

NYONA LAKE
Fulton County
2011 Hybrid Striped Bass Evaluation

Date of Survey: September 20 and 21, 2011

Biologist: Tom Bacula

Survey Objectives: Evaluate the stocking success of hybrid striped bass in Nyona Lake under work plan 300FW1F10D42609.

Introduction: Nyona Lake is a 104-acre natural lake located in Fulton County. The lake has a maximum depth of 32 feet and an average depth of 13 ft. There is a state public access site located on the northwest shore of the southern basin. The last standard fisheries was completed in 2010 and 647 fish were collected representing 15 species and one hybrid weighing an estimated total of 319.9 lbs. The most abundant species by number were bluegill (43%), largemouth bass (32%), and gizzard shad (7%). By weight largemouth bass (55%), spotted gar (12%), and bluegill (10%) were the most abundant. There were 276 bluegills and 205 largemouth bass that weighed 31.7 lbs and 174.3 lbs, respectively. Bluegills ranged in length from 1.8 to 8.2 in and 29% of fish were considered harvestable ($TL \geq 6.0$ in). Largemouth bass ranged in length from 2.3 to 19.3 in, and 37 of the bass collected were legal length (14.0 in) and longer. Other sport fish collected include yellow perch, redear sunfish up to 9.2 in, black crappie up to 10.5 in, and one hybrid striped bass that was 21.2 in. Hybrid striped bass have been stocked in Nyona Lake since 1990 (Table 1).

Methods: Fish were collected with three striper gillnet lifts on September 20 and 21, 2011 (6 lifts total), in the same locations as 2009. Hybrid striped bass were measured to the nearest 0.1 in total length (TL) and weighed to the nearest 0.01 lbs. Fish were separated into half-inch groups (X.0-X.4 for inch group and X.5-X.9 for half-inch group) and five scale samples per half-inch group were taken for age and growth analysis.

Summary: Under work plan 300FW1F10D42609, 1.5 h of night electrofishing was to be conducted; however, electrofishing was eliminated from sampling following the recommendations of Long (2010). This was because no hybrid striped bass have been collected with electrofishing in any of the three previous surveys. In 2011, 16 hybrid striped bass were collected that weighed 33.0 lbs. Gill net catch averaged 2.7/lift. Fish collected ranged from 13.8 to 18.7 in and were ages 1 and 2. Average length at capture for age-1 hybrid striped bass was 14.6 in and for age-2 fish was 18.3in.

The hybrid striped bass population is slightly lower in abundance and size structure than the 2007 and 2009 surveys. Gill net catch averaged 13.2 and 5.3 for 2007 and 2009, respectively. Overall, catch rate has been highly variable across survey years. The decline in large fish is, in part, due to no fish being stocked in 2008. Similar to other surveys no age-0 hybrid striped bass were collected in gill nets. There have been no creel surveys at Nyona Lake to determine angler use of the hybrid striped bass and if resources allow a creel should be conducted. Despite the lack of formal evaluation criteria, anglers at the public access site are happy with the hybrid striped bass fishery by catching and harvesting these fish.

Overall, Nyona Lake should continue to be stocked with 1,040 fingerling (10 per acre) hybrid striped bass to maintain the fishery. Future evaluations at Nyona Lake should include using six gill nets (three per day) at locations established in 2009 in an attempt to monitor annual variation. Other notable collections in the gill nets were a 22.2 and a 21.6 in largemouth bass. Also, more than ten black crappies were collected that were over 13.0 in. Nyona Lake will continue to be a good fishing lake with large hybrid striped bass as well as other quality game fish.

Literature Cited:

Long, C. 2010. Nyona Lake: 2009 Hybrid Striped Bass Evaluation. Indiana Department of Natural Resources. Division of Fish and Wildlife. Indianapolis, Indiana.

Submitted by: Tom Bacula, Assistant Fisheries Biologist
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Approved by: Jeremy Price, Regional Supervisor

Table 1. Stocking history, catch and age of hybrid striped bass collected during fall supplemental evaluations at Nyona Lake, Fulton County, Indiana.

Year	Number Stocked	Average Length	<u>Supplemental Evaluations</u>							
			2011	2009	2007	2005				
			Number Collected	Number Collected	Number Collected	Number Collected	Number Collected			
1990	2,100	1.2								
1991	1,002	1.3								
1992	2,809	1.2								
1993	1,040	0.9								
1994	No Stocking									
1995	1,040	1.1								
1996	No Stocking									
1997	2,080	1.1								
1998	1,040	1.4								
1999	1,040	1.4								
2000	No Stocking									
2001	1,040	1.2								
2002	1,040	1.7				3	2			
2003	No Stocking						2	0		
2004	No Stocking					3	1	1	0	
2005	1,040	1.9			4	1	2	64	0	0
2006	1,040	1.2			3	3	1	14		2
2007	1,040	1.2			2	28	0	0		
2008	No Stocking				1	0		79		
2009	1,075	1.3	2	7	0	0				
2010	1,144	1.2	1	9		32				
2011	1,038	1.2	0	0						

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NUMBER, PERCENTAGE, WEIGHT, AND AGE OF HYBRID STRIPED BASS									
TOTAL LENGTH (inches)	NUMBER COLLECTED	PERCENT OF FISH COLLECTED	AVERAGE WEIGHT (pounds)	AGE OF FISH	TOTAL LENGTH (inches)	NUMBER COLLECTED	PERCENT OF FISH COLLECTED	AVERAGE WEIGHT (pounds)	AGE OF FISH
1.0					19.0				
1.5					19.5				
2.0					20.0				
2.5					20.5				
3.0					21.0				
3.5					21.5				
4.0					22.0				
4.5					22.5				
5.0					23.0				
5.5					23.5				
6.0					24.0				
6.5					24.5				
7.0					25.0				
7.5					25.5				
8.0					26.0				
8.5					TOTAL	16		33.02	
9.0									
9.5									
10.0									
10.5									
11.0									
11.5									
12.0									
12.5									
13.0									
13.5	1	6.3	1.30	1					
14.0	3	18.8	1.32	1					
14.5	3	18.8	1.45	1					
15.0	2	12.5	1.62	1					
15.5									
16.0									
16.5									
17.0									
17.5	2	12.5	2.68	2					
18.0	2	12.5	2.77	2					
18.5	3	18.8	3.10	2					

GILL NET CATCH	2.7 /lift	
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AGE-LENGTH KEY FOR HYBRID STRIPED BASS												
LENGTH GROUP (inches)	NUMBER COLLECTED	NUMBER AGED	AGE									
			1	2	3	4	5	6	7	8	9	10
12.0												
12.5												
13.0												
13.5	1	1	1									
14.0	3	3	3									
14.5	3	3	3									
15.0	2	2	2									
15.5												
16.0												
16.5												
17.0												
17.5	2	1		2								
18.0	2	2		2								
18.5	3	3		3								
19.0												
19.5												
20.0												
Total	16	15	9	7								
Mean TL			14.6	18.3								
SE			0.17	0.17								

GILL NETS			
1	N	40.96529	W 86.18482
	N	40.96568	W 86.18571
2	N	40.96382	W 86.18345
	N	40.96459	W 86.18335
3	N	40.95895	W 86.18749
	N	40.95966	W 86.18694
4	N	40.95958	W 86.18687
	N	40.96039	W 86.18661
5	N	40.96435	W 86.18330
	N	40.96514	W 86.18322
6	N	40.96638	W 86.18561
	N	40.96613	W 86.18462