

LAKE MANAGEMENT STATUS REPORT

Brock Lake	Tazewell County	Water number 16007
OWNERSHIP: Village of Mackinaw	10 acres	DATE: 12/14/2022

1. LIST OF SPORT FISH REGULATIONS IN EFFECT
2. LIST OF FISH MANAGEMENT ACTIVITIES COMPLETED
3. LAKE MANAGEMENT PLAN PROGRESS TABLE
4. RECOMMENDATIONS FOR OBSERVED PROBLEM TRENDS

1. Fishing Regulations:

1. All Fish – 2 pole and line fishing only
2. Largemouth bass – 12-15” protected slot, 3 fish daily harvest with only 2 under 12” and 1 over 15”
3. Channel Catfish – 3 fish per day
4. Bluegill/Redear Sunfish – 25 fish per day

2. Management Activities:

1. Aquatic vegetation treatment on 5/23/22
2. Stocked 250 channel catfish at 7.2” on 9/8/2022
3. Completed a fall electrofishing survey on 10/3/22.

3. Lake Management Plan Progress Table

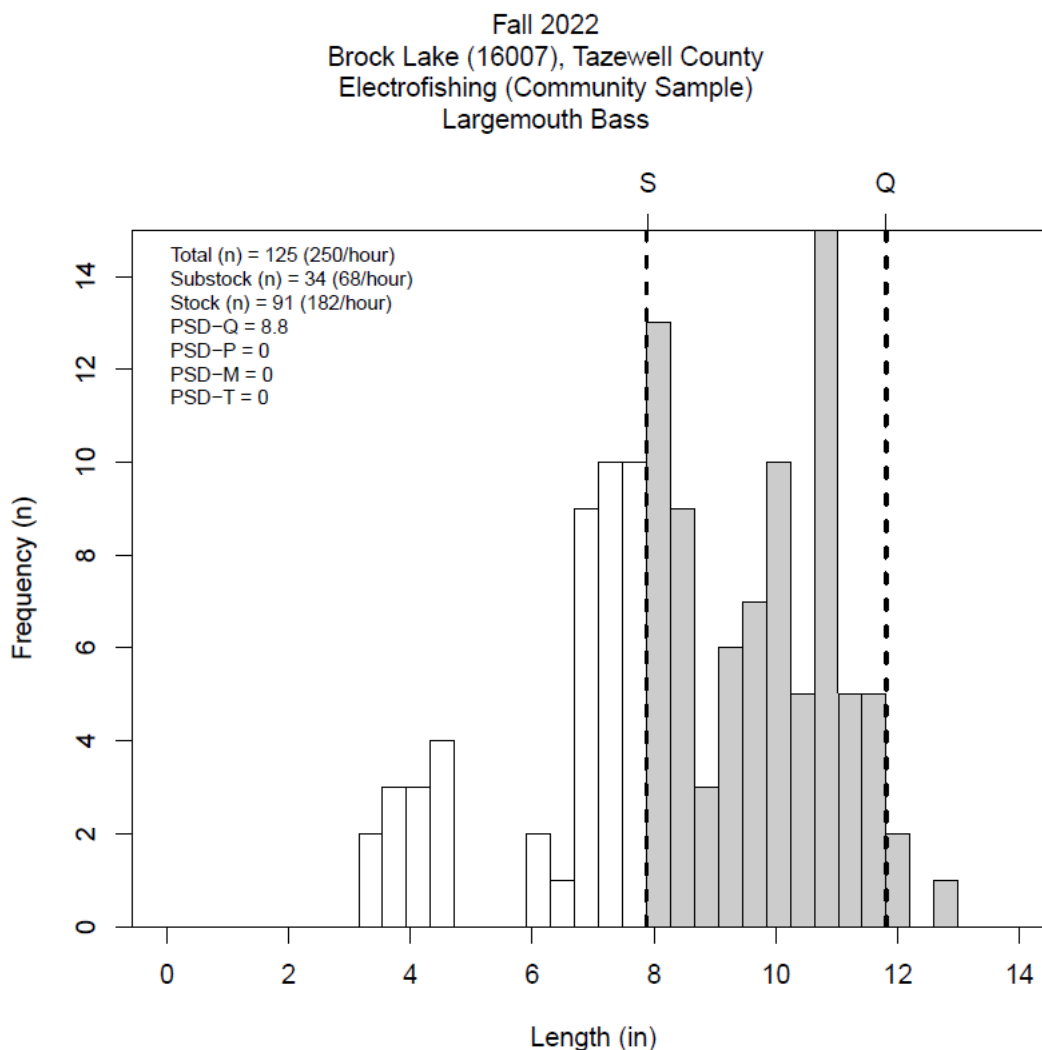
	2017	2019	2020	2021	2022	Management Objectives
<u>Largemouth Bass</u>						
# Stock	78	76	79	36	91	
% > 12"	5.1	2.7	6.3	2.8	8.8	40-60
% > 15"	-	-	-	-	-	15-25
% > 20"	-	-	-	-	-	0-10
condition	92	89	98	85	92	90-110
(fish/hour EF)	180	204	176	147	250	60
<u>Bluegill</u>						
# Stock	9	22	26	23	52	
% > 6"	78	42	69	56.5	26.9	20-40
% > 8"	22	13	8	34	1.9	10-15
% > 10"	-	-	-	-	-	1-5
condition	86	94	115	104	90	90-100
(fish/hour EF)	20	60	58	81	112	180
<u>Redear Sunfish</u>						
# Stock	-	-	-	-	12	
% > 6"	-	-	-	-	8.3	20-40
% > 8"	-	-	-	-	-	10-15
% > 10"	-	-	-	-	-	1-5
condition	-	-	-	-	114	90-100
(fish/hour EF)	-	-	-	-	26	180
<u>Black crappie</u>						
# Stock	8	7	13	1	1	
% > 8"	100	100	92	100	100	20-30
% > 10"	-	-	54	-		10-20
% > 12"	-	-	8	-		1-5
condition	109	97	101	95	48	90-110
(fish/hour EF)	16	14	26	3	2	
<u>Channel Catfish</u>						
# Stock	-	3	2	-	-	
% > 16"	-	100	100	-	-	40-60
% > 24"	-	-	-	-	-	10-20
condition	-	99	111	-	-	90-110
(fish/hour EF)	-	6	4	-	-	

4. Brock Lake was sampled on 10/3/2022 for 30 minutes with Pulsed-DC electrofishing. Water temperature was 65 degrees F and submerged vegetation was under 30 percent with chara and curlyleaf pondweed being the dominant species.

Largemouth Bass

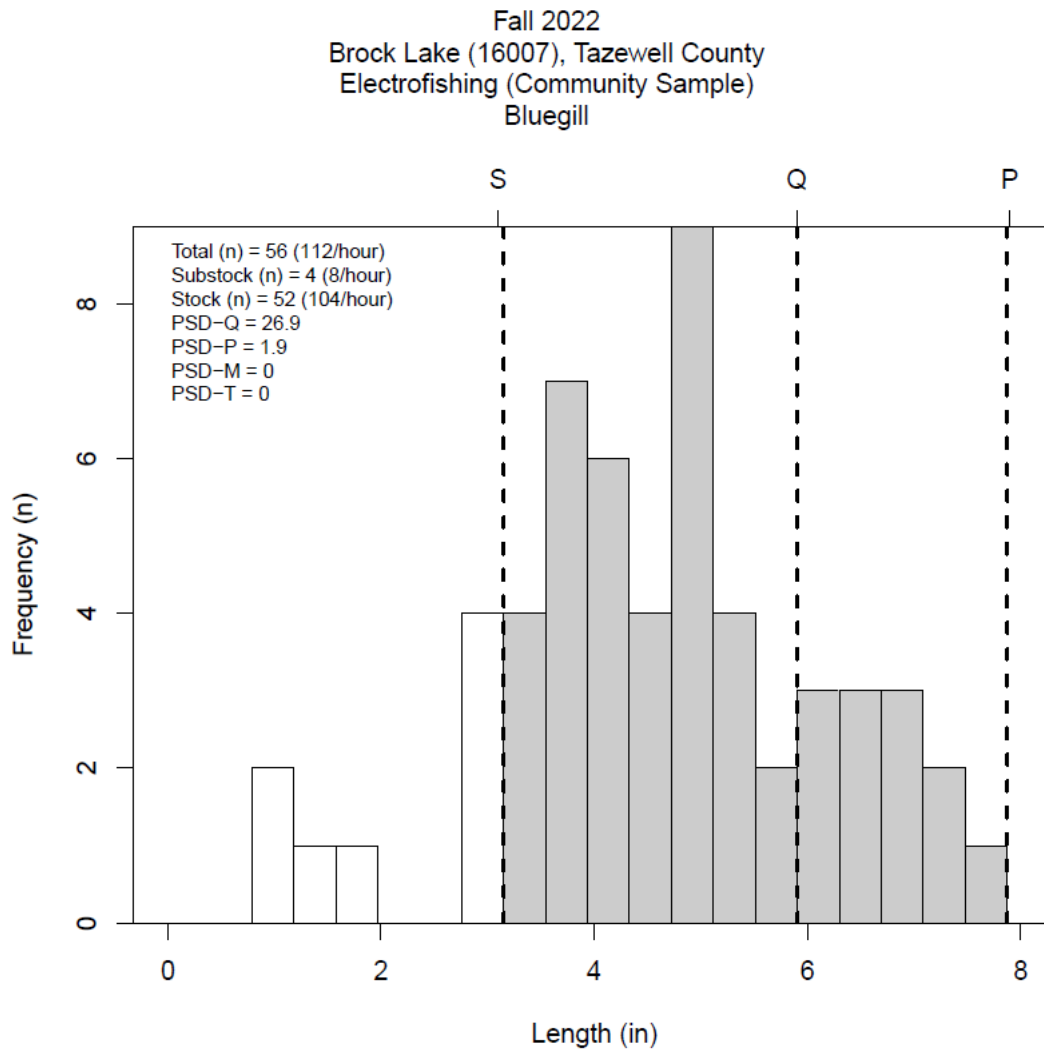
In 2022, the largemouth bass population was evaluated by 125 bass collected by Pulsed-DC electrofishing. The largemouth bass population continues to be defined by a high percentage of fish from 5 – 12 inches with a body condition of 92. We did not collect any bass over 13 inches despite a June 2020 stocking of adult fish. This stocking was a group of 75 brood bass that were being retired from Jake Wolf Fish Hatchery. With an average size of 4lbs these fish should provide some great fishing action as well as introduce a larger size class of bass that previously did not exist in the lake. The collection rate was 250/hr which indicates a high density.

At this time the current bass population could use thinning of bass that are under 12 inches in length. The majority of the current bass population is under approximately 12 inches in length and growing slowly. This is due to a very high density of bass all competing for the same food resources. Effective April 2021 the bass regulation was changed to a protected slot limit from 12 to 15 inches and allowing the harvest of 2 bass under 12 inches per day and 1 bass over 15 inches per day.



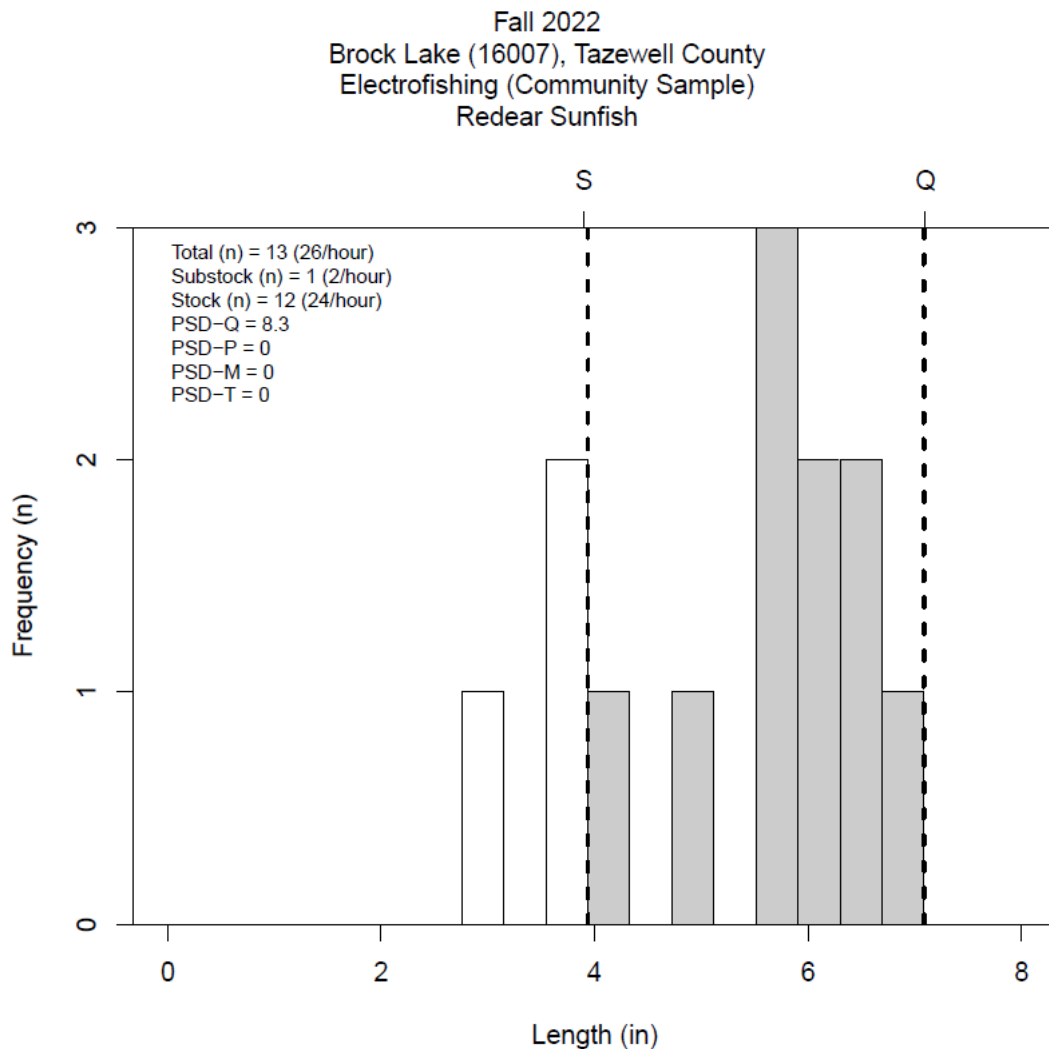
Bluegill

The bluegill population was sampled by 56 fish in the spring electrofishing survey. They ranged in size from 1 to 8 inches in length with an average body condition rating of 90. The current bluegill population is rated as very good. An improvement in the bass population size structure as well as continued aquatic vegetation management will help maintain this good bluegill size structure.



Redear Sunfish

Brock lake currently has a very dense snail population, making it a prime candidate for redear sunfish. The initial stocking of redear took place in 2021. In the 2022 sample, 13 redear were collected with the largest being 7.2 inches. This species should provide great fishing opportunities in the coming years.



Black Crappie

The black crappie population was evaluated by 1 crappie at from 9.6 inches. The body condition was poor with a value of 48. The high-density bass population has helped in maintain a low-density crappie population with a good size structure of 9-11" fish.

No harvest or length limits are necessary for the crappie population at this time.

Channel Catfish

No channel catfish were collected in 2022. IDNR has added Brock Lake to the channel catfish stocking schedule and the first batch of 8-10" catfish were stocked in August 2020.

Aquatic Vegetation

Brock lake historically has had an overabundance of submerged aquatic vegetation. This can lead to the stunting of fish populations. A herbicide treatment of 7.5 gallons of diquat dibromide on 5/23/2022 had excellent results and reduced the amount of vegetation for the duration of the fishing season. This vegetation control should greatly help the fishery over the next few years.

Proposed management for 2023:

1. Complete a fall electrofishing survey.
2. Complete herbicide treatments as necessary.

District Biologist	Date	Reg. Admin.	Date
Blake Bushman	12/14/2022		