

Lake Michigan yellow perch winter graded mesh assessment – 2014 (12/6/13 and 12/7/13)

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Our annual winter graded mesh assessment of 2014 for yellow perch in the Wisconsin waters of Lake Michigan began on December 6, 2013. The survey was conducted off the Milwaukee harbor using the DNR research vessel *R/V Coregonus*. In early December 2013, the air and water temperature started dropping very quickly. Hence the captain and the crew tried to move quickly so that the assessment could be completed in a short time. Ideally we would prefer to conduct the survey over a couple of weeks. However, due to severe cold temperatures, and for safety of the vessel and the crew, the assessment was cut short with only two lifts, one on 12/6 and the other on 12/7. We lifted six boxes of gill net on 12/6 and eight boxes of gillnet on 12/7. 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". High winds, waves and very cold temperatures prevented us from setting any more gill nets and the vessel travelled back to Sturgeon Bay immediately before the weather turned too bad to travel. Thus the total effort this year was only 11,200 ft. of gill net. The surface water temperature during the sampling period was around 40 °F which was similar to previous years of sampling.

The total number of yellow perch caught in this year's survey was an all-time low (10 perch). Only five yellow perch were caught in each lift. The catch per 1000 ft. was 0.89 yellow perch (for all meshes combined). Most perch were caught in the larger size meshes (Table 1). There were two males, 294mm and 309mm, and eight females which ranged from 239mm to 362mm. The perch ages ranged from 2 to 13, with the majority of them being age 9 (2005 year-class).

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

Mesh size	2.5	2.75	3	3.25
# perch	1	2	1	6

Males: 20%; Females: 80%

Even though the effort was reduced because of the inclement weather, we maximized our efforts in historic index sites. These sites have produced good number of yellow perch from different size classes in the past. We maintained our yellow perch graded mesh standard protocol while choosing locations and depths. The cause of extremely low catches of yellow perch in this year assessment is unclear. The nets appeared to be fishing effectively which was evident in the good numbers of other species caught such as round white fish, lake trout and burbot. The nets were not clogged by cladophora which sometimes happens especially in shallow waters. Even though we were able to

conduct only two lifts this year, we still managed to cover all of our traditional northern and middle sites off Milwaukee. However, due to the extreme weather conditions, we were not able to cover all of the sites in the southern part of the survey area.

The graded mesh assessment of 2013 as well as the spawning assessment in the spring of 2013 showed a continued declining trend of yellow perch numbers. We have not seen good number of younger year-classes of perch in the graded mesh assessment in recent years. We are beginning to notice increasing number of round white fish as a bi-catch in all of our yellow perch assessments. It appears that the trophic structure in the nearshore waters is changing towards more benthic feeding fish species.