

Goose Lake
Minnehaha Fish and Wildlife Area, Sullivan, County
Supplemental Survey

Date of Survey: July 16, 2008

Biologist: David S. Kittaka

Naturalist Aide: Nicholas T. Grzych

Survey Objective: To positively identify and confirm the presence of silver carp (*Hypophthalmichthys molitrix*). Property personnel at Minnehaha FWA had reported sightings of these fish during maintenance to the collapsed culvert at the outlet of Goose Lake. Silver carp have been known to negatively impact native fish communities within invaded bodies of water by changing water quality and benthic communities (Kolar et al. 2005). This work was conducted under fisheries work plan AISM05601.

Methods: Goose Lake was sampled using DC electrofishing gear and two dip netters for 0.80 h during the morning and mid-day hours. All fish were collected and identified to species. Total counts and length ranges were also taken for each species.

Summary: A total of 127 fish was collected which included 13 species. Bluegill and longear sunfish were the dominant species collected, and were very similar in abundance. A total of 39 bluegill was sampled, ranging from 3.0 to 7.0 in TL. Other game fish collected were largemouth bass, ranging from 5.0 to 18.6 in TL, and spotted bass, ranging from 6.1 to 9.9 in TL. Gizzard shad, the main forage base for this lake, ranged from 2.7 to 11.9 in TL, with 24 fish collected. Species collected or observed during electrofishing were smallmouth buffalo, silver carp, bowfin, orangespotted sunfish, common carp, and longnose gar, all of which are known to reside within the Wabash River. One silver carp measuring 19.3 in was collected and approximately five others were observed. Kettle Creek drains into Busseron Creek which drains into the Wabash River (Hoggatt 1975). The Kettle Creek confluence with Busseron is 21 river mi from the Wabash River. These connected waters allowed fish common to the Wabash River to ascend Kettle and Busseron Creeks, and ultimately invade Goose Lake.

Currently, the culvert is in the process of being removed and/or replaced and the lake is flowing out through an unrestricted channel. Due to recent flooding events, it is probable these fish had access to Mohawk and Loon Lakes, which are connected to Goose Lake, and all drain into Kettle Creek. J-1 Reservoir is drained by a stream leading to Goose Lake and natural migration into or beyond this reservoir is blocked by the dam approximately one mile from Goose Lake.

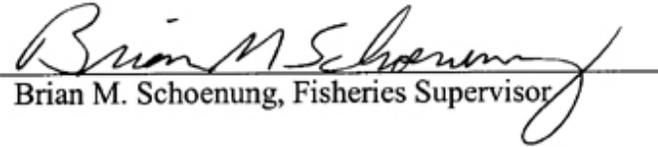
Literature Cited:

Kolar, Cindy S. et al. Asian Carps of the Genus *Hypophthalmichthys*: A Biological Synopsis and Environmental Risk Assessment. April 2005. As viewed online at <http://www.fws.gov/contaminants/OtherDocuments/ACBSRAFinalReport2005.pdf> Accessed July 17, 2008.

Hoggatt, R.L. 1975. U.S. Department of the Interior Geological Survey, Water Resource Division. Drainage Areas of Indiana Streams.

Submitted by: Nicholas T. Grzych, Naturalist Aide
Date: July 31, 2008

Approved by: David S. Kittaka, Fisheries Biologist

Approved by: 
Brian M. Schoenung, Fisheries Supervisor

Date: January 12, 2009

LAKE SURVEY REPORT

Type of Survey	<input type="checkbox"/> Initial Survey	<input checked="" type="checkbox"/> Re-Survey
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Lake Name Goose Lake	County Sullivan	Date of survey (Month, day, year) 7/16/2008
Biologist's name David S. Kittaka	Date of approval (Month, day, year) 1/12/2009	

LOCATION		
Quadrangle Name Hymera	Range 8W	Section 7
Township Name 8N	Nearest Town Wilfred	

ACCESSIBILITY					
State owned public access site Concrete boat ramp		Privately owned public access site		Other access site	
Surface acres 33	Maximum depth 46	Average depth Unknown	Acre feet Unknown	Water level Unknown	Extreme fluctuations Unknown
Location of benchmark					

INLETS		
Name Kettle Creek	Location West	Origin Flows through J-1 Reservoir

OUTLETS			
Name Kettle Creek	Location Northeast		
Water level control None known			
POOL	ELEVATION (Feet MSL)	ACRES	Bottom type
TOP OF DAM			<input type="checkbox"/> Boulder
TOP OF FLOOD CONTROL POOL			<input checked="" type="checkbox"/> Gravel
TOP OF CONSERVATION POOL			<input type="checkbox"/> Sand
TOP OF MINIMUM POOL			<input type="checkbox"/> Muck
STREAMBED			<input checked="" type="checkbox"/> Clay
			<input type="checkbox"/> Marl

Watershed use
Previously mined land, agriculture and livestock, includes several lakes and ponds.

Development of shoreline
None

Previous surveys and investigations
1986 Fish Management Report

