

FISHING COMMERCIALLY FOR THE NEMATOGNATHI SILURIDAE

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During the past four summers the authors have worked in one of our most interesting industries, commercial fishing on the inland waters. The area fished was that section of the Mississippi River that flows between Nauvoo, Illinois, and Keokuk, Iowa.

A great variety of equipment is used in the fishing industry. The most common devices are jump lines or trot lines, tight lines, trammel nets, seines, hoop nets, and basket traps. These are designed to catch catfish, and very few fish other than catfish are caught in them.

The basket trap is a cylinder made of wooden slats held together by round wooden hoops. The traps vary from 4½ to 6 feet in length and from 12 to 18 inches in diameter. The number of slats and hoops varies with the size of the trap. The slats are left about ¼ inch apart so that the water may flow into and out of the trap. A gate composed of two to four short slats is placed at the back of the trap. This is used to gain access to the interior of the trap. The back end of the trap is also covered with slats which are 1½ inches apart. This is in accordance with the state fishing laws.

In the front of the trap two funnel-like "throats" are placed. The

throat is composed of a number of triangular slats that have been shaved or sanded so that they are flexible. The first set is composed of short stiff fingers with a fairly large opening. The second set consists of longer, more limber fingers making a small opening. A rope and an anchor are attached to the back of the trap. The length of the rope varies with the depth of water in which the trap is to be set. Anywhere from fifty to one hundred feet of rope are used.

The trap is baited with cheese scraps. About eight to ten pounds are placed in each trap. The trap is set in the river at any desired place parallel to the current. It is left from two to ten days depending upon the weather and then lifted. The fish are removed, the trap washed, rebaited, and set again. If the trap doesn't catch fish at the place where it has been set it is moved to another location.

The hoop net resembles the trap in its basic structure. It is a cylinder of netting hung on steel or wooden hoops. They are larger than basket traps, varying in length from eight to twelve feet and in diameter from two to five feet. Also they have no gate and must have a rope attached to each end. The back rope

TABLE 1.
JULY

Date	Lbs. of Fish	High	Low	Average	Ppt.
1	25	80	60	70	.48
2	...	85	69	77	.02
3	105	82	65	73	1.40
4	89	82	64	73	.00
5	158	78	61	69	.01
6	...	79	59	69	.00
7	110	80	61	70	.00
8	135	84	61	72	.00
9	...	85	63	74	.00
10	170	85	66	75	.00
11	...	88	67	77	.00
12	130	90	72	81	.05
13	...	75	58	66	.00
14	...	81	53	67	.00
15	237	88	60	74	.00
16	...	82	72	77	.70
17	...	81	70	75	.71
18	160	81	66	73	.02
19	...	79	63	71	.87
20	...	66	59	62	T
21	160	72	60	66	.00
22	...	80	66	73	.00
23	86	83	64	73	.00
24	...	80	63	71	.00
25	...	76	61	68	.08
26	243	83	62	72	.00
27	...	85	65	75	.00
28	...	87	66	76	.00
29	62	88	68	78	.00
30	...	86	70	78	1.06
31	...	82	72	77	.00

is attached to an anchor, the front rope to a small weight which keeps the front part of the net upright. Nets are usually not baited when they are used to catch catfish.

Fish form definite habits. The bed of the river is cut up into gullies, bars, and holes and presents a rough and rugged pattern. The fish move up and down these gullies, hang around the bars, lie in the holes, and do many predictable things. A fisherman in setting his traps must know what the river bottom is like. To know this he takes soundings with a pole or rope and weight. When he finds a gully or hole he sets his trap

in it. We have found this to be a fairly good practice. The fish in moving through these gullies find the trap more easily and larger catches are made. Random sowing of traps will not produce as good a result.

During the time we have been engaged in commercial fishing we have formulated a theory correlating the amount of fish caught with the weather conditions. The theory is that during the warmer, wetter periods the fishing is better than during the cooler, dryer periods. The data supporting this theory is shown in tables 1 and 2. Column one gives the date; column two the amount of

TABLE 2.
SEPTEMBER

Date	Lbs. of Fish	High	Low	Average	Ppt.
1.....	...	82	63	72	.00
2.....	...	75	64	69	T
3.....	...	85	66	75	T
4.....	134	73	57	65	.00
5.....	...	73	53	63	.00
6.....	...	74	51	62	.00
7.....	54	77	53	65	.00
8.....	...	71	58	64	.05
9.....	...	80	63	71	.05
10.....	...	79	64	71	T
11.....	85	70	63	66	.02
12.....	...	69	55	62	.00
13.....	...	68	51	59	.00
14.....	...	72	51	61	.00
15.....	...	75	54	64	.00
16.....	73	74	57	65	.00
17.....	...	78	57	67	.00
18.....	...	86	62	74	.00
19.....	...	80	68	74	.67
20.....	...	86	67	76	T
21.....	...	82	60	71	.08
22.....	...	70	54	62	.00
23.....	194	71	51	61	.00
24.....	...	64	45	54	.00
25.....	...	72	46	59	.00
26.....	...	66	46	56	.02
27.....	...	73	59	66	.00
28.....	...	75	64	69	T
29.....	...	80	63	71	.00
30.....	93	80	62	71	.00

fish caught at each lifting; columns three, four, and five give the highest, lowest, and average temperature for each day; and column six gives the amount of precipitation for each day. Tables 1 and 2 explain fishing results for two representative months, July and September.

July was a wet and chilly month. The mean temperature was a full four degrees below normal and the rainfall was 1.99 inches above normal. There were eleven rainy days, seven of these with thunderstorms.

The last part of June was dry and fishing was poor for the first lifting in July. However, it rained the first

three days of July and fishing picked up again. Fishing remained good throughout July with improvements noted a few days after each rain. The last lifting of the month fell off, probably because of lack of rain from the twentieth to the thirtieth, except for a small rain on the twenty-fifth which seemingly helped the fishing on the twenty-sixth. During July the higher temperatures seemed to come at the times of better fishing, with some exceptions.

September was a dry, cool month. The average temperature was a full degree below normal and the rainfall was 2.96 inches below normal. This

was in contrast to the rainfall of the preceding three months. There was rain or traces of rain on eleven days, of which four presented thunderstorms.

There was a very definite correlation between the weather and fishing during September. There was a fairly heavy rain on the thirtieth of August and traces on the second and third of September. Consequently, fishing was good on September fourth. It was dry then until September seventh, during which time the fishing fell off. However, with four days of rain from the eighth to the eleventh of this month fishing improved. Again there was no rain and fishing fell off. A good rain on the nineteenth and two showers after that improved fishing greatly on the twenty-third of September. The rest of the month was fairly dry and fishing again declined. The fishing again was better during the warm period and poorer during the cool period.

On the whole there seemed to be a definite correlation between the

weather and the number of fish caught. Within a few days after a rain, fishing almost invariably improved. On the other hand, fishing almost always fell off when there was a dry period. The higher temperatures and the better fishing also correlated fairly well. Fishing in most cases was better during the warm periods than it was during the colder weather.

From the data and conclusions drawn from it, the theory stated earlier seems to be generally true. Although there were exceptions to the theory there were not so many as to dispute it. Our general conclusion then would be that fishing was better during the warm, wet weather and poorer during the cool, dry weather.

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