

<b>Date of Report:</b> 11/16/2021	<b>Fisheries Manager:</b> Seth Love	<b>District:</b> 8
<b>Lake Name:</b> Heiland Lake	<b>County:</b> Kankakee	<b>Water #:</b> 35040
<b>Ownership (STATE, PUBC, PUBO):</b> Coop – KRVFPD		<b>Acreage:</b> 19.7

**LM STATUS REPORTS WILL INCLUDE THE FOLLOWING SECTIONS:**

1. Listing of the Sport Fish Regulations in Effect
2. Listing of Fisheries Management Activities Completed with Evaluation of Success
3. Lake Management Plan Progress Table
4. Recommendations for Observed Problem Trends

**1. Current Sport Fishing Regulations**

All Fish: 2 Pole and Line Only

Bluegill or Redear Sunfish: 15 Fish Daily Harvest Limit (singly or aggregate)

Channel Catfish: 3 Fish Daily Limit

Large or Smallmouth Bass: 18-inch Minimum Length Limit; 1 Fish Daily Limit

**2. Management Activities Completed**

***Surveys:***

Fall EF Community Assessment: 10/15/2021

***Fish Stockings:***

500 NVC: 08/11/2020

350 NVC: 09/03/2019

***Vegetation Management:***

N/A

***Habitat Enhancement:***

N/A

**2A. Evaluation of Activities Completed in Part 2 :**

***Fall Community Survey***

The 2021 Heiland Lake Fall Community Assessment Survey consisted of two daylight DC-electrofishing runs (1030 – 1050 hours and 1135 – 1150 hours) for a combined total of 35 minutes of sampling effort. This is 15 minutes less effort than the previous survey in the Fall of 2017, however both pools were sampled in near entirety. The small pond boat with Smithroot electrofishing setup and one dipper were used. This survey took place very late in the season due to prolonged warm weather which lingered well into mid-late September. Water temperatures

were comparable to the 2017 survey (which took place September 7<sup>th</sup>). Overall, three species and 230 individual fish were collected.

**LARGEMOUTH BASS:** A total of 162 Largemouth Bass were collected ranging from 50 – 377 mm (1.9 – 14.8 in), with 131 of those fish  $\geq$  Stock size (200 mm [8.0 in]). This survey met the minimum required number of fish  $\geq$  Stock size ( $n = 40$ ) to accurately quantify population demographics as set forth in the Lake Management Plan (LMP). Both the PSD and PSD-P fell within their respective target ranges, albeit on the lower end. Lower PSD and PSD-P values could indicate a growth bottleneck due to an overabundance of Stock and Quality-sized Largemouth Bass which limits forage availability and/or overabundant vegetation making foraging difficult. Body condition seems to corroborate this, with relative weight values of Stock and Quality sized fish below the 90<sup>th</sup> percentile. The Young-Adult-Ratio remained unchanged from the 2017 survey.

**BLUEGILL:** A total of 66 Bluegills were collected ranging from 20 – 215 mm (0.8 – 8.5 in), with 23  $\geq$  Stock size (80 mm [3.0 in]). This survey did not meet the minimum required number of fish  $\geq$  Stock size ( $n = 100$ ) to quantify population demographics as set forth in the LMP. However, I believed 23 fish  $\geq$  Stock size sufficient to continue with the analysis. While the PSD was low, the PSD-P was within the target range. Body condition (as indexed by relative weight) exceeded the 90<sup>th</sup> percentile for Quality and Preferred sized fish (albeit only two fish from each size group were collected). A high body condition indicates sufficient forage for fish growth. In lakes typically managed for panfish, Largemouth Bass will be allowed to “crowd” to keep panfish densities low (allowing for increased forage, good growth, and ultimately larger panfish). Despite an apparently crowded Largemouth Bass population, low Bluegill densities, and good Bluegill body condition, very few larger Bluegill were collected (as indicated by low the PSD value). It’s possible that larger fish are present but were difficult to collect due to vegetation coverage.

**CHANNEL CATFISH:** No Channel Catfish were collected which is not surprising, as standard electrofishing is not typically used to evaluate Channel Catfish populations. As stockings continue, fish should be observed during these surveys. Non-Vulnerable Channel Catfish (8 – 10 inches) are requested on a biennial basis.

### 3. Lake Management Plan Progress Table

SPECIES	CRITERIA	LMP GOAL	2017	2021	RATING
Largemouth Bass	No. $\geq$ Stock Size	40	159	131	Excellent
	CPUE – LMB $\geq$ 150 mm	0.5-1.0/min	N/A	4.1/min	Excellent
	CPUE – Overall	1.1/min	N/A	4.6/min	Excellent
	PSD	30 - 60	52	37	Good
	PSD-P	10 - 20	11	0	Poor
	RSD-18	5 - 10	0	0	Poor
	<i>Wr</i>	85+	~90+/-	86	Good
Bluegill	No. $\geq$ Stock Size	100	67	23	Poor
	PSD	20 - 40	15	17	Poor
	PSD-P	5 - 10	N/A	9	Good
	<i>Wr</i>	90	N/A	88	Fair
Channel Catfish	Stocked	Yes	No	Yes	Good

### 4. Recommendations for Observed Problem Trends

After the 2017 Fall survey, regulations to benefit the Bluegill/Redear Sunfish populations were proposed and accepted (a 1-fish daily creel and 18-inch Minimum Length Limit for Largemouth Bass and a 15-fish daily aggregate creel for Bluegill/Redear Sunfish). According to the 2021 survey, these regulations do not appear to be benefiting the Bluegill population as expected. A Spring nighttime electrofishing survey with otolith collection should be considered to help understand the situation better and recommend the appropriate regulation (if necessary).

#### Recommendations:

- If scheduling and staffing permits, conduct a Spring nighttime electrofishing survey to see if the Largemouth Bass size structure is different and take otoliths to evaluate age and growth
- Continue requesting Non-vulnerable Channel Catfish (NVC) on a biennial basis (Even Years) from the state hatchery system
- Consider making a request for Redear Sunfish fingerlings from the state hatchery system for the 2022 season (would be stocked in Fall 2022)
- Continue monitoring aquatic vegetation and consider spot treating in 2022 if vegetation appears to be at nuisance potential and staffing/time permits.
- Conduct fish population surveys on a routine basis.
- Develop a crude boat access with paved trail to facilitate fish management as well as ease of fish stocking.

- Enhance shoreline fishing opportunities by clearing selected areas of rank woody vegetation and spot treatment of rooted aquatic plants.

