac{3}{4}$ feet above the bait, to take it to the bottom ; they should not be so heavy as to prevent the stream carrying the bait freely over the stones.

HERRING.

Few persons are probably yet aware of the extent to which the little fish *Engraulus Meletta*, from the coast of Sardinia, is being supplanted by the small *Culpea* so numerous on the coast of Maine. The New England Herring deftly put up in cotton-seed oil may be quite as appetizing as the Sardine, once embalmed in pure *huile-d'olive*; but let not the unsophisticated purchaser of the attractive tin box too hastily conclude that its showy label, its Napoleonic head, and its French superscription guarantee the genuineness of its contents. Sardines imported from the Mediterranean are rapidly becoming a tradition; and the coasts of Maine and New Brunswick, in the vicinity of Passamaquoddy Bay, furnish a substitute which in character is similar to if not identical with the *Culpea*

Sprattus, so abundant on the English coasts.

It is now ten years since a room was fitted up in a store in New York City for the purpose of trying how close an imitation of the French Sardine could be produced. This room was for many weeks closed to all but the experimenter and the two partners of the firm. The difficulty of procuring suitable and sufficient material for their purpose was overcome on discovering that at Eastport, Me., a small fish was used for fertilizing farm lands which seemed to be what they had so long and anxiously sought. The first canning-factory was established in Eastport in 1876, and since then eighteen other factories have been started there, besides eight at Lubec, three at Jonesport, two at Robbinston, and one at each of half a dozen other near-by places.

To catch the fish, weirs are constructed, built of piles driven where the water is twenty feet deep, and the spaces between interlaced with rails and brush. An open-

ing is left in the weir, through which the fish enter at high water, and a deep seine closes this aperture when the weir is well filled. Before low water, the fishermen, with a large scoop-net, take the fish out of the weir into their boats. The fish are offered for sale by the hogsheadful to about seventy-five boatmen employed by the different factories. When there has been a large "catch" the bidding is dull and the prices are low; but when only a few of the weirs have been replenished the competing bidders become excited, and a looker-on is reminded of a stock-exchange. Early in 1877 \$1 per hogshead was thought to be a good price; but in the last year \$30 have been paid. After the highest bidder has secured his stock, he starts his boat and hoists a signal flag, to notify his employers that he is on his way to their factory.

This business extends from the middle of April to the middle of December of each year, and has increased from 1,500 cases of 100 cans each, which were all

that were packed in 1877, to 200,000 cases, which were sent to market in 1883. About five cents will cover the actual cost of converting the herrings into a box of palatable Sardines.

FISHING IN THE PACIFIC.

OUR trolling lines, having at the end large hooks wrapped with white rag with a streamer or two floating an inch or two beyond them—a device quite as good as bone, ivory, or a genuine fish if it only goes fast enough—have been gliding through the water behind, but have captured nothing but a few shreds of floating seaweed. But there is no ground for despair. It is too early in the day, and the breeze is not yet strong enough for good speed. Two brown streaks in the water just behind the hooks, visible only to him who knows what they mean, tell us that fish are here. They are about two feet long and one and a half inch wide, and are a few inches beneath the surface. They are the backs of *Barracuda* inspecting the bait. As some hunters do not

care to shoot a bird upon the ground, so these fish care nothing for the bait until on the wing. They will often follow it for one hundred yards without attempting to touch it. But let it go fast enough and they come with a rush and throw themselves half out of the water as they take it.

On each side the ship-channel, beyond the bar, is a long bed of kelp, and it is often well to run into that and try still fishing until the wind reaches its full power at midday. The kelp-fish are different from those caught by trolling, and some are of fine flavor. In the kelp the surface is glassy, though the water rocks with a short, uneasy swell. But by letting down the sail, and making a rope fast to a bunch of the long brown leaves of the kelp, good anchorage is made. The tackle needed for these kelp-fish is simple. A long line with a sinker at the end, and a hook or two baited with meat, and attached several feet above the sinker, so that the hook shall not rest upon the

bottom, but be near it, is thrown out, and down it goes full twenty fathoms to the bottom. The green tint the water wears outside of the kelp is gone. Here it is blue, yet so transparent that one can see almost to the bottom. Far below, the kelp can be seen reaching out its arms on every hand, and in the openings between them floats many a fish, as clearly seen as if in an aquarium. Some are lithe and trim, others thick and stubby. Some are grayish-brown upon the back and mottled with brown spots; others olive-green, and others red.

But a sudden tug upon your line interrupts your inspection of the blue depths. Up comes the line, bringing a lot of kelp leaves entangled within it, but at the end is a flapping mass of crimson. This is called the "Red-fish" (*Pimelometopou Pulcher*). It is about twelve inches long, broad and deep of body, and rounded upon the back, and is a bright crimson, shading toward flesh color underneath. Scarcely do you get him free of the hook

before there is a tug upon the other line. Up it comes, bringing a larger fish, struggling and gathering kelp leaves around him before he clears the water. A good fish this (*Heterostichus Rostratus*), but not fascinating in appearance. It is about fifteen inches long, deep and broad like the last fish, pale, brownish gray in color, with leaden eye, and is commonly called "kelp-fish," along with several other varieties.

And now comes a fish worth catching. He thrashes about with vigor as he is lifted over the edge of the boat; his eyes are full of fire, and the spines of his dorsal fin stand savagely erect. He is about a foot long, trimly built, has a large head, massive jaw, and is dotted with brown spots. This is the "Rock-Cod" (*Sarranus Maculo Fasciatus*), one of the best table fish upon the coast.

Thus fish after fish comes struggling out, with an occasional greenish crab, mottled with brown, and carrying, perhaps, a few barnacles upon his back, until

the fulness of the breeze advises that it is time to troll. Other boats and Chinese junks outside the kelp are rolling here and there over the heaving surface, and on the stern of each are men hauling in lines hand-over-hand and something flashes upon the end as it is hauled up the stern.

Though the water is still smooth, there is a decided increase in the breeze; the boat now leaves a foamy track, and the hooks ride so near the surface, with the increase of speed, that their white swathing is seen as they ride down the slope of each receding swell. And before they have passed many swells your line is twitched from your hand and a line of silvery light shines for an instant below the surface where the hook was just riding. From side to side the line cuts the water with a swish as you haul it in, and a long, bright, and slender fish jumps above or darts below with frantic rushes. You may have thought the tackle was clumsy and unscientific when you first saw it; but you now wish it were a trifle stronger.

There is no time to play this fish or drown it. It must be hauled quickly in, for a heavy splash at the end of your other line announces that there is plenty to do. In comes the prize, hammering the stern of the boat with its tail as it comes up, cutting all manner of figures in the air until drawn over the side. Arriving in the boat, it dances on either head or tail with equal facility, until you tighten the line, and begin to speculate upon the safest method of getting the hook out of the sharkish mouth. This fish is the "*Barracuda*" (*Sphyræna Argentea*), one of the best fish of the Pacific Ocean. It is nearly a yard long, lithe and shapely, with pearly sides, and a dark line down the centre of each side. It has the appearance of a Pickerel, though brighter and clearer in color. It has the same ravenous jaws, with rows of serrated teeth, and the same trim figure, built for speed.

But there is little time to examine the prize, for at the other hooks there is vigorous splashing and a confusion among the

lines, which are carried across each other with a rush that betokens an interesting tangle among them. And there, too, the hook you have just taken from the mouth of the *Barracuda* and tossed again into the water is taken by a bright object darting from below, the instant the line is straightened and the hook is under full headway. Four fish are now dashing and flashing about on the ends of the four lines, and all the lines but the one last thrown out are in such a tangle that it is best, to leave them and get in the last line before it, too, is added to the rope into which the other three are fast being spun.

Be careful now of your fingers, for you have caught a fish stronger and more active than the *Barracuda*. The line runs from right to left and back again through the water, throwing up ridges of foam in its rapid course. But though slowly the line is taken up, each sidewise run of the fish is bent nearer and nearer the boat. It feels as if it weighed a hundred pounds; nevertheless, it is coming. And now, as

he nears the boat, he darts about with frantic rushes of wondrous speed. Now he dashes away toward the boat's bow as far off on the side as the line will allow, laying himself over so that the light gleams in a band from his side of silver and gold. Now, downward into the green depths he goes; away goes the line under the boat, and out he comes again behind, breaking from the water with an upward rush that throws him clear over the other three lines.

With much exertion, the four lines are finally hauled in all together, though our fingers smart well for it, as on the end of each line a fish goes tearing about. In a moment confusion reigns in the boat. There is a gay medley of heads and tails; of shining, throbbing sides and tangled lines; of hands vainly feeling for a secure hold, and feet vainly exploring for an anchorage upon bouncing vibrations of opalescence and pearl. For three *Barracuda* and one Spanish Mackerel are on the lines. This is not the Spanish Mackerel

of the Atlantic, though called by the same name. This fish (*Sharda Chilensis*) is a little deeper and thicker than true Mackerel proportions demand, but has the unmistakable tail, mouth, and markings of the mackerel family. It is about two feet long, weighs about twelve pounds, and is lustrous with delicate shades of green, gold, opal, and pearl. Long after the *Bar-racuda* have ceased bouncing it hammers the deck with alternate strokes of head and tail, and if not secured will bounce itself overboard in a minute.

The lines are finally disentangled, the hooks need no baiting, and in a moment are floating away behind. No sooner are the lines fairly straightened and the hooks again under full speed, than there is a sudden swish and splash and two of the hooks are taken at one dash. Another swish and splash and the other two hooks are taken before we have the first two hauled one-fourth of the way in. There will now be little time to rest, for we are in the midst of a school of fish. But we

may as well be calm. We shall get all the fish we need and have all the lime-burnt fingers that a successful fisherman requires. We may as well take in the lines and roll about for awhile on the long, tumbling swells. The weather is so soft and cool, the sky so bright, yet the sun so mild; there never was such a day to lie down and smoke, to gaze upon the great shining plain upon the west, or on the long lines of dreamy blue mountains on the east, to listen to the ripple and thumping of the waters at the bow, and the fluttering of the streamer at the mast-head, to feel the little vessel careen as she goes sliding down the shorter slope of some great swell, righting herself as she climbs the long slope of the next one, yet feel all the time as secure as if taking a moonlight row on some lake where the winds are hushed for the day.

But there is little rest for the angler in the midst of fish. Again the lines are tossed out, and in an instant we see that we are still in the school. Here a greedy

Barracuda swallows hook, rags, and all, and before it is extracted from the ravenous throat another is tugging at the other line, and three or four brown backs lie close behind in the water awaiting a chance at the hook. Such is fishing in the Pacific.

NEW YORK RETAIL MARKET PRICES.

Black Fresh-water Bass.....	Ⓟ lb.	15	@20c.
Black Sea-bass.....	"	10	15
Blue-fish.....	"	8	10
Bonito.....	"	10	20
Butter-fish.....	"	8	10
Cod.....	"	8	10
Cat-fish.....	"	8	10
Eel.....	"	15	18
Flounder.....	"	10	12
Haddock.....	"	6	8
King-fish.....	"	15	25
Lafayette-fish.....	"	15	20
Mackerel.....	each	15	25
Pickarel.....	Ⓟ lb.	12	18
Pike-Perch.....	"	12	15
Porgee.....	"	8	10
Salmon.....	"	25	35
Salmon-Trout.....	"	12	15
Shad.....	each	30	50
Sheepshead.....	Ⓟ lb.	18	25

Smelt.....	3 lb.	15@20c.
Spanish Mackerel	"	25 35
Striped Bass	"	18 20
Tautog.....	"	10 15
Weak-fish	"	10 15
White-fish	"	15 18
Yellow Perch.....	"	8 12

95

THE END.

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