

Spring 2026

Introduction:

JadEco has been assisting with fisheries management at both Fish Hook and Roundhouse Lakes for the New Windsor Sportsman's Club since 2019. Fish Hook was surveyed in 2019, 2020, 2022, and now again in 2026. Roundhouse was surveyed 2019, 2021, 2022, and 2026.

This data helps to determine a direction and plan for improvement for both lakes. Fisheries management is a dynamic process and continued monitoring and analysis is needed to maintain a level of fishing that is desired by the club members and the New Windsor Sportsman's Club does recognize this. It has been four years since the last survey was conducted and the fishery can change a lot in that time. The club should consider more frequent surveys. This would allow us to observe changes that are occurring quickly, and make adjustments to the creel limit and stocking programs quicker to ensure we are able to manage the fishery more efficiently.

To assess the fishery, we utilize several indices in fisheries management as tools to interpret the population structure and condition of the fishery. Data analysis tools such as Catch Per Unit Effort (CPUE) provide information on the abundance of species. The quantity of fish collected within a certain amount of time determines the CPUE. This is used for the collection as a whole, or per species comparisons. Proportional stock density (PSD) is also analyzed on important game species. This is a fisheries assessment tool used to determine the size distribution of the fish within a population. Relative weights (Wr) are calculated to provide insight into the condition of the fish in a population or fish community. They also provide an understanding of the size structure of game species within the lake, and provide information on length to weight relationships to better understand if your game fish are relatively fat, or relatively thin. Potential changes in the predator / prey relationships and available forage can be interpreted through these metrics. Combined, these metrics provide information on the game fish community, species density and potential trends in the fishery.

Fish Hook Lake:

Daytime DC Electrofishing was conducted throughout much of the lake on May 20, 2026. A total of 4 species were represented during the survey, all of which were considered important game species. A total of 245 fish were collected and the collection consisted of largemouth bass, bluegill, black crappie, and red ear sunfish. This was consistent with the previous collections.

The water clarity was good at 5 feet for this survey and the equipment was functioning well. Water temperature was at 64.3°F and air temperature was at 54°F.

Summary of Fisheries Data Collected - Spring 2026:

The following is a summary and interpretation of the data from the Spring 2026 fish survey, and compares to the other spring collections. Over all, the health and condition of the fish collected during the survey was good, but the relative weights were lower, with largemouth bass W_r falling slightly below our objective.

We collected a total of 245 fish during the survey time. Largemouth bass represented 44% of the collection with a collection rate 2.42 fish per minute collected. Bluegill comprised just over 44% of the collection with 104 fish collected at a rate of 2.31 fish per minute. Black Crappie and red ear sunfish comprised the remainder of the fish collected. Average relative weight (W_r) for the game species of concern were all within objective ranges, with the exception of the largemouth bass. The bluegill size structure has shifted to larger bluegill, but there is low recruitment.

Largemouth Bass:

The collection rate for largemouth bass was within our objective collection rate at 2.42 fish per minute. The average relative weight (W_r) of bass collected was at 89 (down from 99 during the last survey). With a lower than objective W_r , I would expect slower growth rates for your bass. Bass W_r ranged from 71 to 120. The average length bass collected was at 11.7" up from 10.4" with a range from 4.3" to 21".

The PSD or 'proportional stock density' metric to analyze the size structure of the bass population was used. This is a comparison of the stock (>8") to quality (>12") size bass in the sample. The objective range for largemouth bass PSD is 40-70. The PSD for Fish Hook Lake was at 43, which is within our objective range. We observed a high number of 10" to 13" bass (nearly 40% of the total catch), which continues to keep the PSD lower.

The RSD14 is an evaluator of how many bass are over 14" in proportion to the total number over stock size at 8". The RSD14 for largemouth bass was at 24, and consistent with the 2022 survey at 28. This is above the objective range (10 to 20). This would indicate there continues to be a decent number of bass greater than 14" in the fishery.

Previous reports indicated the need to monitor recruitment, and we still feel this is needed. In the 2020 survey, we had better representation of smaller bass (under

6”), where that size class was not observed in 2022, and continues to be lower in 2026.

Over all, the bass fishery at Fish Hook Lake appears to be doing well, but is not improving. We need to continue to monitor the large number of bass in the 10” to 13” to ensure they continue to grow and recruit into the next size classes in the upcoming year. If those classes do not continue to grow, or stunt out, corrective action may be needed with creel adjustments. Monitoring of bass relative weights is important as well so corrective action can take place. I recommend doing another survey sooner than the 4 year rotation this time. We should look at this again in no more than 2 years.

Bluegill:

Bluegill comprised over 44% of the total fish collected during the survey. The objective range for bluegill is between 2 and 4.5 fish per minute, and we collected 2.31 fish per minute and were within our objective range for bluegill. We collected 104 bluegills that ranged from 2.6” to 9.4” with an average size of 6.8”.

The bluegill PSD was up again in 2026 at 72 and is above our objective range of 20 to 60. This would indicate that of the fish greater than 3” in length (stock size), 72% were larger than 6” in length (quality size). As stated, the average length was nearly 6”. We’ve seen a substantial improvement in the bluegill size structure since the previous survey with high density of larger bluegills. However, recruitment of younger bluegill is low. This may be some of the issues with bass relative weights being lower. Continuing to thin out the number of bass under 13” may help improve bluegill recruitment by less predator pressure.

When we started surveys in 2019, no bluegill were collected over 6”, and now the average is 6.8” with approximately 70% of the bluegill collected over 6”. This is a good indicator that the bluegill fishing is improving, but recruitment needs to improve.

Bluegill collected averaged 105 for relative weights (Wr). This is excellent and should be providing good growth opportunities for the bluegill population. Wr ranged from 83 to 147. The Wr has maintained for bluegill since 2020.

Black Crappie:

We collected 8 black crappie ranging from 5.6” to 12.6” with a CPUE of 0.18. This is slightly below our objective range, but an indicator that the fishery is doing well. Black crappie Wr was within our objective range at 92 and ranged from 84 to 110. There was limited recruitment with approximately 12% being 5”-6” fish and the remainder were over 9” up to nearly 13”. Crappie need to continue to be monitored, and angling can be an indicator on how this population is doing. Continue to seek

feedback on the crappie being collected by the members, but I expect the fishermen are seeing this improving crappie trend.

Redear Sunfish:

Redear sunfish comprised approximately 10% of the overall collection with 24 fish represented. The CPUE for redear was at 0.53 fish per minute. Redear ranged from 7.7" to over 11" with a population average at 8.8". The Wr ranged from 83-109 and averaged 96, within our objective range. Redear can be more difficult for anglers to catch, but I would anticipate the fishermen are experiencing good fishing for redear.

Recommendations:

Size and creel limits:

We should continue to maintain the harvest of some of the smaller bass due to the lower Wr on bass. This should reduce the biomass, allowing the remaining bass more forage and space for growth. This needs to be monitored, and I recommend we don't wait four more years to check on this balance. Fish Hook is a small lake, and could be overharvested quickly if there is a lot of angling pressure.

Crappie limits can continue at 10 / day. Crappie are a cyclical species, meaning they have specific years with strong year classes, and as they grow the fishing for crappie improves, but the years with gaps in strong spawning can show in angler harvests.

Continue with the bluegill limits at 10 per day with only 5 over 8" per day. We are seeing improvements in the bluegill size distribution to larger size ranges, and with the good Wr, I expect we can see improvements in this fishery as long as limits are followed. The recruitment of bluegill appears to be lower by the data collected. This may improve with the reduction of some of the midsized largemouth bass.

Continue to monitor the fish community and population structure through electrofishing data collection to make changes to the creel and size limits as needed.

It is critical to monitor the bass numbers and community changes with these harvest regulations. We have made good changes to the largemouth bass population through this harvest, but we don't want to over harvest and surveys are the best way to ensure this.

Stocking:

At this time, we do not recommend any stocking on Fish Hook Lake.

Table 1: Catch Per Unit Effort (CPUE) by species on Fish Hook Lake, Spring 2026

<i>Species:</i>	<i>Number</i>				<i>Fish/Minute</i>				<i>Objective</i>
	<i>'26s</i>	<i>'22s</i>	<i>'20s</i>	<i>'19s</i>	<i>'26s</i>	<i>'22s</i>	<i>'20s</i>	<i>'19s</i>	
Largemouth Bass:	109	136	81	61	2.42	2.03	3.24	1.22	1.0 - 2.5
Bluegill:	104	124	63	126	2.31	1.85	2.52	2.52	2.0 - 4.5
Black Crappie:	8	1	6	55	0.18	0.01	0.24	1.1	0.2 - 0.8
Red Ear Sunfish:	24	11	4	29	0.53	0.16	0.16	0.58	-----
Total	245	272	154	271	5.44	4.05	6.16	5.42	6.00 +

Table 2: Proportional Stock Density (PSD) – Fish Hook Lake, Spring 2026

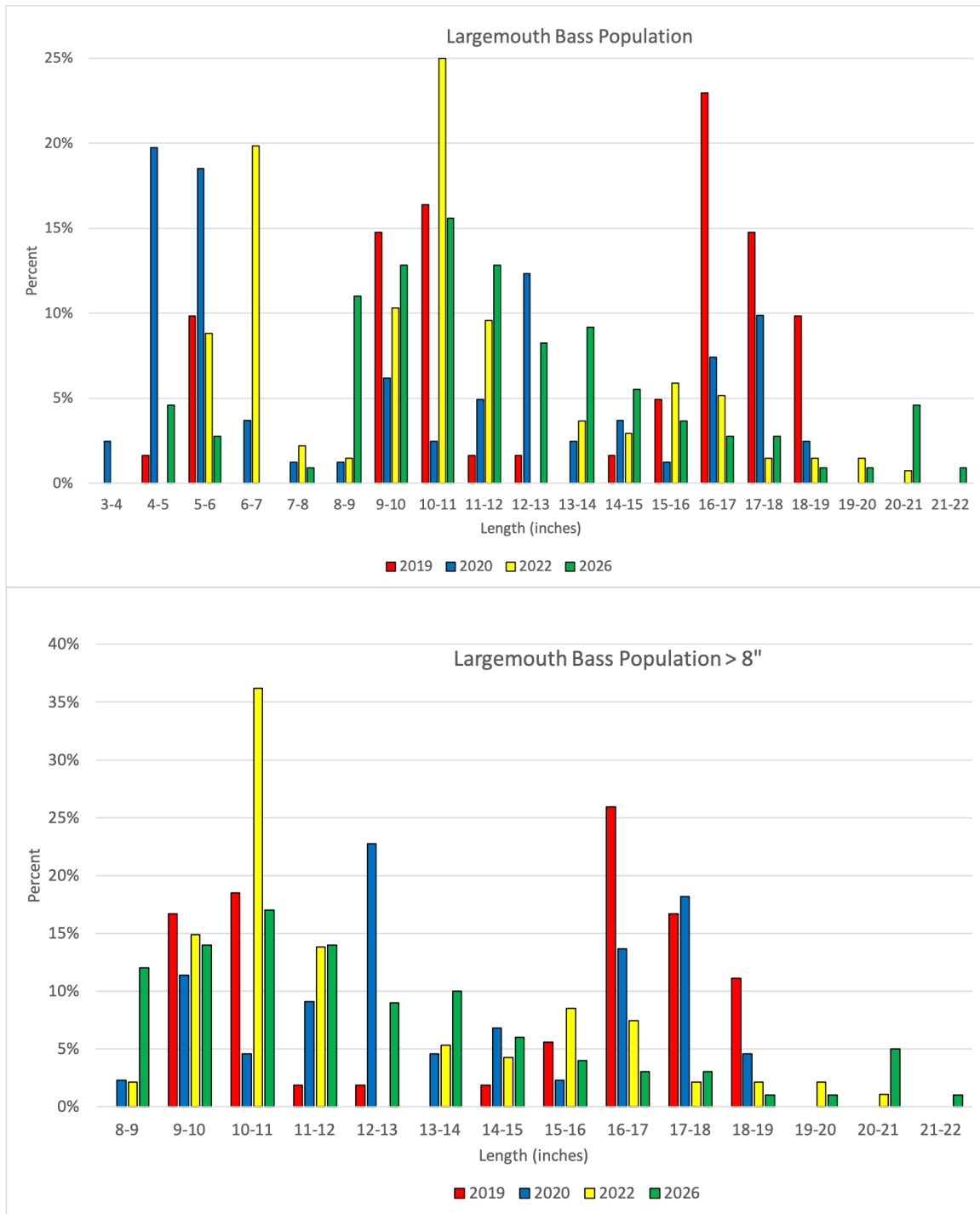
<i>Species:</i>	<i>'26</i>	<i>'22</i>	<i>'20s</i>	<i>'19s</i>	<i>Objective</i>
Largemouth Bass:	43	33	73	63	40-70
Bluegill:	72	54	33	25	20-60

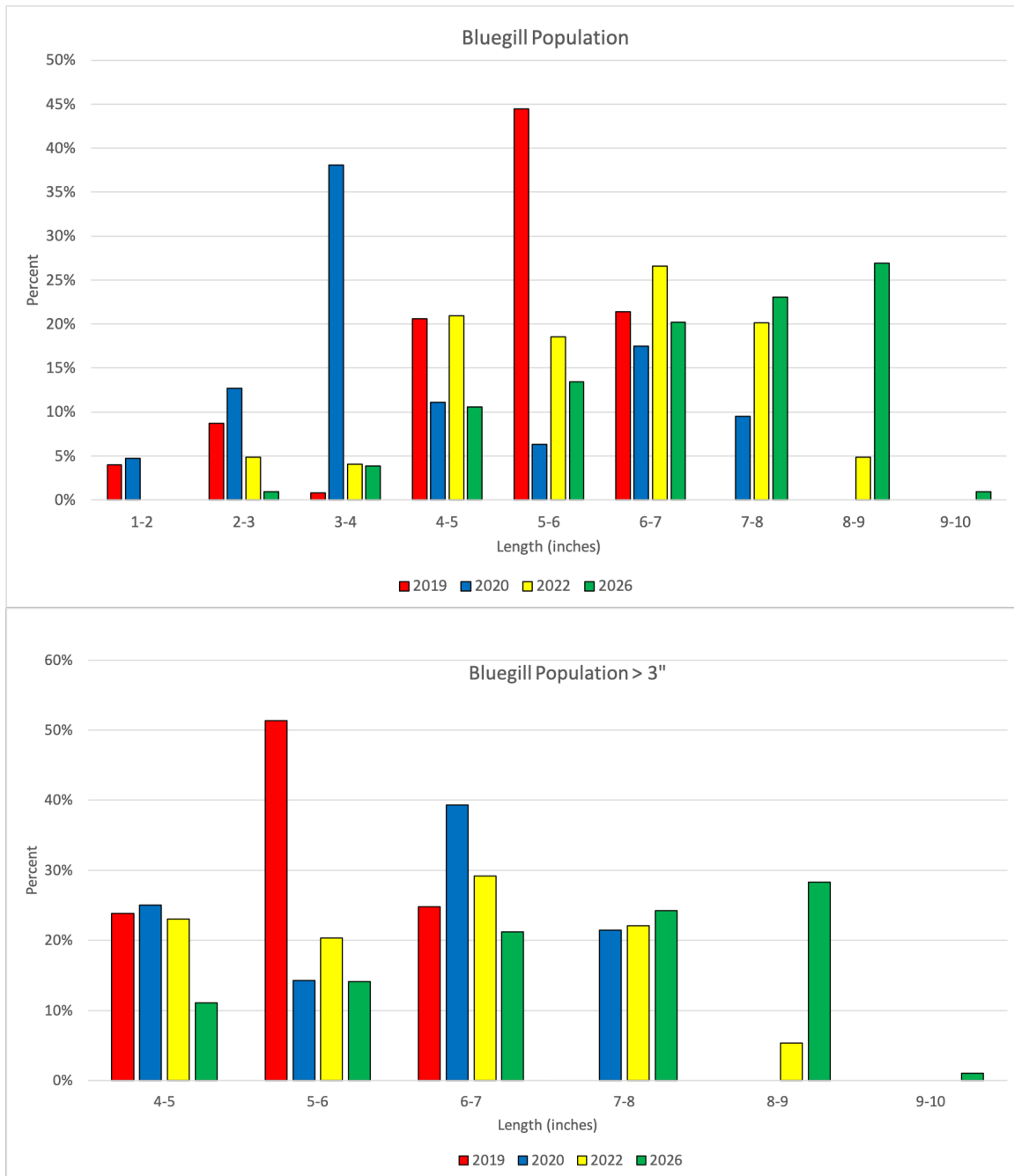
Table 3: Relative Weight (Wr) – Fish Hook Lake, Spring 2026

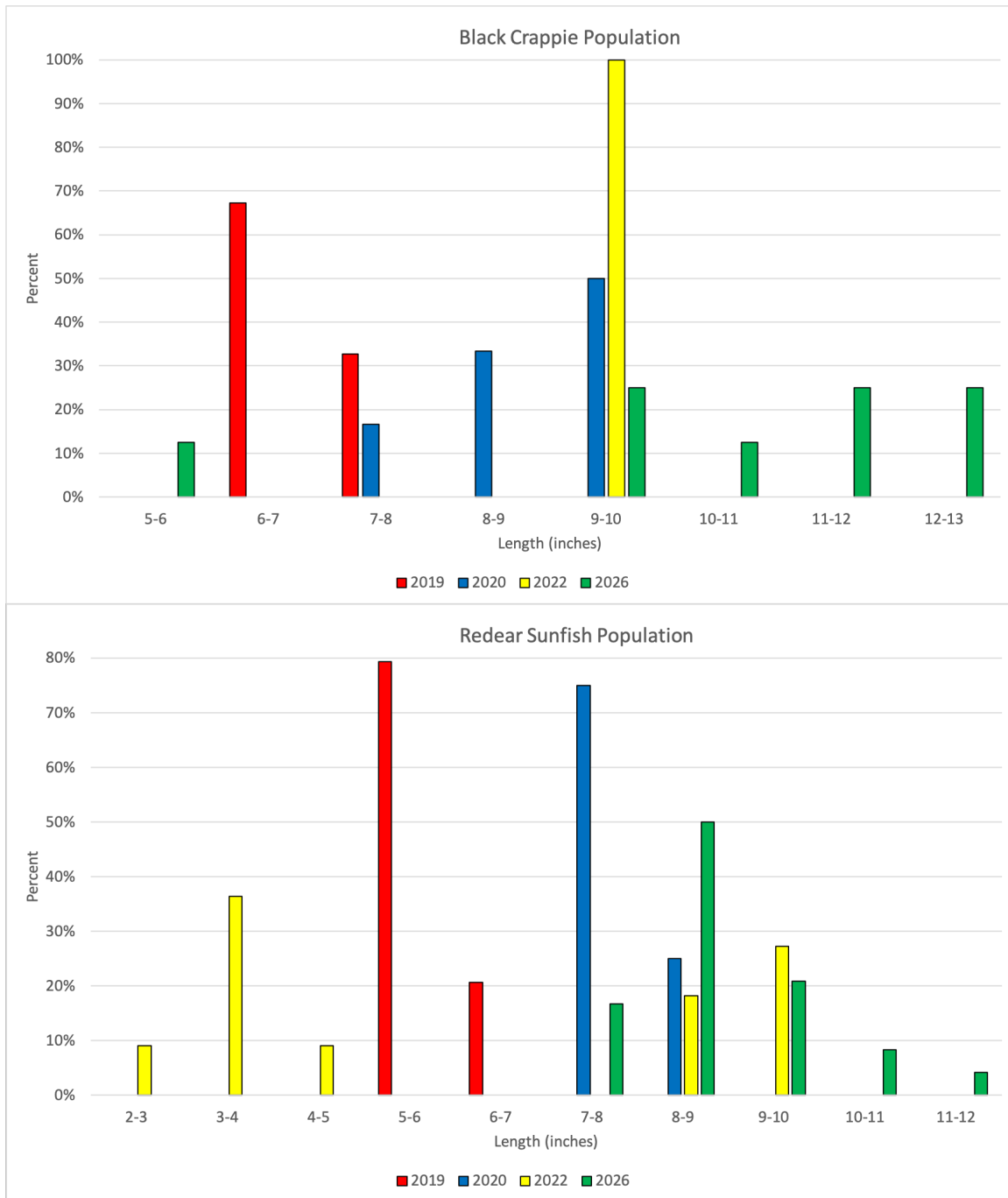
<i>Species:</i>	<i>Wr (Ave)</i>				<i>Range</i>				<i>Objective</i>
	<i>'26s</i>	<i>'22s</i>	<i>'20s</i>	<i>'19s</i>	<i>'26s</i>	<i>'22s</i>	<i>'20s</i>	<i>'19s</i>	
Largemouth Bass:	89	99	91	95	71-120	70-167	75-110	81-112	90-110
Bluegill:	105	107	106	96	86-125	83-147	77-127	77-126	90-110
Black Crappie:	92	99	130	92	84-110	99	105-177	81-99	90-110
Redear:	96	106	110	88	83-109	95-121	98-116	75-104	90-100

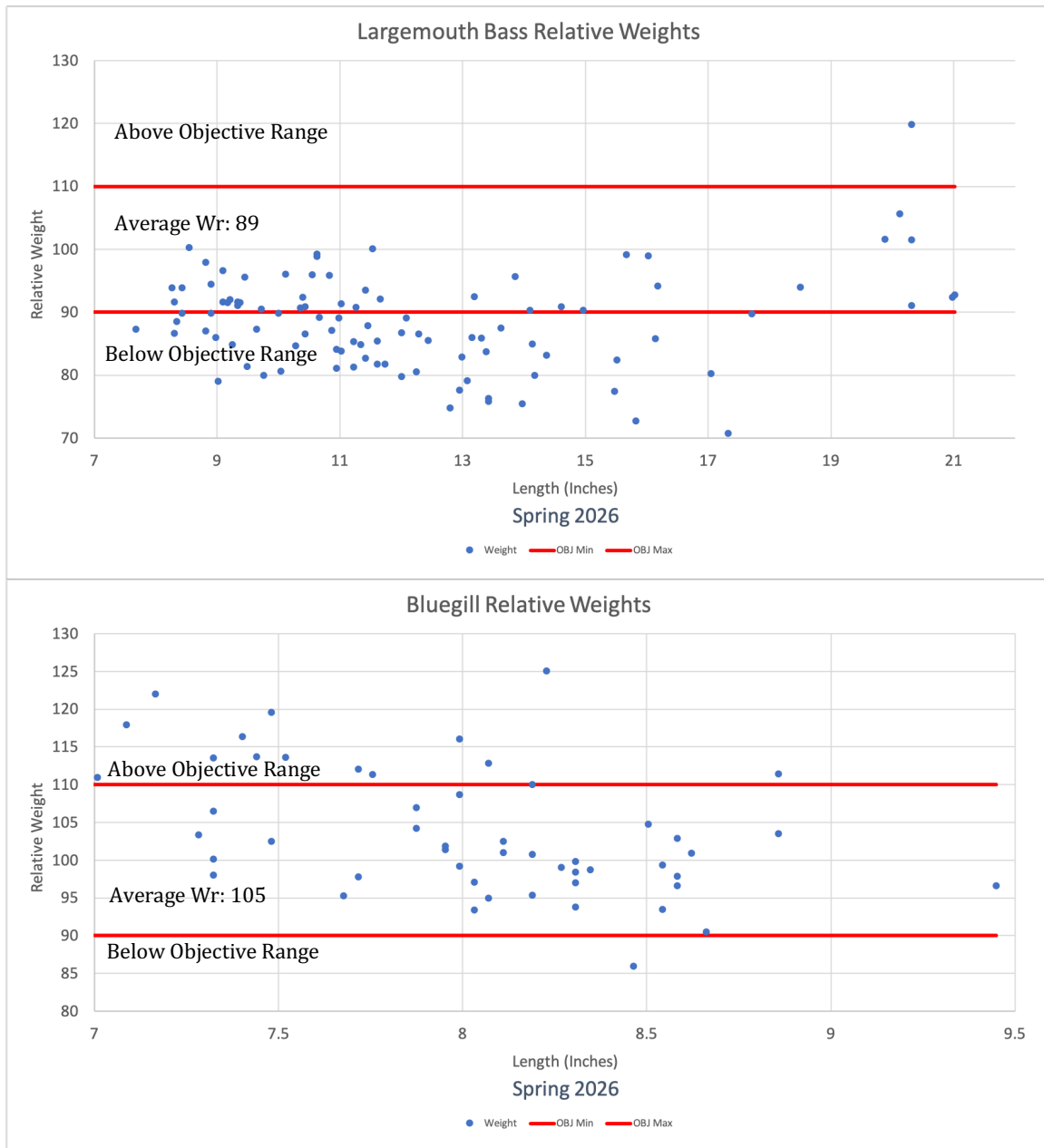
Table 4: Length Ranges by Species – Fish Hook Lake, Spring 2026

<i>Species:</i>	<i>Length:</i>				<i>Average</i>			
	<i>'26s</i>	<i>'22s</i>	<i>'20s</i>	<i>'19s</i>	<i>'26s</i>	<i>'22s</i>	<i>'20s</i>	<i>'19s</i>
Largemouth Bass:	4.3"-21"	5"-20"	3.8-18.2"	4.7-18.7"	11.7"	10.4"	9.9"	13.4"
Bluegill:	2.6"-9.4"	2"-8.5"	1.8-7.7"	1.6-6.8"	6.8"	5.9"	4.4"	5.1"
Black Crappie:	5.6"-12.6"	9.8"	7.9-9.8"	6.5-7.5"	10.5"	9.8"	8.7"	7.0"
Redear Sunfish:	7.7"-11.2"	2.9"-6"	7.2-9.8"	5.0-7.5"	8.8"	6"	8.2"	5.7"











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Roundhouse Lake:

Daytime DC Electrofishing was conducted for a total of 45 minutes throughout much of the lake on May 20, 2026. A total of 6 species were represented during the survey of which 6 were considered important game species, and one of the other species was a non-desirable (bullhead). A total of 299 fish were collected with over 99% of the collection comprised of desirable species.

Water clarity readings were lower the day of the survey, with visibility at just 2 ½ feet deep. Water temperature was at 70°F and air temperature was at 70°F.

Summary of Fisheries Data Collected – Spring 2026:

The following is a summary and interpretation of the data from the spring 2026 fish survey, and is compared to our previous 2019, 2021, and 2022 surveys on Roundhouse. Overall, the survey was good with largemouth bass and bluegill sizes improving, relative weights for all species were within objective ranges, and high numbers of black crappie observed.

The overall collection was good, and one of our higher numbers of fish collected at 6.64 fish per minute (objectives are 6 fish per minute or more). Largemouth and bluegill CPUE were within our objective ranges.

Bluegill accounted for 3.38 fish per minute while bass accounted for 1.89 fish per minute. Both of which were within our objective ranges. We collected largemouth bass (85), bluegill (152), black crappie (44), red ear sunfish (14), channel catfish (2), and bullhead (2). This is the highest collection of black crappie we've had in the surveys.

Based on actual collection numbers, bluegill represented nearly 51% of the collection while Largemouth bass comprised just over 28% of the collection. Black crappie represented nearly 15% of the collection, red ear sunfish represented just under 5% of the collection, channel catfish represented 0.67% of the overall collection and bullhead represented the remainder at 0.67%.

Average relative weight (Wr) for the game species of concern were all within objective goals, with the exception of redear sunfish (over at 113) and channel catfish (over at 121) that were HIGHER than our objectives. All species of concern improved or maintained in relative weights with the exception of largemouth bass, which dropped from 95 to 90.

Largemouth Bass:

The collection rate for largemouth bass was within our objective collection rate at 1.89 fish per minute. The average relative weight (Wr) of bass collected decreased from 95 in 2022 to 90 in 2026. This is still fairly consistent with the bass in Roundhouse that historically have maintained lower Wr. Wr ranged from 76 to 115. This is in our objective range, but still lower than preferred for good growth.

The PSD or 'proportional stock density' metric to analyze the size structure of the bass population was used. This is a comparison of the stock (>8") to quality (>12") size bass in the sample. The objective range for largemouth bass PSD is 40-70. The PSD for Roundhouse Lake increased significantly from 6 (below our objective) in 2019 to 49 in 2021 and maintained at 47 in 2022. The PSD was at 87 in 2026, and above our objective range. This means that of bass collected over 8" in length, 87% of them were larger than 12". There was a high density of bass in the 12" to 16" size classes, but lower numbers in the 12" and under. This would cause a slight concern for recruitment over time with these lower numbers.

The RSD14 is an evaluator of how many bass are over 14" in proportion to the total number over the stock size at 8". The RSD14 for largemouth bass was at 12 in 2022 and increased to 37 in 2026. This is above our objective range (10 to 20).

Bass collected ranged from 3.9" to 19.3" in length and averaged 12.7" in the 2026 survey.

Bluegill:

Bluegill comprised 51% of the total fish collected during the survey. We collected 152 bluegill with a CPUE of 3.38 fish per minute, which is within our objective range for bluegill (2 to 4.5 fish per minute). This is the highest CPUE since the 2019 sample.

The bluegill PSD was at 74 (up from 53 in the previous survey) and is above our objective range (20-60). This would indicate that of the fish greater than 3" in length (stock size), 74% were larger than 6" in length (quality size). The Wr for bluegill was excellent with an average Wr at 109 with a range from 79 to 130. While this is within our objective range (90 -110), it is at the upper end of the range and should indicate good growth of the bluegill in Roundhouse Lake. Bluegill collected ranged from 1.2" to 9.1" with an average size at 6.2". Anglers fishing Roundhouse should be enjoying decent numbers of quality bluegill now, and those in the 7" range have gotten heavier in condition as well from the change in the creel limits.

Redear Sunfish:

The redear sunfish comprised 4.7% of the overall collection at Roundhouse Lake. A total of 14 redear were collected for a CPUE of 0.31 fish per minute. Average relative weight for redear was high at 113 with a range of 97 to 132. Redear were

collected from 8.9" to 12.6" with an average length of 10.6". The size distribution and numbers collected would indicate that redear are continuing to provide for some excellent redear fishing for anglers on Roundhouse. We did not observe young of the year recruitment that overwintered and stocking may need to be done to maintain this fishery if spawning recruitment doesn't improve over time.

Black Crappie:

Forty four (44) black crappie were collected with an average length of 9" and ranged from 3.9" to 12.6". This is nearly 1 fish per minute, and our objectives for daytime electrofishing are at 0.25 fish or more. There were multiple year classes observed in the survey, with younger fish indicating limited recruitment. The average Wr for the crappie collected increased from 88 in 2019 to 101 in 2021 and up to 102 in 2022 and again to 106 in 2026. This is within our objective range and should indicate good opportunity for growth. Relative weights ranged from 79-155. With the high CPUE, great Wr and larger size ranges, the crappie anglers should be experiencing an upswing in the crappie fishing at Roundhouse.

Channel Catfish:

We collected only 2 channel catfish in 2026, down from 14 in 2022. Catfish collected were 17.9" and 26.4" (average 22.1"). Catfish relative weights averaged 121 and is above our objectives of 90 to 110. The Wr ranged from 116 to 127.

Non-desirable species:

Two (2) bullheads were collected on Roundhouse Lake at a rate of 0.04 fish / minute. This species is considered to be non-desirable due to their impact on important game species for the lake.

Recommendations:

Size and creel limits:

Previously we changed harvest regulations to reduce the midsize range of bass. We are still observing large portions of the collection in the 12" to 13" size class, but a dramatic drop in bass numbers under 12". We may need to consider reducing the number harvested under 13". As stated in the 2022 report, we need to monitor this change. The community should consider another survey sooner than the 4 year rotation it is currently on and go back to every other year, if possible. With the reduced numbers of bass, I would have expected an improvement in Wr, but the Wr actually went down to 90 from 95. This is another trend that should be monitored more regularly.

Maintain the 5 over 8" rule for bluegill on Roundhouse. This limit change is improving the bluegill fishery with much better representation of larger bluegill over 8", and heavier bluegill in the under 8" range. The Wr for bluegill in the 8" plus

range are lower than the 7" fish, but are still in our objective ranges. If the Wr for larger bluegill drops, we should consider a slight increase in the harvest of the larger fish. Fish surveys should continue to monitor this change and adjust as needed.

As stated for both bass and bluegill, continue to monitor the population and community structure through electrofishing data to make changes to the creel and size limits as needed. The population structure can change fairly quickly in a small lake so monitoring is crucial to ensuring we continue on the right track for improvements. I do not suggest waiting four years until our next survey on Roundhouse due to the current bass structure with low numbers under the 12" range that should be monitored. We also need to monitor the change in bluegill from the creel limit changes we've made. Conducting age and growth studies on the bass would provide better insight into the population. The low Wr on bass may be causing the bass to exhibit slower growth rates. At this time, the bluegill Wr's indicate we should be experiencing good growth.

Stocking:

Stocking is always subjective to budgetary constraints, and all recommendations may not be able to be met. Stocking recommendations should always be re-evaluated based on subsequent fish population sampling.

- 1) If channel catfish are desired by the membership, continue your stocking of catfish every other year. Only 2 fish were collected this survey. Catfish should be stocked at 8"-10" size range or larger. The larger the catfish, the better their stock survival. Please note that a MINIMUM of 8" stocking size is required. Fish smaller than 8" are more likely to be consumed by other sport species as prey. Stocking densities of 20 fish per acre is a good guideline. We did not observe smaller catfish in the survey, and a supplemental stocking can be considered.
- 2) Walleye can be stocked at a rate of 10 per acre annually if walleye are desired by the membership. Stock 6" to 8" walleye. No walleye were collected in 2026, and 23 were collected in 2019.

If budgetary constraints are a problem, working on a rotational stocking every other year may be an option, keeping in mind limited year-class strength and size gaps in the fish that may be observed by fisherman and their creel.

Table 1: Catch Per Unit Effort (CPUE) by species – Roundhouse Lake, Spring 2026

<i>Species:</i>	<i>Number:</i>				<i>Fish / Minute</i>				<i>Obj. (fish/min)</i>
	<i>26s</i>	<i>22s</i>	<i>21s</i>	<i>19s</i>	<i>26s</i>	<i>22s</i>	<i>21s</i>	<i>19s</i>	
Largemouth Bass:	85	92	151	158	1.89	1.77	2.7	2.87	1.0-2.5
Bluegill:	152	57	123	222*	3.38	1.1	2.2	14.8*	2.0-4.5
Black Crappie:	44	6	14	10	0.98	0.12	0.25	0.18	-----
Walleye:	---	2	3	23	---	0.04	0.05	0.42	-----
Redear Sunfish:	14	18	29	2	0.31	0.35	0.52	0.04	-----
Hybrid Bluegill:	---	---	1	---	---		0.01	---	-----
Channel Catfish:	2	14	4	12	0.04	0.27	0.07	0.22	-----
Yellow Bullhead	2	4	10	19	0.04	0.08	0.18	0.35	-----
Total CPUE	299	193	334	446	6.64	3.73	5.98	18.9	6.00 plus
Gamefish CPUE only:	297	189	324	427	6.6	3.65	5.8	18.5	

* Bluegill subsampled at 15 minutes

Table 2: Proportional Stock Density (PSD) – Roundhouse Lake, Spring 2026

<i>Species:</i>	<i>2026s</i>	<i>2022s</i>	<i>2021s</i>	<i>2019s</i>	<i>Objective</i>
Largemouth Bass:	87	47	49	6	40-70
Bluegill:	74	53	71	88	20-60

Table 3: Relative Weight (Wr) – Roundhouse Lake, Spring 2026

<i>Species:</i>	<i>Wr (Ave)</i>				<i>Range:</i>				<i>Objective</i>
	<i>26s</i>	<i>22s</i>	<i>21s</i>	<i>19s</i>	<i>26s</i>	<i>22s</i>	<i>21s</i>	<i>19s</i>	
Largemouth Bass:	90	95	92	90	76-115	74-156	75-125	70-148	90-110
Bluegill:	109	106	105	106	79-130	79-159	85-126	87-142	90-110
Black Crappie:	106	102	101	88	79-155	93-110	86-129	83-97	90-110
Walleye:	---	90	88	88	---	89-91	86-90	88	90-110
Redear Sunfish:	113	114	124	106	97-132	93-159	104-137	96-136	90-110
Channel Catfish:	121	117	109	100	116-127	87-141	100-116	88-115	90-110
Yellow Bullhead	93	81	93	---	86-99	79-86	82-99	---	-----

Table 4: Length Ranges by Species – Roundhouse Lake, Spring 2026

<i>Species:</i>	<i>Length:</i>				<i>Average:</i>			
	<i>26s</i>	<i>22s</i>	<i>21s</i>	<i>19s</i>	<i>26s</i>	<i>22s</i>	<i>21s</i>	<i>19s</i>
Largemouth Bass:	3.9"-19.3"	4.9"-15.3"	3.5"-20.9"	4.1"-18.5"	12.7"	10.6"	10.8"	9.2"
Bluegill:	1.2"-9.1"	3.1"-9.3"	1.1"-8.5"	2"-8.1"	6.2"	6.2"	6.3"	6.7"
Black Crappie:	3.9"-12.6"	8.7"-9.8"	5"-11.5"	8.9"-10.7"	9"	9.2"	9.6"	9.8"
Walleye:	---	17.1"-20.9"	15.6"-17.9"	7.9"-9"	19"	19"	16.4"	8.7"
Redear:	8.9"-12.6"	6.5"-10.9"	6.8"-13.4"	6.5"-9.9"	10.6"	8.6"	9.2"	8.4"
Hybrid bluegill	---	---	8.5"	---	---	---	8.5"	---
Channel Catfish:	17.9"-26.4"	19.6"-27.5"	18.8"-24.3"	15.8"-23.1"	22.1"	23.5"	21"	19.8"
Yellow Bullhead	8.2"	9.9"-11.8"	8.3"-14.4"	7.6"-12.5"	8.2"	10.9"	10.8"	9.8"

