DEPARTMENT OF COMMERCE
BUREAU OF FISHERIES

Economic Circular No. 40 : : : : : : : : : : : Issued September 20, 1918

THE CAPTURE AND MARKETING OF CARP.[a]

Seasons and Localities of Capture.

The big catch of carp throughout the United States is made during the annual movement which takes place in the time of spring freshets during April, May, and June, when the carp pass from the deeper waters to the shallow waters of the inundated lands, there to deposit and fertilize their eggs on the land vegetation and débris, leaving them for incubation without further attention from the parent fish.

During this time the commercial fisherman reaps his harvest, and the farmer and other small fishermen within range gather the carp from the overflowed fields or as they enter or leave through connecting creeks. The fyke net is used extensively during the migration; it is set in inlets and in the inundated territory as well as in the river course near the banks of the stream, while the trammel net is used for drifting in the rivers and setting in the lowlands. The pound net is used in the large lakes and at selected locations in the bayous and inlet bays along the river, and nearly all manner of trap and net used in fresh-water fishing is successfully operated for carp during this spring "run." The spawning is accompanied by "splashing" of the carp as they swim, side by side, often with their backs out of the water, and it is not uncommon for farmers to spear them with pitchforks in the inundated lowlands of their farms. As soon as the water starts to recede the carp quickly return to the river and disperse, and then the big harvest of carp is over. A similar migration from the deeper waters to the shallow spawning beds takes place in the large lakes, the carp returning to deep water after spawning, during which the lake fishermen harvest the carp with pound nets, fyke nets, and drag seines. As the carp no longer school extensively and from this time on do not lead to an appreciable extent into nets set for their capture, it becomes necessary to seek them in more restricted areas where they can be taken by other gear; there-

[a] By H. L. Canfield, superintendent of fish culture, United States Fisheries Biological Station, Fairport, Iowa.

fore the commercial fisherman transfers operations to the lowland sloughs and lakes.

These sloughs and lakes in time of freshets are overflowed, and as the waters recede many carp and other fishes are left in them; during the summer the water becomes lower and lower by evaporation and seepage until, late in the fall, the bodies of water have shrunken in size materially and many of them have completely dried up. These sloughs and lakes, and later the bayous and inlets connected with the rivers, are the fishing grounds of commercial fishermen during the time of low water, and the seine is the most extensively used gear.

In southern waters fishing for carp can be done throughout the entire year; and although limited carp fishing has been done in this section during past years, it is expected that it will be materially increased and quantities of the fish placed upon the market. In coastal waters affected by tides, conditions for winter fishing are very favorable; stop nets and other light gear, including gill and trammel nets, with and without the use of bait, and, in certain restricted districts, pounds and seines, can be used to advantage.

In northern waters the large lakes are cleared of carp in winter by commercial fishermen operating by means of seines hauled under the ice. This method of fishing is also pursued to a very limited extent in deep inlets and bayous of the rivers during the winter, bait being used as a lure. Pound nets are used with some degree of success in the Great Lakes and at selected places in the large rivers, but winter fishing is necessarily limited by weather conditions.

In connection with carp fishing it is found convenient and profitable to fish for other nongame fishes. In some localities the buffalofish and catfish are taken with carp gear, as are some other miscellaneous nongame fishes, all these contributing to make the occupation continuous and the yield sufficient to justify the labor and expense.

Regulations governing commercial fishing are ordinarily under State control exclusively, and fishermen should request the desired information on the subject from the proper authorities of the State in which they propose operating. For the duration of the war the Federal Food Administration is exercising partial control over saltwater fishermen, but as yet the control has not been extended to fresh waters.

FISHING GEAR.

The kind of gear used depends chiefly upon the conditions under which fishing is to be done and economy of operation, having reference to original cost of equipment, expense of maintenance, and requirement of labor.

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information if conditions under which fishing is contemplated are explained and the kinds of fish to be captured are mentioned.

The seine.—The seine is used principally in lakes, sloughs, and bayous, the dimensions depending on the water to be fished. This gear is used extensively for carp on the greatest carp stream in America—the Illinois River—and, to a less extent, on the Mississippi River and other streams and lakes throughout the country. Where conditions favor the operation of the seine there is no other gear so successful in capturing quantities of carp. A locality is desirable for seining when it is a natural feeding or lodging place for fish, being of proper depth, free of snags, fallen timber and débris, with little or no current, and giving a clear shore landing. Where other conditions are favorable, fishermen often clear up "seine hauls" by removing the various obstructions in the water or along shore.

The fyke net or "hoop net".—This device is perhaps the most generally used, its chief advantages being low first cost and the ease with which the net is handled. It works with marked success for carp only during the spawning migration, as carp will not lead into it to an appreciable extent at other times. The use of the fyke net for carp is general throughout the United States; the nets are generally set independently with flaring "wings" or "leads," but in certain cases they are rigged in combination with straight netting leads to form a modified pound net. In the North the hoop net is seldom baited, but in the South bait is used extensively.

The pound net.—This gear works well under favorable conditions. The pound net is intended for fishing in large waters and is used in Lake Pepin, Wis. (on the Mississippi River), for winter fishing, and in the Great Lakes, but, owing to the present cost of materials, it is not employed so extensively as formerly. A well-selected location is the most important condition of success with the pound net.

The trammel net.—The trammel net is very efficient when properly operated, and serves well as light gear in dead water where, owing to the presence of obstructions, it is difficult to operate other devices. In selected localities, by drifting (the net drags the bottom, the cork line serving to hold it erect), good catches are often made during the migration of the carp, but the best general use of the net is for setting and driving in lakes and places along the shore where it is difficult to operate other forms of gear.

The gill net.—Gill netting for carp is not generally practiced where other devices can be used to advantage. Unless the net is sufficiently deep to allow the fish to entangle themselves, the size of the mesh regulates, to some extent, the size of the fish captured. In certain restricted districts it works very successfully, the carp becoming entangled in their efforts to escape although not gilling. To

obtain the best results the net should be well concealed and the webbing should be of very fine twine.

The stop net.—Any net, be it fyke, seine, or other, used to "stop off" a creek or inlet, is termed a "stop net" and the device is used extensively in the South where conditions favor the stopping off of creeks and inlets, especially in waters affected by the tides.

The trot line.—The trot line, sometimes called anchor line, jerk line, or throw line, is used extensively, especially during the summer months for the capture in small quantities of carp and other non-game fishes. The main or leader line of this device is made up in various lengths, and is provided with weights to keep it on the bottom, and with floats, when required, to indicate its position. At intervals of from 3 to 5 feet, lines 4 to 6 inches in length and provided with hooks are attached to the leader line. The trot line is anchored from shore to shore, from shore to midstream, or from a selected point in the stream to another point downstream. The trot-line hooks are baited either by removing the line entirely from the water or by "under-running" it; that is, by raising the line to the surface of the water while working from a boat but without removing the line from its anchorage. Dough balls, pork rind, crayfishes, grasshoppers, angleworms, or other available bait may be used on the hooks. Not infrequently fishermen use for still fishing a short throw line fitted with only a few hooks; in this case one end of the line is held in the hand while the line is thrown out into the stream and drawn in at intervals for obeservation. Set lines are sometimes employed successfully, favored locations being the vicinity of snage and stumps.

The hook and line.—While angling in the ordinary sense will not often be found an effective means of capturing carp for the market, there are conditions under which other forms of capture are impracticable, and correspondents of the Bureau frequently inquire regarding the methods of angling for carp.

The following notes on this method of fishing have been supplied by Dr. W. C. Kendall:

Izaak Walton's advice that, "If you fish for carp, you must put on a very large measure of patience," still holds good, for it is a very wary fish and, when fishing in clear water, every precaution to avoid casting a shadow or being seen must be observed. It is said to be useless to fish from a boat. Carp bite best in warm or hot weather.

Probably no better bait for carp than those prescribed by the "Complete Angler," or some modifications of them, can be employed. "Advance baiting" is also advocated by old anglers. This consists of placing in the water, some 6 or 8 feet from the shore, pieces of boiled potatoes, or other cooked vegetable matter, such as kitchen waste, for several successive days before fishing. Then, if possible,

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Various baits have been recommended. Worms, grubs, grasshoppers, and pieces of fresh meat have been successfully used, but the most highly recommended baits are composite pastes. A tough paste may be made of moistened bean, wheat, or other flour, thoroughly mixed with a little sugar, or preferably honey. To give the paste a greater tenacity, cotton batting or wool should be stirred in. Ground or mashed white meat, such as veal or pork, or any bleached meat may be added, but this bait must be fresh and kept untainted. Pellets of partly boiled potatoes are said to be good bait, as well as dough balls or corn kernels wrapped in mosquito bar.

THE USE OF BAIT IN NET FISHING FOR CARP.

During winter the northern fishermen often bait deep inlets or bayous in the rivers by dumping in a bushel or two of corn or oats or both, and several days later make a seine haul over the baited grounds to capture the carp which congregate to feed there. In summer months when the water is low, fyke nets are baited with "dough balls" which are made by boiling rye flour to a consistency of paste, then sprinkling with corn flour and rolling into a "ball," and, on the Cumberland River, cottonseed cake is used for baiting. The first method yields substantial results, but is done only occasionally in selected places, while the baiting of fyke nets is of little importance commercially.

In the South corn and oats are used very successfully in baiting inlets and bayous, especially in waters affected by the tides, where a stop net can be used. The corn or oats is thrown onto the grounds during low water (the oats having been soaked or mixed with sand so they will remain on the bottom) and the stop net, which is usually a fyke, is placed in readiness. On high tide the net is set to catch the carp on the following low tide, at which time the net is visited and the fish collected. This manner of baiting can be done successfully along the shores also, and a trammel net or seine used to capture the carp. It is sometimes advisable to bait for a few days previous to fishing, and the greatest amount of food is placed close in, with scattering food leading from the river to the main baiting point, which is usually selected not far from the river. As the carp take vegetable food readily, almost any grain or vegetables cut up so as to be taken easily will suffice as bait, and any amount from a few handfuls to half a peck or more should be used, according to conditions. The carp usually consume the bait during one tide. Along the Great Lakes, canals or ditches are dug from the Lakes inland and baited with corn, oats, etc., the carp being removed from these ditches by nets or other means.

MARKETING THE CARP.

As might be expected, the markets are supplied with quantities of carp, particularly during the spring, and it is in the early part of the season that the higher prices prevail. Later in the summer the carp bring fair prices, while during the winter months they command their highest prices. The principal markets are in the big cities, and the carp are consumed there chiefly by the Jewish people, who are especially particular about the freshness of the fish they eat. The carp stands transportation well and, when properly packed, arrives at the markets in the best of condition. In warm weather the carp should be thoroughly chilled ("precooled") before shipment and well packed with ice.

In some localities carp are captured and held for market until winter in order to obtain the best prices; the retention of the live carp entails extra expense and some risk, but for a long time it has been extensively practiced in some parts of the country, especially near the south shore of Lake Erie. Where carp can be fished economically in winter a decided advantage exists.

The usual method of shipping carp is to pack them in boxes and barrels with ice, in the rough or dressed, according to the demand of the market to which they are destined, and from certain places and when quantities warrant, they are handled alive in cars especially fitted for their transportation. Large numbers are thus taken from the storage ponds or live boxes of the fisherman in Ohio direct to the dealer in New York or elsewhere and delivered to the consumer while still alive. More detailed information about the shipping of live carp can be furnished on application to the Bureau of Fisheries, Washington, D. C. The Bureau will also furnish on application its circular No. 31, entitled "The Carp, a Valuable Food Resource," with 22 recipes.

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18. Oysters: A little of their history and how to cook them; by H. F. Moore. [Revised edition.] Mar. 14, 1918. 16 p.
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37. How the angler may preserve his catch; by W. C. Kendall. June 6, 1918. 7 p.

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