



## **2017 Powhatan Lakes Angler Survey Report Prepared 2019**

From April through September 2017, an angler survey was conducted at the Powhatan Lakes Recreation Area, which contains two lakes, Upper Powhatan Lake (29 surface acres) and Lower Powhatan Lake (31 surface acres). Anglers were surveyed at the only access road while leaving the lake on randomly selected days throughout the study and were asked about their expenditures, fishing preferences, catch, and harvest. These data collected were analyzed with statistics software and are presented here in this report.

During the 6-month survey a total of 406 anglers were interviewed during 68 days of sampling; approximately 60% of anglers interviewed were visiting the lower lake. The Powhatan Lakes appears to be a somewhat local resource with the majority of anglers fishing the lake residing in the surrounding counties, including Powhatan (between 41 and 56% of total anglers), Chesterfield (between 14 and 26%), and Henrico (between 7 and 11%). Five anglers from other states (Indiana, Louisiana, Missouri, New York, and North Carolina) were observed during the survey. Anglers added approximately \$100,941 to the local economy during the survey. Much of the anglers' expenses were the purchase of fuel (\$65,396) or bait and tackle (\$22,754). Anglers spent over 936 hours of effort (hours fished) per acre during the study, with approximately 60% of the effort concentrated on the upper lake. For comparison, the usage at the lakes was nearly 7 times higher than observed a similar Department owned lake located in central Virginia (Fluvanna-Ruritan Lake). The high usage and the total expenditures were expected for Powhatan Lakes Recreation Area due to the lake's proximity to the populated Richmond-metro area. Additionally, the majority of anglers interviewed (68%) indicating that they fished the lakes because of the convenient location.

Overall anglers surveyed rated the fishing at the lakes above average (76% and 82% of anglers surveyed at the upper and lower lakes, respectively), with 15% (upper) and 17% (lower) rating the fishing success at the lakes in the highest category. Anglers spent a total of 27,902 hours fishing the lakes (936 hours fished/acre) during the survey with a 60% of the fishing pressure coming from anglers fishing from boats versus fishing from the bank. Total fishing effort was the highest in May at the lower lake (90 hours fished/acre) and June at the upper lake (117 hours fished/acre). Usage was high throughout the spring and early summer at both lakes and dropped off considerably (as much as 30%) by the start of July and remained relatively low throughout late summer and early fall.

Over the survey seven different species of fish were caught by anglers from both lakes combined. Largemouth Bass was the most sought after species account for 44% and 39% of the

total angling effort from the upper and lower lakes, respectively. Not surprisingly, a good portion of anglers (up to 44%) said they were just fishing for anything that would bite. Crappie anglers (4% and 14% total angler effort in upper and lower lakes, respectively) and Bluegill anglers (6% and 11% total angler effort in upper and lower lakes, respectively) were the next most common anglers on the water. Less than 5% of the total fishing effort was specifically pursuant towards catfish in either lake.

The overall angler catch rates for Largemouth Bass (0.36 and 0.29 fish caught/hour fishing from the upper and lower lakes, respectively) were slightly lower than rates from Fluvanna-Ruritan Lake (0.42 fish caught/hour fishing) but were suitable when compared to catch rates observed during electrofishing surveys and effects from high fishing pressure at the lakes. The majority of anglers visiting the lakes (> 60% at both lakes) indicated that they were fishing for bass and the lower bass catch rates did not appear to negatively affect angler's approval of the lakes. Bass anglers indicated that they would rather catch quality bass of 16 inches or larger than experience high overall catch rates, which was likely the reason for the high approval with lower catch rates. The highest angler effort for bass occurred from April through June with each month accumulating > 2,100 angler hours of fishing from both lakes combined. Overharvest of bass is not a concern at the Powhatan Lakes with the majority of bass anglers practicing catch and release on all sizes of bass captured. An estimated 9,638 bass were caught over survey and only 184 were harvested, indicating a high release rate of 98% for bass. One reason for the lack of harvest was likely the 14-22 inch protective slot for bass established at the lakes which 99% of the bass anglers interviewed supported.

The overall catch rate for crappie during the survey was good to excellent at both lakes with 3.33 and 1.76 fish caught /hour fishing observed at the upper and lower lakes, respectively. April received the highest fishing effort for crappie in both lakes combined (795 hours fished) followed by May (691 hours fished) and June (261 hours fished). After June, fishing pressure for crappie declined considerable with a low monthly average of 132 hours fished at both lake combined. The likely reason for the increased fishing pressure for crappie during the spring was the high angler success observed for crappie in April and May (average angler catch rate of 3.57 and 4.16 fish caught/hour fishing, respectively); in these months, the average anglers were easily catching their limit of fish during a day of fishing. During the survey, an estimated 12,224 crappie were caught by anglers of which 2,812 were harvested (harvest rate of 23%). The estimated harvest rates align with results from annual mortality rates estimated from agency netting surveys (estimated annually mortality rates between 27% and 37%) and are likely lower than needed to prevent stunting problems at the lakes. Ideally, crappie harvest rates should be between 40 and 60% to correct the stockpiling of smaller fish (<10 inches).

Angler pressure on sunfish (Bluegill and Redear Sunfish) was low with neither lake receiving more than 11% of the total fishing effort. Sunfish catch rates were satisfactory (1.31 and 1.77 fish caught/hour fishing observed in the upper and lower lakes, respectively) and similar to rates observed in Fluvanna-Ruritan Lake (1.38 fish caught/hour fishing). July was by far the best months for sunfish fishing success with an average catch rate of 4.06 fish caught/hour fishing from both lakes. Relatively low percentages of sunfish caught were harvested by anglers (12 and 2% harvest rates observed in the upper and lower lakes, respectively). The low

harvest rate is reflected in electrofishing survey results and is good news for bass anglers since sunfish are the primary forage for bass in the lakes.

Channel Catfish are stocked in the Powhatan Lakes to provide an additional fishing opportunity for anglers but surprisingly pressure for catfish was low with less than 5% of the total angling effort at either lake concentrated on catfish. Catch rates for catfish were good with an average catch of 1 fish caught per hour fishing, with the summer month of June being the most productive for anglers. The low pressure and good catch rates for catfish indicate a resource that is being underutilized by anglers at the Powhatan Lakes.

The Powhatan Lake Recreation Area is an excellent resource that is a benefit to anglers of Powhatan, the metro Richmond area, and the local economy. Overall, anglers are generally satisfied with the fishing success and opportunities at the Powhatan Lakes. The lakes are designated specifically as fishing areas but numerous non-anglers visit the recreation area for wildlife viewing, boating, hunting, and other outdoor activities. Anglers of central Virginia should definitely take a day to visit the Powhatan Lakes, especially if you are interested in catching quality bass, sunfish, and/or catfish.

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