

CORRESPONDENCE/MEMORANDUM

DATE: October 24, 2001 FILE REF: 3600

TO: Chip Krohn – SER Water Leader
LMFT

FROM: Bradley T. Eggold

SUBJECT: Incidental Yellow Perch catch in chub nets

On October 4, 2001 I received a call from Dan Anderson, commercial fishermen. He relayed to me that he had large amounts of yellow perch caught incidentally in his legally set chub nets. The following commentary highlights the events of the next two days, provides analysis on these yellow perch and a final analysis on our yellow perch assessment program.

BACKGROUND

On October 4, 2001, Dan Anderson contacted me about 7:30 a.m. with concerns that his chub gang (10 boxes at 1,000 feet per box) in 150 feet of water southeast of Milwaukee contained large amounts of yellow perch (coordinates from Dan?). The number was about 30 fish per 8 feet of net. At that time I granted him permission to save the next 50 yellow perch that came up for us. We would age, sex and get length from these fish.

Dan A. continued to call me throughout the morning with more concerns that the number of yellow perch was huge and that he would not be able to pick or bring all 10 boxes on board. He was looking for direction from the department. After consultation with Fisheries, LE and upper management I told him to bring several nets on board and pick and discard until he got to the breakwalls. Any fish still in the nets could be picked and saved for us. LE and Fisheries met Dan at his dock. We provided totes and ice for the remaining yellow perch still in his nets. This totaled 600 pounds. We took possession of all the yellow perch and sold them to a wholesaler for a minimum of \$2 per pound and gave some to a local food pantry.

After these matters were discussed, we focused our attention on what to do with the remaining 6 boxes still out in the water. Again after consultation with LE, Fisheries and others we instructed Dan to save all dead but salable fish, discard live yellow perch back to the water along with fish not salable. We agreed to pay Dan 0.20 per pound for transport, ice and totes to do this. Dan contacted Warden Jumbeck when he got close to his dock along with Fisheries. We took possession of all yellow perch and brought them back and stored them at the Water Institute. We took possession of 1,859 pounds of perch for a two day total of 2,450.

The Hunger Task Force was notified that a large number of yellow perch were being brought to shore. They expressed interest in getting some of the fish but could not process the fish because their wholesaler would not be able to process these fish. We contacted local sport anglers and asked them to come to the Water Institute and help fillet some of the yellow perch for the Hunger Task Force. A total of 8 to 10 anglers came to the Water Institute on Friday, October 5, 2001 and filleted 370 pounds of round yellow perch. The Lake Michigan Work Unit assisted in this process.



The breakdown on the yellow perch is as follows:

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Oct 4, 2001		Chip Kohn - SER Water Leader	TO:
Schwartz Wholesaler	315 lb.		
Hunger Task Force	285 lb.		
		Bradley T. Esgold	FROM:
Oct 5, 2001			
Schwartz Wholesaler	1,660 lb.		
Hunger Task Force	85 lb.		
Non-salable	105 lb.		
Total	2,450 lb.		

QUESTIONS AND ANSWERS

Why did the commercial fisherman catch all these yellow perch?

We believe that the storms from the previous week (September 24 – 29)(12 - 14 foot waves over several days) forced yellow perch into slightly deeper water. These fish were then congregated and ran into the commercial chub nets. This is verified by sport anglers who were catching yellow perch onshore up until those storms and the following week (October 1) were seeing or catching very few.

Why did we allow the commercial fishermen to bring fish on board?

This was done for several reasons. First, this was an opportunity to collect data as Fisheries Management wanted to get a sample of fish for length freq, sex and age. Secondly, we wanted those nets to get pulled as quick as possible to minimize potential incidental mortality. Thirdly, we did not want to see thousands of pounds of salvageable yellow perch get tossed overboard.

What about other fishermen and other gangs in the area?

We talked with Phil Anderson. He reported catching yellow perch in about 25 fathoms and was able to work through about 5 boxes on Oct 4. We talked to him on Oct 5 and he was getting mostly chubs and very few yellow perch. His depth at this time was about 32 fathoms. According to Dan A. his other two gangs were in 37 and 39 fathoms of water, so we did not anticipate any problems with these gangs.

What directions should be given to chub fishermen?

I believe we should notify all commercial chub fishermen of the potential for catching numbers of yellow perch and encourage them to avoid fishing in this area. In addition, commercial fishers should be reminded of the requirements of NR 25.09 (5), Wis. Adm. Code requiring removal or movement of gear catching illegal species in an amount equal to 10% or more by weight or numbers of the total legal catch. Based on available data, fishing outside of 30 fathoms should resolve this problem. If they have to adjust their fishing such as bringing more people on board, fishing smaller gangs, fishing much deeper they should be instructed to do so. In addition, nets should not be set in this shallow water again. Any other incidental YP should be sent overboard dead or alive per statute. NR 25.09(5) applies only after catch of illegal fish = to 10% or more by weight or numbers of the total legal catch. Then it is a matter of requiring them to move the net as required in the code by 3 miles or 30' depth difference.

Where does the money go from the sale of these yellow perch to the wholesaler?

Money received from the wholesaler goes into the general Fish and Wildlife segregated fund account along with all the fish and wildlife license sales. All the money in this account is then divided among the various programs on a biennial basis.

ANALYSIS

We obtained 3 samples of yellow perch from this commercial fisherman; 1) a 50 fish sample provided by the fisherman for age analysis, 2) a 50 fish sample taken randomly by Lake Michigan Work Unit staff for age analysis and 3) a 161 fish sample taken randomly by Lake Michigan Work Unit staff for a length frequency analysis.

Yellow Perch Age

Table 1. Percentage by age of yellow perch caught in various assessments and incidentally in chub nets.

Age	Sport Harvest 2000 (N=285)	Graded-Mesh Assessment 2001 (N=229)	Sport Harvest 2001 (N=519)	Incidental YP in commercial nets (N=100)
2+	71.2	0.5	4.2	3
3+	16.5	86	86.5	89
4+	2.5	8	3.5	5
5+	4.7	1	1.7	0
6+		1	1.5	1
7+	0.4	0.5	0.6	
8+ and older	4.7	3	2	2

As you can see from Table 1, the composition of the yellow perch population is based on the 1998 year-class (age 3+ fish in 2001). These fish comprised the majority of the harvest in 2000 as age 2+ and 2001 as age 3+ and were the majority present in the graded-mesh assessment in 2001 as age 3+. These results are similar to the analysis of the incidental yellow perch catch. In each case, the 1998 year-class comprises the majority of the available yellow perch and has been seen in not only Wisconsin DNR and commercial catches but in other state agency assessments over the past 2 years.

Yellow Perch Sex Composition

Table 2. Percentage by sex of yellow perch caught in the graded mesh assessment and incidentally in chub nets.

Sex	Graded Mesh Assessment 2001 (N=451)	Incidental YP in commercial nets (N=261)
Male	36	36
Female	64	64

Table 2 shows the sex ratio of 451 yellow perch caught in our graded-mesh assessment conducted in early winter each year. Males comprised 36% of the catch compared with 64% for females. The sex ratio of 261 yellow perch from the commercial nets was exactly the same.

Yellow Perch Length at age information

Table 3. Mean length at age information in mm of yellow perch caught in the graded-mesh assessment and incidentally in chub nets. Standard deviations are in parentheses.

Sex	Age	Graded Mesh Assessment 2001	Incidental YP in commercial nets
Male	2+		240
	3+	200 ± (28)	248 ± (21)
	4+	236 ± (30)	258 ± (34)
Female	2+	145	247 ± (4)
	3+	245 ± (35)	263 ± (24)
	4+	266 ± (36)	270 ± (35)

Table 3 shows the length at age information from our graded-mesh assessment and the incidentally caught yellow perch. The average size at age of yellow perch is smaller in the graded-mesh assessment because these fish are caught in early to late winter about 10 months prior to the catch in the chub nets. These fish are growing very fast as shown by the growth of age 3+ males growing on average 50 mm and females growing 20 mm. These larger fish will show up in the 2002 graded-mesh assessment as age 4+ fish and should be comparable in size to those caught in the chub nets.

FINAL ANALYSIS

The yellow perch caught and analyzed from commercial chub nets are very comparable to the data collected by the Department in our various assessments including winter graded-mesh, spawning, young-of-the-year and creel survey. In each case, the data from our own assessments matched exactly with the yellow perch from the chub nets especially in the age composition and sex ratio of the population. While the yellow perch were caught in slightly deeper water than normal (150 feet compared to < 150 feet) this phenomenon is neither new nor undocumented. The US Fish and Wildlife trawl tows in the early 1960's found yellow perch in good abundance out to 150 feet (25 fathoms). The weather in the previous week (12 to 14-foot waves for several days) undoubtedly effected the depth range of the yellow. These storms created a downwelling, allowing yellow perch to move farther off shore and still stay in warm or cool water. Charter fishermen reported water temps of 59 degrees from top to bottom in 125 feet of water. In addition, these nets had been soaking for 3 and 4 days and a relatively small population of fish moving off shore in response to changing thermal conditions could yield high catches in gill nets set for that long. In addition, the use of this data for population estimates would not be wise. Our graded-mesh assessment is based on the fact that all sizes and ages of yellow perch are mixed in early winter and by setting a graded-mesh gill net (1-inch to 3 inches in increments of ¼ inch) we are able to accurately assess the population.

We conduct five lifts in this time period, which accurately reflect the composition and numbers of yellow perch present in Wisconsin's Lake Michigan area. Although data from Dan Anderson's catch of yellow perch provides additional evidence that DNR's assessment is accurate, it is not an unbiased reflection of perch population trends because it employed a limited range of gill net mesh sizes, is not comparable to any previous surveys and was prompted by unusual weather conditions. At this time, we feel very confident that Wisconsin DNR's assessment plan for yellow perch in Lake Michigan is adequate to track the changes in the fishery.