Lake Michigan yellow perch winter graded mesh assessment – 2013
(11/29/12 – 12/17/12)

Annual winter graded mesh assessment for yellow perch in the Wisconsin waters of Lake Michigan began on November 29, 2012 and completed on December 17, 2012. The survey was conducted off Milwaukee harbor using the research vessel *R/V Coregonus*. In 2013 assessment year, we sampled on five different nights. Generally we set a total of 20 boxes of nets on 4-5 nights, each box consisting of 800 ft. of gill net with 10 different mesh sizes ranging from 1" to 3.25". But, this year, since the catches were very low, we extended our effort for one more lift (6 more boxes) to explore catches at three different depths ranging from 14 ft. to 95 ft. Thus the total effort in this year was 22,400 ft. of gill net. The surface water temperature during the sampling period varied from 42 ^{0}F to 47 ^{0}F.

The total number of yellow perch caught in this year's survey was alarmingly low (79 perch) compared to the surveys in recent years. The number of perch caught in each lift ranged from 7 to 28 (Table 1), and the effort ranged from 3200 ft to 4800 ft of gill net. The catch per 1000 ft ranged from 1.5 yellow perch to 5.8 yellow perch (for all meshes combined). Most yellow perch (61%) were caught in the two largest meshes (Table 2). Very few perch were caught in the smaller mesh indicating continued poor recruitment. The age distribution chart (Figure 1) also suggests one dominant year-class (2005, age 8) comprising 39% of the catch. There are no other sizable year-classes since 2005 that are contributing to the catch. The sex ratio is highly skewed towards female yellow perch that are predominantly 2005 year-class females (Table 3, Figure 2). Male perch were poorly represented in all age groups. The youngest age perch was age 2 perch, with an average total length of 113mm for males and 129mm for females. The average sizes of yellow perch from ages 8 through 12 did not differ greatly (Figure 3). Female perch were slightly larger in all ages. We did not see any perch older than age 12 in the sample. The 1998 year-class perch that dominated the population for more than a decade did not appear in this sample.

Table 1. Tally of yellow perch by mesh size in the winter graded mesh assessment, 2013.

	Lift # 1	Lift # 2	Lift # 3	Lift # 4	Lift # 5	Total
Mesh size\Date	11/29/12 4 boxes	12/5/12 6 boxes	12/11/12 6 boxes	12/12/12 6 boxes	12/17/12 6 boxes	28 boxes of gill net
1.0 inch	0	0	1	0	4	5
1.25	0	1	1	0	0	2
1.5	0	1	1	0	0	2
1.75	0	0	0	0	0	0
2.0	0	2	0	0	0	2
2.25	1	4	0	0	1	6
2.5	1	2	2	0	0	5
2.75	3	2	2	0	2	9
3.0	3	5	6	4	0	18
3.25	5	11	9	3	2	30
Total	13	28	22	7	9	79

Table 2. Number of yellow perch caught in the graded mesh assessment in various mesh sizes (1 inch – 3.25 inch).

Mesh size	1 inch	1.25	1.5	2	2.25	2.5	2.75	3	3.25
# perch	5	2	2	2	6	5	9	18	30

Note: no perch was caught in 1.75 inch mesh.

Table 3. Number of male and female yellow perch, and average total length (mm) by age.

Age	# male perch	Ave. length (mm)	# female perch	Ave. length (mm)
2	3	113	2	129
3	0	NA	4	166
4	0	NA	1	130
5	0	NA	0	NA
6	4	264	5	304
7	2	263	5	301
8	3	307	28	314
9	1	297	2	328
10	2	298	5	344
11	3	314	6	337
12	1	301	2	333
Total	19		60	

Sex ratio: 19 (Male) : 60 (Female); 24% male, 76% female

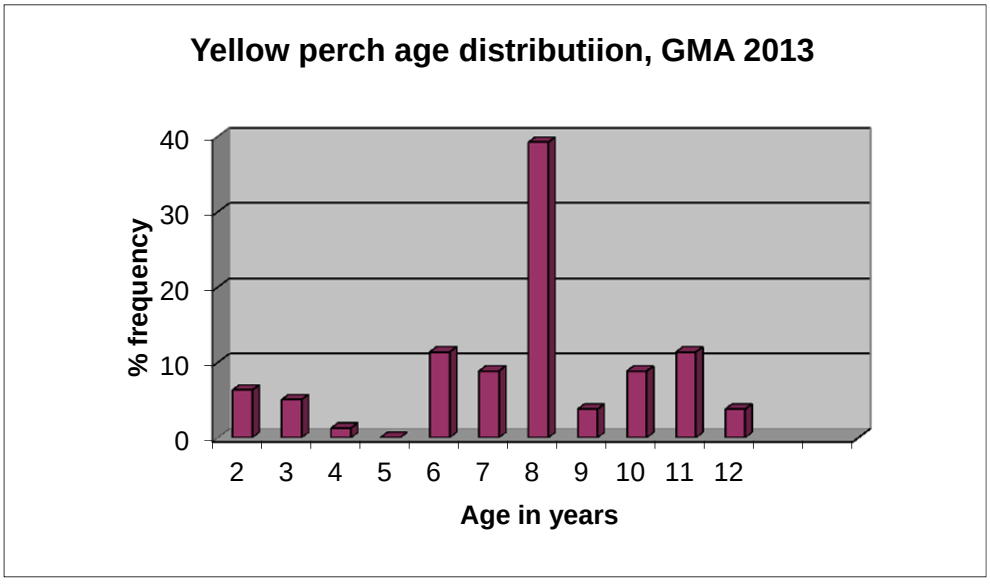

Figure 1. Age distribution of yellow perch captured in the graded mesh assessment (11/29/12-12/17/12) in Lake Michigan.

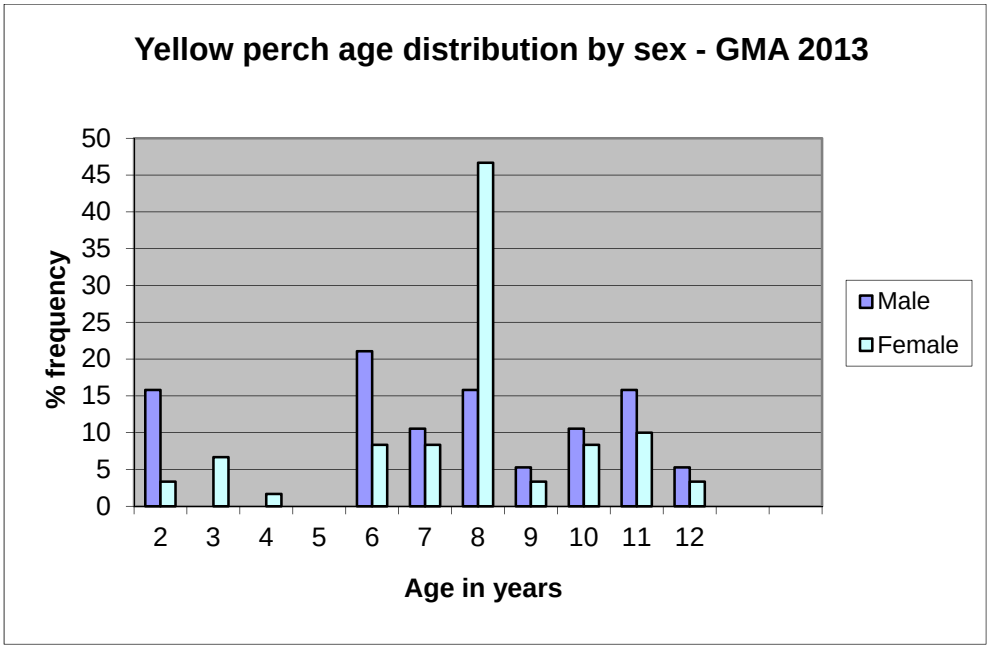

Figure 2. Age distribution of male and female yellow perch captured in the graded mesh assessment (11/29/12-12/17/12) in Lake Michigan.

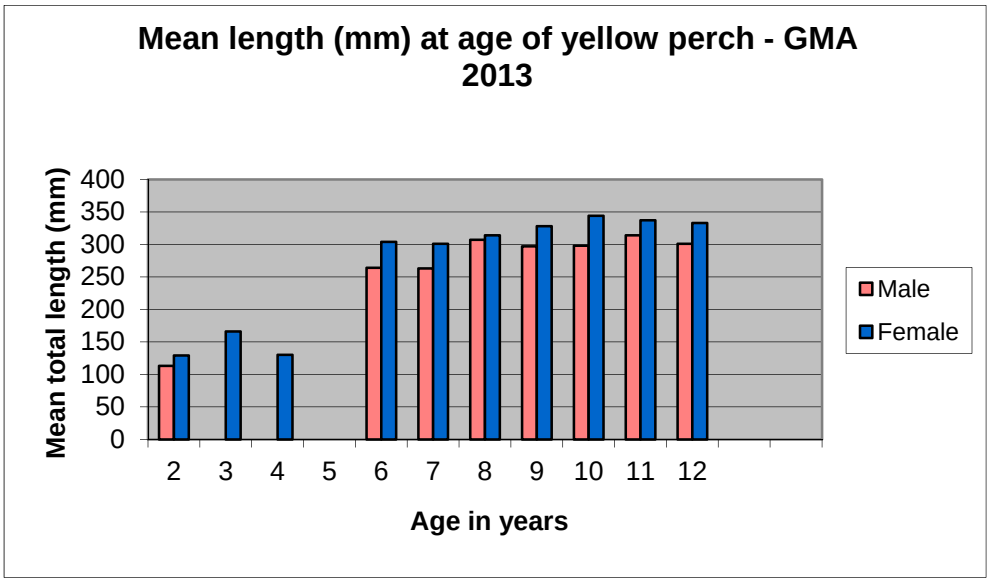

Figure 3. Average size-at-age for male and female yellow perch captured in the graded mesh assessment (11/29/12-12/17/12) in Lake Michigan.