

Commonwealth of Kentucky

Date: June 30, 2024

D-J Grant No. F-40, Segment 46

Period: 01 April 2023
through
31 March 2024

ANNUAL PERFORMANCE REPORT

for

Statewide Fisheries Investigation Project

Part II of III

Subsection II: Urban Fisheries Branch



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Department of Fish and Wildlife Resources
Fisheries Division



STATE: Kentucky

PROJECT NO: F-40-46

GRANT TYPE: Research and Survey

GRANT TITLE: Statewide Fisheries Investigations

SUBSECTION I TITLE: Urban Fishing Program in Kentucky

PERIOD COVERED: 1 April 2023 - 31 March 2024

RESEARCH AND SURVEY SECTION

Subsection II

Project I Urban Fishing Program in Kentucky

Project Objective: To develop high quality urban fisheries in Kentucky that lead to high angler use, catch rates, and satisfaction.

A. ACTIVITY

During 1 April 2023 – 31 March 2024, 84,026 catfish (channel catfish and channel catfish x blue catfish hybrids), 120,750 rainbow trout and 13,228 bluegill were stocked in the Fishing in Neighborhoods (FINs) lakes. The program currently includes 45 lakes in 28 counties. A memorandum of agreement is in place with all lake owners enrolled in the FINs program giving Kentucky Department of Fish and Wildlife Resources (KDFWR) the authority to manage fish populations and set standardized regulations for all lakes in the program. An agency policy for adding new lakes to the FINs program was drafted and approved in January 2015 and updated in 2022.

Advertising and marketing efforts were employed in a continuing attempt to raise awareness of the FINs program, increase participation, and recruit new anglers. Facebook and X (formerly Twitter) notifications were posted around stocking dates. District fisheries biologists also mentioned the FINs program and stocking schedules in their weekly fishing reports. Flyers promoting the FINs program were distributed at boat shows, the state fair and other outreach events. A one-page advertisement for the FINs program appeared in the 2023-24 Kentucky Fishing and Boating Guide. Additionally, a one-page stocking table appeared in the 2023 and 2024 Kentucky Afield calendars. Newspaper, magazine and tv interviews, as well as press releases, were issued to promote the program. All lake owners were notified prior to fish being stocked so they could contact their followers via social media. The FINs website was routinely updated to convey the latest stocking information and list of lakes enrolled in the program. Kiosk posters promoting the FINs program and KDFWR's role in fish management and stocking was displayed at 25 of the 45 lakes. Information on the kiosk posters included the FINs logo, mission statement, fish stocking dates and quantities, license requirements, fishing regulations, fish identification, poacher hotline, no littering graphic, brief overview of fishery and past sampling, basic knot tying and the location of a rod loaner program if present.

Spring electrofishing sampling was conducted at 26 FINs lakes in May 2023. Samples were conducted to gather information on species composition, catch rates, and size structure. Furthermore, tandem hoop nets were used to sample catfish populations at 16 FINs lakes in October 2023.

B. TARGET DATES FOR ACHIEVEMENT AND ACCOMPLISHMENT

Planned work achievement date- 31 March 2024

Work accomplished- 31 March 2024

C. SIGNIFICANT DEVIATIONS

None.

D. REMARKS

None.

E. RECOMMENDATIONS

Continue project as planned on the next grant segment.

Project II Evaluation of Angling Effort Using Remote Cameras

Project Objective: To assess angling effort at the FINs program lakes. This will aid in determining whether FINs lakes around the state are having similar angling pressure to FINs lakes in Central Kentucky where recent creel surveys have been conducted. This data will also aid in assessing if current stocking strategies are adequate for the amount and timing of angling effort. If certain FINs lakes are not receiving the perceived pressure, then stocking rates could be reduced or other lake(s) substituted in the FINs program.

A. ACTIVITY

Cameras were installed at 15 FINs lakes in September 2017, with counts beginning 1 October 2017 and running through 30 September 2018. Additionally, cameras were set up at Jacobson Lake in October 2018 with counts beginning 1 November 2018 and running through 31 October 2019. The final group of eight FINs lakes had cameras set up in 2019 with counts beginning 1 October 2019 and running through 30 September 2020. Cameras were checked every 6-8 weeks to exchange memory cards and batteries. Both primary and secondary FINs lakes were surveyed to get a range of fishing pressure.

Cameras were set up to take a picture every half-hour from daylight to dusk. Only images at the top of the hour were used for analysis; however, the half hour pictures helped postulate if someone was fishing as well as aided in the number of in-person visual counts that could be collected for the correction factor. Timelapse Image Analyzer was used to assist KDFWR personnel with image analysis. This free software designed by the University of Calgary speeds up image analysis and reduces errors, by automatically populating many of the fields needed for analysis and reduces data entry errors by placing the image and data entry on the same form. In a previous study, this software was found to cut image analysis time in half versus viewing images and entering data in separate spreadsheet. Images analysis by KDFWR technician staff was completed in April 2021, with final analysis of data still ongoing. Cameras were collected after the 12-month period. The first instance of vandalism occurred in June 2018 when a camera at Logan Hubble Park Lake went missing along with the security box.

B. TARGET DATES FOR ACHIEVEMENT AND ACCOMPLISHMENT

Planned work achievement date- 31 March 2023

Work accomplished, cameras collected - Analysis of images and data ongoing/delayed.

C. SIGNIFICANT DEVIATIONS

None

D. REMARKS

None.

E. RECOMMENDATIONS

The analysis is being completed for 24 additional FINs lakes surveyed in 2017-18, 2018-19 and 2019-20 that will appear in Segment 47.

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Section I: Stocking Initiative

FINDINGS

The Fishing in Neighborhoods (FINs) program underwent an expansion from 6 pilot lakes in 2009 to 29 lakes in the spring of 2010. Additional lakes were added and subtracted in subsequent years, bringing the current total to 45 lakes in 28 counties statewide. Total surface acreage for lakes enrolled in the FINs program is 298 acres. Fishing in Neighborhoods lakes are continuously scrutinized to ensure they are meeting program goals.

Catfish (channel catfish and channel catfish x blue catfish hybrids), rainbow trout and bluegill were the species stocked in the FINs lakes from April 2023 – March 2024. These stockings of large keeper-size catfish (15 in avg), trout (10 in avg), and bluegill (6 in avg) provide anglers with quality fishing opportunities close to home. The FINs lakes are designated as either primary or secondary lakes (Table 1), which determines stocking rates and months (Table 2).

In 2023-24, primary lakes received four stockings of catfish (12.0 – 20.0 in) occurring in April, May, June 2023, and March 2024; secondary FINs lakes received two annual stockings of catfish in April and June (Tables 2-3). Pfeiffer Fish Hatchery supplies all the catfish for the FINs program, with a total of 84,026 catfish stocked from 1 April 2023 – 31 March 2024 (Table 4). The 84,026 catfish stocked during this period was less than the 120,800 catfish in the production plan, due to issues with survival and growth of catfish at the hatchery.

Trout stocking numbers were reduced by roughly 25% in 2017 to produce larger trout for the FINs program. Overall weight of stocked trout remained the same for the FINs program; however, average size increased from roughly 9.0 in and 0.3 lbs to 10.3 in and 0.4 lbs. All rainbow trout for the FINs program are produced at Wolf Creek National Fish Hatchery. In total, 120,750 rainbow trout were stocked from 1 April 2023 – 31 March 2024 (Table 4). Rainbow trout are stocked at a standardized rate in the FINs lakes (Table 2), with most lakes receiving three trout stockings annually: October or November, February, and March. Carlson Lake at Ft. Knox does not get stocked with rainbow trout because concerns were raised of trout swimming up into Grahampton Cave, which feeds Carlson Lake, and feeding upon northern cavefish (*Amblyopsis spelaea*) which are listed as threatened and ghost crayfish (*Orconectes inermis inermis*). Both species are ill-adapted to avoiding trout predation. Waymond Morris Park Lake, Kentucky Horse Park Rolex Lake, Flemingsburg Old Reservoir, Brickyard Pond, and Maysville-Mason County Rec Park Lake do not receive the March trout stocking. These lakes had lower utilization of trout and high numbers of trout were seen while sampling in May of previous years.

In total, 13,228 bluegill (5.0 – 10.0 in) were stocked in June 2023 (Tables 3-4) in lakes that had poor sunfish populations, heavy fishing pressure, or free fishing weekend events. In previous years, hybrid sunfish were stocked at FINs lakes. However, these hybrid sunfish stockings were replaced with bluegill starting in 2022. While the hybrid sunfish stockings worked well for improving short-term angling success, the stockings did not improve sunfish angling opportunities over an extended period as most fish were quickly harvested. By stocking high densities of larger bluegill, we hope to improve short-term angling success in addition to potentially shifting the size structure of bluegill in impoundments where stocked. A total of 20,000 bluegill annually will be in the production plan to cover the needs of the FINs program.

Fish stocking rates at the FINs lakes are much higher than at larger reservoirs or streams around the state. Utilization of these stocked fish is being assessed through routine electrofishing and tandem hoop net samples. Furthermore, exploitation studies, creel surveys, and use of time-lapse cameras to assess fishing pressure have been used to assess angling pressure at FINs lakes.

Table 1. Lakes enrolled in the Fishing in Neighborhoods program for 2023-24.

Lake	County	Lake designation
Anderson County Community Park Lake	Anderson	Primary
Camp Ernst Lake	Boone	Primary
Millennium Park Pond	Boyle	Primary
Alexandria Community Park Lake	Campbell	Primary
Robert J. Barth Park Lake	Campbell	Primary
Panther Creek Park Lake	Daviess	Primary
Waymond Morris Park Lake	Daviess	Primary
Yellow Creek Park Lake	Daviess	Primary
Jacobson Park Lake	Fayette	Primary
Lower Sportsman's Lake	Franklin	Primary
Upper Sportsman's Lake	Franklin	Primary
Kess Creek Park Lake	Graves	Primary
James D. Beville Park Lake	Grayson	Primary
Rotary Park Lake	Hickman	Primary
Tom Wallace Park Lake	Jefferson	Primary
Waverly Park Lake	Jefferson	Primary
William F. Miles Angler Lake	Jefferson	Primary
William F. Miles Green Heron Lake	Jefferson	Primary
Lake Mingo	Jessamine	Primary
Southland Church Lake	Jessamine	Primary
Middleton Mills Long Pond	Kenton	Primary
Middleton Mills Shelterhouse Pond	Kenton	Primary
Brickyard Pond	Knox	Primary
Whitehall Park Lake	Madison	Primary
Lake Montgomery	McCracken	Primary
Carlson Lake (Ft. Knox)	Meade	Primary
Easy Walker Park Pond	Montgomery	Primary
Lusby Lake	Scott	Primary
Scott County Park Lake	Scott	Primary
Jesse W. Thornton Lake	Warren	Primary
Southgate Lake	Campbell	Secondary
Kentucky Horse Park Rolex Lake	Fayette	Secondary
Flemingsburg Old Reservoir	Fleming	Secondary
Lake Pollywog	Grant	Secondary
Leary Lake	Grant	Secondary
Kingdom Come State Park Lake	Harlan	Secondary
Madisonville City Park Lake South	Hopkins	Secondary
Cherokee Park Lake	Jefferson	Secondary
Fisherman's Park Lake # 3	Jefferson	Secondary
Fisherman's Park Lake # 4	Jefferson	Secondary
Prisoners Lake	Kenton	Secondary
Logan Hubble Park Lake	Lincoln	Secondary
Mike Miller Park Lake	Marshall	Secondary
Maysville-Mason County Recreation Park Lake	Mason	Secondary
Bloomfield Park Lake	Nelson	Secondary

Table 2. Fishing in Neighborhoods lakes fish stocking rates and schedule for 2023-24.

Lake designation	Fish species	Stocking rate (fish/acre)	Months stocked
Primary	Catfish	1-10 acres 200/acre 10-20 acres 100/acre > 20 acres 50/acre	Apr, May, Jun, Mar 24
Secondary	Catfish	1-10 acres 200/acre 10-20 acres 100/acre > 20 acres 50/acre	Apr, Jun
Primary/Secondary	Rainbow trout	1-2.9 acres 500 fish 3.0-4.4 acres 750 fish 4.5-30 acres 1,500 fish > 30 acres 3,000 fish	Oct or Nov, Feb, Mar 24
Primary/Secondary	Bluegill	1-3.4 acres 500 fish/acre 3.5-10 acres 300 fish/acre > 10 acres 3,000 fish	Jun

Table 3. Number of fish stocked in Fishing in Neighborhood lakes from 1 April 2023 – 31 March 2024. Asterisk (*) denotes deviation from stocking plan.

Lake	County	Acreage	Rainbow trout				Catfish (channel/hybrid)				Bluegill
			Oct 23	Nov 23	Feb 24	Mar 24	Apr 23	May 23	Jun 23	Mar 24	Jun 23
Anderson County Community Park Lake	Anderson	1.0		500	500	500	200	200	200	200	
Camp Ernst Lake	Boone	25.0		1,500	1,500	1,500	881*	800*	1,250	600*	
Millennium Park Pond	Boyle	2.2		500	500	500	400	400	400	300*	
Alexandria Community Park Lake	Campbell	7.0		1,500	1,500	1,500	700*	1,012*	600*	700*	1,500
Robert J. Barth Park Lake	Campbell	3.7		750	750	750	664*	700	350*	400*	
Southgate Lake	Campbell	1.8		500	500	500	400		300*		
Panther Creek Park Lake	Daviess	3.8	750		750	750	810*	800	800	600*	1,200
Waymond Morris Park Lake	Daviess	4.8	1,500		1,500		832*	1,100*	*	700*	
Yellow Creek Park Lake	Daviess	3.1	750		750	750	612*	600	600	600	
Jacobson Park Lake	Fayette	46.3	3,000		3,000	3,000	1,800*	800*	2,300	1,100*	
Kentucky Horse Park Rolex Lake	Fayette	5.6		1,500	1,500		724*		*		
Flemingsburg Old Reservoir	Fleming	10.8		1,500	1,500		1,100		1,100		
Lower Sportsman's Lake	Franklin	2.7	500		500	500	*	600	600	300*	
Upper Sportsman's Lake	Franklin	6.2	1,500		1,500	1,500	500*	1,021*	1,235*	700*	1,057
Lake Pollywog	Grant	3.5		750	750	750	444*		350*		
Leary Lake	Grant	4.6		1,500	1,500	1,500	500*		954*		
Kess Creek Park Lake	Graves	2.1	500		500	500	400	400	350*	300*	
James D. Beville Park Lake	Grayson	3.1	750		750	750	350*	500*	*	200*	
Kingdom Come State Park Lake	Harlan	2.5	500		500	500	500		509*		
Rotary Park Lake	Hickman	1.0	500		500	500	200	200	200	200	
Madisonville City Park Lake South	Hopkins	25.9	1,500		1,500	1,500	600*		*		
Cherokee Park Lake	Jefferson	4.2	750		1,500*	750	800		800		1,250
Fisherman's Park Lake # 3	Jefferson	1.8	500		500	500	200*		200*		
Fisherman's Park Lake # 4	Jefferson	2.4	1,250*		500	500	200*		200*		
Tom Wallace Park Lake	Jefferson	4.8	750*		*	*	600*	1,000	500*	*	750
Waverly Park Lake	Jefferson	4.5	1,500		2,250*	3,000*	675*	900	500*	900	721
William F. Miles Angler Lake	Jefferson	3.6	750		750	750	580*	663*	400*	700	1,100
William F. Miles Green Heron Lake	Jefferson	1.1	500		500	500	200	200	100*	200	500
Lake Mingo	Jessamine	2.5	500		500	500	500	500	500	500	
Southland Church Lake	Jessamine	2.6	500		500	500	500	500	500	300*	
Middleton Mills Long Pond	Kenton	1.2	500		500	500	285*	211*	300	300	800
Middleton Mills Shelterhouse Pond	Kenton	1.2	500		500	500	285*	211*	308*	300	500
Prisoners Lake	Kenton	3.8	750		750	750	400*		800		600
Brickyard Pond	Knox	9.5		1,500	1,500		800*	679*	1,299*	811*	
Logan Hubble Park Lake	Lincoln	9.2		1,500	1,500	1,500	1,800		*		
Whitehall Park Lake	Madison	6.0	1,500		1,500	1,500	1,200	1,200	*	700*	800
Mike Miller Park Lake	Marshall	3.9	750		750	750	350*		329*		620
Maysville-Mason County Rec Park Lake	Mason	11.6		1,500	1,500		1,150		944*		
Lake Montgomery	McCracken	5.5	1,500		1,500	1,500	1,000*	900*	1,008*	600*	1,650
Carlson Lake (Ft. Knox)	Meade	14.0					500*		890*		
Easy Walker Park Pond	Montgomery	1.6		500	500	500	400	400	200*	300*	800
Bloomfield Park Lake	Nelson	2.4		500	500	500	300*		500		
Lusby Lake	Scott	2.3		500	500	500	450*	500	250*	300*	
Scott County Park Lake	Scott	2.5		500	500	500	450*	500	250*	300*	
Jesse W. Thornton Lake	Warren	28.9		1,500	1,500	1,500	1,450	800*	1,450	600*	

Table 4. Total number and weight of fish stocked in the FINs lakes in 2023-24.

	Fish species	Number of fish stocked	Number of pounds
45 FINs lakes	Catfish	84,026	74,636
	Rainbow trout	120,750	51,923
	Bluegill	13,228	3,675

Section II: Advertisement for the FINs Program

FINDINGS

Advertising and marketing efforts were employed in a continuing attempt to raise awareness of the Fishing in Neighborhoods (FINs) program, increase participation, and recruit new anglers. Facebook and X (formerly Twitter) notifications were posted around stocking dates. District fisheries biologists also mentioned the FINs program and stocking schedules in their weekly fishing reports. Several local newspapers and news stations reached out when fish were stocked, so they could help promote and make the public aware of our efforts. All lake owners were notified prior to fish being stocked so they could contact their followers via social media.

An 8.5x11 in flyer was updated by Kentucky Department of Fish and Wildlife Resources' (KDFWR) graphic arts team (Figure 1). The flyer was distributed at boat shows, the state fair and other outreach events. Additionally, a FINs banner was displayed at the KDFWR booth at these shows (Figure 2). A one-page advertisement for the FINs program appeared in the 2023-24 Kentucky Fishing and Boating Guide. Additionally, a one-page stocking table appeared in the 2023 and 2024 Kentucky Afield calendars (Figure 3). Care was taken to keep the FINs graphics and message consistent across various media outlets.

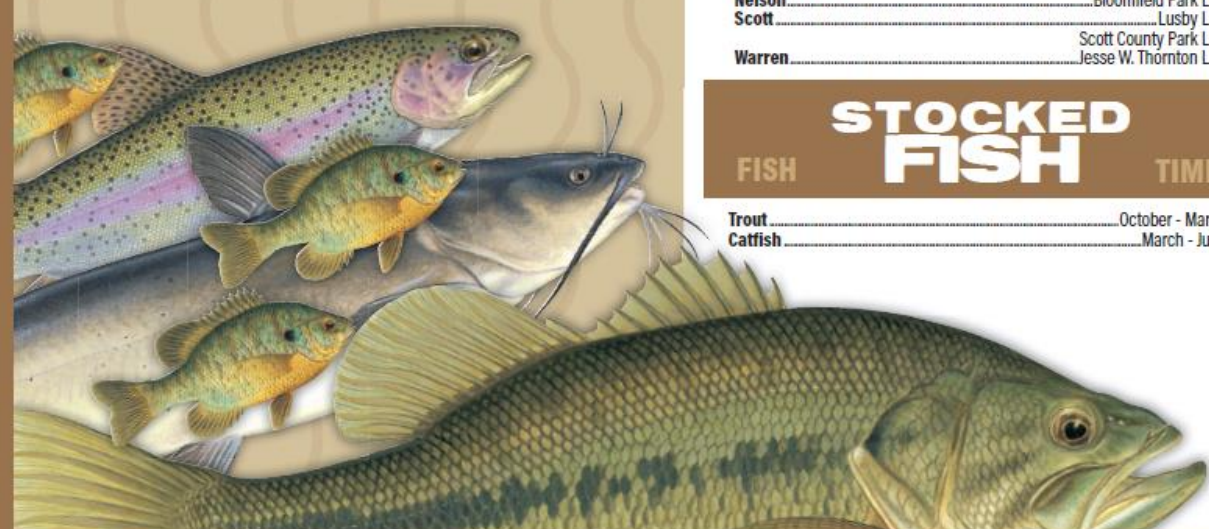
The FINs website was routinely updated to convey the latest stocking information and list of lakes enrolled in the program. The website also features detailed maps of lakes enrolled in the program, fish stocking dates and quantities, regulations, basics of how-to fish, and a link to purchase a license.

All lakes enrolled in the FINs program have a memorandum of agreement (MOA) giving KDFWR the authority to manage fish populations and set standardized regulations. The standard set of regulations at the lakes is four catfish, five rainbow trout, 15 bluegill or other sunfish, and one largemouth bass over 15.0 in. Metal 4 ft x 4 ft regulation signs and smaller yellow plastic regulation signs are posted around the lakes. A QR code sticker was affixed to all the signs in 2021 that directed anglers to the online Fishing and Boating Guide in English or Spanish. Stocking dates and fish quantities were emailed to the conservation officers in advance of the stockings for enforcement purposes. All lake owners enrolled in the FINs program agree to assist through maintaining access to the fishing areas including trash pick-up, mowing, cleaning restrooms, and assisting with fishing events.

Information kiosks are installed at 25 of the 45 lakes to inform the public of the FINs program and make anglers and park-goers aware of KDFWR's role in fish management and stocking. The kiosk posters are specific to each lake and updated annually. Information in the kiosk included the FINs logo, mission statement, fish stocking dates and quantities, license requirements, fishing regulations, fish identification, poacher hotline, no littering graphic, brief overview of fishery and past sampling, basic knot tying and the location of a rod loaner program if present. Some of the kiosk posters are laminated to help prevent water damage from leaking kiosks and prolong the life of the posters.



GOOD FISHING. CLOSE TO HOME.



STOCKED LAKES

COUNTY	LAKE
Anderson	Anderson County Community Park Lake
Boone	Camp Ernst Lake
Boyle	Millennium Park Pond
Campbell	Alexandria Community Park Lake
	Robert J. Barth Lake
	Southgate Lake
Daviess	Panther Creek Park Lake
	Waymond Morris Park Lake
	Yellow Creek Park Lake
Fayette	Kentucky Horse Park Rolex Lake
	Jacobson Park Lake
Fleming	Flemingsburg Old Reservoir
Franklin	Lower Sportsman's Lake
	Upper Sportsman's Lake
Grant	Lake Pollywog
	Leary Lake
Graves	Kess Creek Park Lake
Grayson	James D. Beville Park Lake
Harlan	Kingdom Come State Park Lake
Hickman	Rotary Park Lake
Hopkins	Madisonville City Park Lake South
Jefferson	Cherokee Park Lake
	Fisherman's Park Lake #3
	Fisherman's Park Lake #4
	Tom Wallace Park Lake
	Waverly Park Lake
	William F. Miles Angler Lake
	William F. Miles Green Heron Lake
Jessamine	Lake Mingo
	Southland Church Lake
Kenton	Middleton Mills Long Pond
	Middleton Mills Shelterhouse Pond
	Prisoners Lake
Knox	Brickyard Pond
Lincoln	Logan Hubble Park Lake
Madison	Whitehall Park Lake
Marshall	Mike Miller Park Lake
Mason	Maysville-Mason County Recreation Park Lake
McCracken	Lake Montgomery
Meade	Carlson Lake (Fort Knox)
Montgomery	Easy Walker Park Pond
Nelson	Bloomfield Park Lake
Scott	Lusby Lake
	Scott County Park Lake
Warren	Jesse W. Thornton Lake

STOCKED FISH

FISH	TIME
Trout	October - March
Catfish	March - June

Buy a Fishing License today to support the FINs program!

Check our website fw.ky.gov for stocking dates and regulations or call 1-800-858-1549 for updates.





Figure 1. Flyer used to advertise the Fishing in Neighborhoods program in 2023-24.



Figure 2. Banner used to advertise the Fishing in Neighborhoods program in 2023-24.

FINs LAKES 2024 STOCKINGS

Fishing in Neighborhoods (FINs)

FISHING IN NEIGHBORHOODS is a program started by the Kentucky Department of Fish and Wildlife Resources to bring good fishing closer to your home. The thought is you shouldn't have to drive 2-3 hours just to find a spot to fish with your family or simply wet a line after a long day of work.

The FINs program takes advantage of park lakes all over the states. You'll discover FINs lakes offer not only a place to fish, but locations where you can spread out a blanket and enjoy time fishing with your whole family.

Naturally, the more people fish a lake, the fewer the fish you'll find in it. That's why Kentucky Fish and Wildlife stocks these lakes several times a year with catfish and trout, two of the most highly sought fish species by anglers.

Use this chart to find a FINs lake in the county nearest you. This handy chart also shows you what month each lake is stocked and what kind of fish are being put in the water.

This year, take advantage of the FINs program and enjoy some time fishing with your family. You'll be glad you did. ■

LAKE	COUNTY	TROUT				CATFISH			
		Feb.	Mar.	Oct.	Nov.	Mar.	Apr.	May	June
Anderson County Community Park Lake	Anderson	500	500		500	200	200	200	200
Camp Ernst Lake	Boone	1,500	1,500		1,500	1,250	1,250	1,250	1,250
Millennium Park Pond	Boyle	500	500		500	400	400	400	400
Alexandria Community Park Lake	Campbell	1,500	1,500		1,500	1,400	1,400	1,400	1,400
Robert J. Barth Park Lake	Campbell	750	750		750	700	700	700	700
Southgate Lake	Campbell	500	500		500		400		400
Panther Creek Park Lake	Daviess	750	750	750		800	800	800	800
Waymond Morris Park Lake	Daviess	1,500		1,500		1,000	1,000	1,000	1,000
Yellow Creek Park Lake	Daviess	750	750	750		600	600	600	600
Jacobson Park Lake	Fayette	3,000	3,000	3,000		2,300	2,300	2,300	2,300
Kentucky Horse Park Rolex Lake	Fayette	1,500			1,500		1,100		1,100
Flemingsburg Old Reservoir	Fleming	1,500			1,500		1,100		1,100
Lower Sportsman's Lake	Franklin	500	500	500		600	600	600	600
Upper Sportsman's Lake	Franklin	1,500	1,500	1,500		1,200	1,200	1,200	1,200
Lake Pollywog	Grant	750	750		750		700		700
Leary Lake	Grant	1,500	1,500		1,500		900		900
Kess Creek Park Lake	Graves	500	500	500		400	400	400	400
James D. Beville Park Lake	Grayson	750	750	750		600	600	600	600
Kingdom Come State Park Lake	Harlan	500	500	500			500		500
Rotary Park Lake	Hickman	500	500	500		200	200	200	200
Madisonville City Park Lake South	Hopkins	1,500	1,500	1,500			1,250		1,250
Cherokee Park Lake	Jefferson	750	750	750			800		800
Fisherman's Park Lake #3	Jefferson	500	500	500			400		400
Fisherman's Park Lake #4	Jefferson	500	500	500			400		400
Tom Wallace Park Lake	Jefferson	1,500	1,500	1,500		1,000	1,000	1,000	1,000
Waverly Park Lake	Jefferson	1,500	1,500	1,500		900	900	900	900
William F. Miles Angler Lake	Jefferson	750	750	750		700	700	700	700
William F. Miles Green Heron Lake	Jefferson	500	500	500		200	200	200	200
Lake Mingo	Jessamine	500	500	500		500	500	500	500
Southland Church Lake	Jessamine	500	500	500		500	500	500	500
Middleton Mills Long Pond	Kenton	500	500	500		300	300	300	300
Middleton Mills Shelterhouse Pond	Kenton	500	500	500		300	300	300	300
Prisoners Lake	Kenton	750	750	750			800		800
Brickyard Pond	Knox	1,500			1,500	2,000	2,000	2,000	2,000
Logan Hubble Park Lake	Lincoln	1,500	1,500		1,500		1,800		1,800
Whitehall Park Lake	Madison	1,500	1,500	1,500		1,200	1,200	1,200	1,200
Mike Miller Park Lake	Marshall	750	750	750			800		800
Maysville-Mason County Rec. Park Lake	Mason	1,500			1,500		1,150		1,150
Lake Montgomery	McCracken	1,500	1,500	1,500		1,100	1,100	1,100	1,100
Carlson Lake (Ft. Knox)	Meade						1,400		1,400
Easy Walker Park Pond	Montgomery	500	500		500	400	400	400	400
Bloomfield Park Lake	Nelson	500	500		500		500		500
Lusby Lake	Scott	500	500		500	500	500	500	500
Scott County Park Lake	Scott	500	500		500	500	500	500	500
Jesse W. Thornton Lake	Warren	1,500	1,500		1,500	1,450	1,450	1,450	1,450

Figure 3. Stocking table advertising Fishing in Neighborhoods program that appeared in 2024 Kentucky Afield calendar.

Section III: Fish Sampling

FINDINGS

Fish sampling was completed at 26 Fishing in Neighborhoods (FINs) lakes in May 2023. Samples were conducted with 10-min electrofishing runs using 60-pps direct current. All species that surfaced during the runs were netted and measured to the nearest 0.1 in except for gizzard shad, common carp, grass carp and rainbow trout. Multiple runs were conducted at most FINs lakes to allow measures of variability but was not possible at some smaller lakes. Sampling conditions by waterbody and date are noted in Table 1. A proportional stock density (PSD) index (Figure 1) was used to determine balance or lack thereof of sunfish and largemouth bass populations. The PSD index is calculated as the percentage of fish of a quality size (total length) that is longer than a minimum stock size. Minimum stock and quality sizes (20 – 26% and 36 – 41% of world record length, respectively) are defined for: largemouth bass (8 and 12 in); bluegill (3 and 6 in); and redear sunfish (4 and 7 in). Where bluegill and redear sunfish populations were both present within a lake the sunfish PSD value was weighted according to relative abundance of each species. Sequential sampling methods were used to determine when a reliable PSD value (90% confidence) was within a defined interval (Weithman et al. 1980). If the sample size was inadequate to classify the fish population, the deficiency was noted with a superscript.

Anderson County Community Park Lake (Anderson County)

Anderson County Community Park Lake (1.0 acre) had gizzard shad present prior to a successful gizzard shad eradication conducted in January 2013. The size structure of largemouth bass and bluegill has noticeably shifted since the shad removal. No largemouth bass ≥ 13 in were collected in 2023 (Table 2); however, bluegill ≥ 6 have increased since the shad removal (Table 3). The lake was drawn down in the early spring of 2022 for spillway repairs and kept down for several months. During this time the water capacity was reduced by more than half and appears to have negatively impacted the fishery, with few large fish observed in 2023. The catch rate of bluegill in the 6.0 – 7.9 in length group (95.8 fish/hr) was above the long-term mean (56.1 fish/hr), while the catch rates of bluegill in the other length groups were near the long-term means. The low number of bluegill sampled in 2015 and 2019 may be abnormalities as bluegill numbers rebounded in 2017 and 2021, with fish present in all length groups. Redear sunfish were stocked in the fall of 2018 to establish a population, with good numbers of large redear sunfish ≥ 6 in sampled in 2019. The redear sunfish catch has continued to decline from 2019, with few fish ≥ 6 in sampled in 2023. The 2023 catch rate for largemouth bass (155.7 fish/hr) was below the the long-term mean (265.0 fish/hr); with only bass in the < 8.0 in length group above the long-term mean (Table 4). The 2017, 2019, 2021, and 2023 samples were devoid of any bass in the ≥ 15.0 in length group. The PSD index clearly depicts the shift from a fishery with few large sunfish and too many big bass with low recruitment prior to the shad removal in 2013 to a more balanced fishery following the shad removal (Figure 2).

Camp Ernst Lake (Boone County)

The catch rate for largemouth bass was high in 2023, with fish up to the 21 in class sampled at Camp Ernst Lake (25.0 acres; Table 5). The catch rate for bluegill has been variable since sampling began in 2011 (Table 6). The 2023 catch rate of bluegill (59.9 fish/hr) was the lowest observed and well below the long-term mean (246.1 fish/hr). Bluegill in the 6.0 – 7.9 and ≥ 8.0 in length group made up nearly 2/3 of the total bluegill sampled. Redear sunfish were stocked in 2018 to establish a population; however, no redear sunfish were observed in the 2023 sample. The 2023 catch rate for largemouth bass (463.1 fish/hr) was similar to the 2019 and 2021 samples (513.0 and 515.0 fish/hr respectively) and above the long-term average (365.6 fish/hr; Table 7). This was strongly influenced by an increased catch rate of 8.0 – 11.9 in bass, which was over double the long-term average. The catch rate for bass in the 12.0 – 14.9 and ≥ 15.0 in length groups were both well below the long-term means. In 2016, 125 largemouth bass (8 – 15 in) were removed from Camp Ernst Lake and stocked in surrounding FINs lakes that had poor bass populations. An additional 125 bass largemouth bass (5 – 12 in) were removed from Camp Ernst Lake after the 2023 sample as the bass population has shifted to a stunted population in the 2019 – 23 samples (Figure 3).

Millennium Park Pond (Boyle County)

Millennium Park Pond (2.2 acres) had bluegill up to the 8 in class, redear sunfish up to the 11 in class and largemouth bass up to the 18 in class sampled in 2023 (Table 8). Bluegill in the 3.0 – 5.9 in length group made up the vast majority of the catch in 2023 (Table 9). The 2023 overall catch rate for bluegill of 1,007.8 fish/hr was near the long-term mean (964.9 fish/hr) and much higher than the 2019 and 2021 catch rates (419.2 and 245.5 fish/hr respectively). Redear sunfish sampled in 2023 were split evenly between the 3.0 – 5.9 in and ≥ 8.0 in length groups. The overall catch rate for largemouth bass remained stable with 245.5 fish/hr sampled in 2023, compared to 221.6 fish/hr as the long-term mean (Table 10). The catch rate of bass in the 12.0 – 14.9 in length group in 2023 (125.8 fish/hr) was nearly double the long-term mean (67.6 fish/hr). The largemouth bass catch rate for fish < 8.0 in length group remained low in 2023 (6.0 fish/hr), after no fish were sampled in this length group in 2019 and 2021. The PSD index for Millennium Park Pond in 2023 indicates the fishery has large bass with low recruitment (Figure 4). The PSD index values have bounced around as the fishery has undergone shifts in the size structure of bass and sunfish in recent years, with more stocker size sunfish observed in 2023, compared to 2021.

Southgate Lake (Campbell County)

The catch rate for bluegill was moderate at Southgate Lake (1.8 acres) in 2023, with fish up to the 7 in class sampled (Table 11). Redear sunfish were sampled in the 3 – 8 in classes after a 2018 stocking to establish a population. A successful gizzard shad eradication was conducted with a light dose of rotenone during January 2013. Bluegill in the 3.0 – 5.9 in length group made up the majority of the catch in 2023, while the catch rate of < 3.0 in length was the highest observed since sampling began in 2010 (Table 12). Overall, the bluegill catch rate in 2023 (365.3 fish/hr) was near the long-term average (351.1 fish/hr). The catch rate of bass in the ≥ 15.0 in length group in 2023 (18.0 fish/hr) was slightly above the long-term mean (15.0 fish/hr), while catch rates were below the long-term mean for all other length groups of largemouth bass (Table 13). Largemouth bass catch rates were expected to increase after the gizzard shad removal; however, the catch rate has remained moderately low. The shift in the fishery can be observed in the PSD index from a lake with large bass and few large sunfish prior to the shad removal (2010-13) to a lake with large sunfish and few large bass (2017-19) to a more balanced fishery in recent years (2021-23; Figure 5).

Yellow Creek Park Lake (Daviess County)

The catch rate for bluegill was moderate at Yellow Creek Park Lake (3.1 acres) in 2023 (Table 14). The overall catch rate of bluegill in 2023 (317.4 fish/hr) was near the long-term mean (290.4 fish/hr), with fish in the 3.0 – 5.9 in length group making up the majority of the catch (Table 15). Redear sunfish were stocked in the fall of 2018 and 2019 to establish a population, with the majority of redear sunfish in the ≥ 8.0 in length group in the 2023 sample. The largemouth bass population still appears crowded, with the vast majority of fish in the < 8.0 and 8.0 – 11.9 in length groups (Table 16). The catch rate of < 8.0 in length group bass in 2023 (257.5 fish/hr) was over double the long-term mean (103.8 fish/hr), while the overall bass catch rate (389.2 fish/hr) was near the long-term mean (342.3 fish/hr). The PSD index indicates the bass population is stunted with few large individuals, while the sunfish value has bounced around from abundant large sunfish to a balanced sunfish population (Figure 6).

Jacobson Park Lake (Fayette County)

Jacobson Park Lake (46.3 acres) exhibits a crowded bluegill population with stunted growth (Table 17). The bluegill catch rate in 2023 (692.6 fish/hr) was near the long-term average (676.7 fish/hr), with the vast majority of bluegill sampled in the 3.0 – 5.9 in length group (Table 18). The 2023 largemouth bass catch rate (51.9 fish/hr) was low and below the long-term average (72.7 fish/hr; Table 19). The catch rate for largemouth bass has historically been low at Jacobson Park Lake, with bass distributed through all length groups. The PSD index has remained stable, indicating a lake with few large sunfish, and large bass with low recruitment (Figure 7). This is typical of a small impoundment with gizzard shad present. Jacobson Park Lake is connected to Lake Ellerslie by a culvert under Richmond Road. The primary use for Lake Ellerslie is a municipal drinking water supply for Lexington. Kentucky Department of Fish and Wildlife

does not have an agreement to cooperatively manage the fishery at Lake Ellerslie. Due to the connectivity to Jacobson Park Lake and use as water supply lake, a shad removal is not suitable at this location. Common carp of all sizes are also abundant in the lake. Opportunities to improve the fishery at Jacobson Park Lake are limited.

Flemingsburg Old Reservoir (Fleming County)

Bluegill up to the 7 in class and redear sunfish up to the 9 in class were present in the 2023 sample at Flemingsburg Old Reservoir (10.8 acres; Table 20). Largemouth bass up to the 19 in class were also sampled in 2023. The size structure of sunfish and bass was vastly different between the 2017 and 2019 samples as indicated in the PSD index but settled towards a more balanced bass fishery in the 2021 and 2023 samples with abundant large sunfish (Figure 8). The overall catch rate of bluegill in 2023 (386.2 fish/hr) was considerably higher than the long-term mean (285.9 fish/hr), with the majority of bluegill in the 3.0 – 5.9 in length group (Table 21). Redear sunfish were stocked in 2018 to establish a population. The catch rate in 2023 (170.7 fish/hr) was nearly double the long-term average (84.8 fish/hr), with the majority of fish in the ≥ 8.0 in length group. The catch rate of bass in the ≥ 15.0 in length group in 2023 (50.9 fish/hr) was nearly three times the long-term mean (16.5 fish/hr), while the catch rates were below the long-term means for all other length groups of bass (Table 22). This lake was a new addition to the FINs program in 2017. A total of 109 largemouth bass between 10 – 14 in were removed after the 2021 sample and moved to a nearby FINs lake to free up available forage for remaining bass.

Lake Pollywog (Grant County)

Bluegill up to the 7 in class and redear sunfish up to the 9 in class were present in the 2023 sample at Lake Pollywog (3.5 acres; Table 23). There was a substantial fish kill at Lake Pollywog in fall 2018 that greatly impacted the fishery. Redear sunfish were stocked in the fall of 2018 after the fish kill to establish a population, with the majority of redear sunfish sampled in the 6.0 – 7.9 in length group in 2023 (Table 24). The bluegill catch rate was high (928.1 fish/hr) in 2023 and was near the long-term mean (883.2 fish/hr). Bluegill in the 3.0 – 5.9 in length group made up the majority of the catch, while the catch rate of 6.0 – 7.9 in length group was substantial and above the long-term mean. Largemouth bass in the 12.0 – 14.9 in length group made up the majority of the catch in 2023, and the catch rate of ≥ 15.0 in length group was the highest observed since sampling began in 2010 (Table 25). The overall catch rate for bass in 2023 (305.4 fish/hr) was slightly above the long-term mean (262.0 fish/hr). The PSD index indicates the fishery shifted after the fall 2018 fish kill with the number of larger bass as well as 3.0 – 5.9 in bluegill reduced (Figure 9). The fishery went from being bass balanced in 2013-17, towards low numbers of large bass in 2019-21, with abundant large sunfish present in 2019-23. The bass and sunfish populations had bounced back after the 2018 fish kill with good numbers of large bass and sunfish present in the 2023 sample.

Leary Lake (Grant County)

Bluegill up to the 8 in class and redear sunfish up to the 10 in class were present in the 2023 sample at Leary Lake (4.6 acres; Table 26). The bluegill catch rate in 2023 (464.1 fish/hr) was comparable to the 2019 and 2021 samples (488.0 and 449.1 fish/hr respectively) and above the long-term average (362.5 fish/hr; Table 27). The majority of the bluegill catch rate was fish in the 6.0 – 7.9 in length group. Redear sunfish were stocked in 2018 to establish a population, with fish sampled in 2023 near the long-term mean for all length groups. The largemouth bass 2023 overall catch rate (218.6 fish/hr) was below the long-term mean (330.1 fish/hr; Table 28). Largemouth bass were present in all length groups, with < 8.0 in length group making up the largest proportion of the catch. The PSD index indicates a fishery with abundant large sunfish, with a stunted bass population in 2016 and 2017, shifting to a balanced bass population in 2019-23 (Figure 10).

Kingdom Come State Park Lake (Harlan County)

Kingdom Come State Park Lake (2.5 acres) had redbreast sunfish up to the 6 in class and bluegill sampled up to the 8 in class in 2023 (Table 29). Bluegill were most abundant in the 6.0 – 7.9 in length

group in 2023 (Table 30). While bluegill numbers were low in 2023, the catch rate (104.8 fish/hr) was still higher than the long-term mean (59.4 fish/hr). The majority of the largemouth bass sampled were in the 8.0 – 11.9 in length group, which is consistent with past samples (Table 31). The 2023 total catch for bass (359.3 fish/hr) was above the long-term mean (250.0 fish/hr). The bass population continues to be crowded with limited forage. Largemouth bass ≥ 20 in are surveyed most years that pass through the growth bottleneck and are able to reach a large size. The PSD index indicates a stunted bass population with a low sample size for bluegill that bounces around from year to year, but trends towards being sunfish balanced (Figure 11). The sunfish PSD values in 2021 and 2023 were the two highest observed since sampling began in 2010 and indicated more large sunfish present, with low recruitment.

Cherokee Park Lake (Jefferson County)

Bluegill up to the 7 in class and redear sunfish up to the 8 in class were present in the 2023 sample at Cherokee Park Lake (4.2 acres; Table 32). The catch rate of bluegill in 2023 (269.5 fish/hr) was above the long-term average (202.8 fish/hr; Table 33). Bluegill in the 3.0 – 5.9 in length group made up the majority of the catch, while the catch rate of bluegill in the 6.0 – 7.9 in length group was over double the long-term average. The redear sunfish catch rate in 2023 (173.7 fish/hr) was the highest observed since sampling began in 2010, with fish in the 3.0 – 5.9 in length group making up the majority of the catch. Largemouth bass numbers were greatly reduced in the 2023 sample (83.8 fish/hr), with the majority of bass sampled in the < 8.0 in length group (Table 34). There were significant fish kills during the summers of 2014 and 2022 due to low oxygen. The 2022 fish kill is the likely cause of the reduced largemouth bass catch rate in 2023 and difference in size structure compared to the 2021 sample. The PSD index has shifted in recent years, most noticeably in 2015 and 2023 after the fish kills (Figure 13). The lake has been close to bass balanced from 2011-19; however, the sample size was insufficient in most years to make reliable predictions as catch rates were typically low for both bass and sunfish. The 2023 PSD index indicated a balanced fish population. Cherokee Park Lake is over 100 years old and in need of renovation to improve the fishery.

Fisherman's Park Lake #3 (Jefferson County)

The catch rate was moderate for both largemouth bass and bluegill in 2023 at Fisherman's Park Lake #3 (1.8 acres; Table 35). The bluegill catch rate in 2023 (203.6 fish/hr) was similar to the long-term average (215.6 fish/hr), with bluegill in the 3.0 – 5.9 in length group making up the majority of the catch, consistent with past samples (Table 36). Redear sunfish were stocked in 2018 to establish a population, with fish in the 4 – 10 in classes sampled in 2023. The catch rate of redear sunfish in 2023 (101.8 fish/hr) was the highest observed, with fish in the ≥ 8.0 in length group making up the majority of the catch. Largemouth bass were absent in the < 8.0 in length group in the 2023 sample, with bass well distributed through the remaining length groups (Table 37). The PSD index tends to point towards a balanced bass population with low numbers of larger sunfish (2010-17; Figure 13). The PSD index values in 2023 were the highest observed for largemouth bass and sunfish and indicated lots of large fish with low recruitment. Grass carp were stocked in 2010 and 2011 to control curlyleaf pondweed in the lake and are proving successful at containing weed growth to keep bank fishing accessible. The Fisherman's Park lakes are infertile with secchi depths of 6 ft or more and historically yielded low numbers of large fish. Lake fertilizations began in 2022 to increase productivity.

Fisherman's Park Lake #4 (Jefferson County)

Bluegill up to the 8 in class and redear sunfish up to the 10 in class were present in the 2023 sample at Fisherman's Park Lake #4 (2.4 acres), in addition to largemouth bass up to the 19 in class (Table 38). The bluegill catch rate in 2023 (233.5 fish/hr) was slightly below the long-term mean (294.2 fish/hr; Table 39.) The catch rate of bluegill in the 6.0 – 7.9 in length group in 2023 (71.9 fish/hr) was above the long-term mean (50.2 fish/hr), while bluegill in the 3.0 – 5.9 in length group made up the majority of the catch. Redear sunfish were stocked in 2018 to establish a population, with low numbers of fish sampled in 2019 and 2021. The redear sunfish catch rate in 2023 (59.9 fish/hr) was nearly double the long-term average (31.9 fish/hr), with fish in the ≥ 8.0 in length group making up the majority of the catch. Largemouth bass in the 8.0 – 11.9 in length group made up the highest proportion of the catch (Table 40). The 2023 overall

bass catch rate (155.7 fish/hr) was slightly below the long-term mean (215.6 fish/hr). The PSD index in 2023 indicates a bass balanced population with good numbers of large sunfish (Figure 14). Grass carp were stocked in 2010 and 2011 to control curlyleaf pondweed in the lake and are proving successful at containing weed growth to keep bank fishing accessible. The Fisherman's Park lakes are infertile with secchi depths of 6 ft or more and historically yielded low numbers of large fish. Lake fertilizations began in 2022 to increase productivity.

Tom Wallace Park Lake (Jefferson County)

Bluegill up to the 8 in class and largemouth bass up to the 22 in class were sampled in 2023 at Tom Wallace Park Lake (4.8 acres; Table 41). The 2023 bluegill catch rate (149.7 fish/hr), was above the long-term average (118.9 fish/hr), with bluegill in the 3.0 – 5.9 in length group up making up the majority of the catch (Table 42). Redear sunfish were stocked in 2019 to bolster the sunfish population, with a low catch rate in 2023 (9.0 fish/hr) and all fish in the ≥ 8.0 in length group. The largemouth bass overall catch rate in 2023 (257.5 fish/hr) was near the long-term average (237.0 fish/hr; Table 43). Catch rates for bass in all length groups were very similar to the long-term averages. The PSD clearly shows a fishery with a stunted bass population where a few bass make it through the bottleneck and reach a large size (Figure 15). The sunfish PSD has varied widely over the years with larger sunfish observed some years if the fish were spawning at the time of the sample, but overall numbers consistently low. With secchi readings typically in excess of 5 ft, Tom Wallace Park Lake is infertile. Lake fertilizations began in 2022 to increase productivity.

Waverly Park Lake (Jefferson County)

The catch rate for largemouth bass was high at Waverly Park Lake (4.5 acres) with fish up the 19 in class sampled in 2023 (Table 44). A successful gizzard shad eradication was conducted with a light dose of rotenone during February 2022 after shad were first observed in fall 2018. The catch rate for bluegill in 2023 (95.8 fish/hr) was greatly reduced from the long-term average (313.0 fish/hr), with fish in the 6.0 – 7.9 in length group making up the highest proportion of the sample (Table 45). There was high incidental mortality of sunfish observed from the rotenone treatment and this likely accounts for the reduced catch rate in 2023. A supplemental stocking of large bluegill occurred in June 2023 to bolster the population. Redear sunfish were stocked in 2019 to bolster an existing redear sunfish population, with the majority of fish sampled in the < 3.0 in length group in 2023. The largemouth bass catch rate in 2023 (922.2 fish/hr) was nearly triple the long-term mean (327.7 fish/hr), with nearly all bass in the < 8.0 in length group (892.2 fish/hr; Table 46). This large bass spawn (2022) has been observed in several other lakes immediately following a shad removal. The size structure for bluegill and largemouth bass populations has been poor in the past (2011-15), with few adult fish present, indicating possible overfishing (Figure 16). In 2017-19 the sunfish population shifted to a more balanced population, with the bass PSD improving in 2019 and 2021 after shad were observed. The 2023 PSD index lacked sufficient sample size to estimate with 90% confidence the sunfish and bass being in the category with too many large fish and low recruitment. Grass carp were restocked in June 2023 to help control aquatic vegetation and keep fishing access open for bank anglers after the rotenone treatment removed existing grass carp.

William F. Miles Angler Lake (Jefferson County)

William F. Miles Angler Lake (3.6 acres) had bluegill up to the 8 in class and redear sunfish up to the 9 in class sampled in 2023, while largemouth bass were observed up to the 21 in class (Table 47). A successful gizzard shad eradication was conducted with a light dose of rotenone during February 2022 after shad were first observed in 2013. The catch rate for bluegill was low in 2023 (65.9 fish/hr) and well below the long-term mean (156.7 fish/hr), similar to the low redear sunfish catch rate (21.0 fish/hr) in 2023 compared to the long-term average (101.3 fish/hr; Table 48). There was high incidental mortality of sunfish observed from the rotenone treatment and this likely accounts for the reduced catch rates in 2023. A supplemental stocking of large bluegill occurred in June 2023 to bolster the population. The largemouth bass catch rate in 2023 (230.5 fish/hr) was above the long-term average (146.4 fish/hr; Table 49). The increase in the overall 2023 bass catch rate can be attributed to the fourfold increase in the catch rate for the < 8.0 in length group over the long-term average. The PSD index shows a bass fishery

that was historically stunted with a few large fish getting through the growth bottleneck, noticeably shifting in recent years towards larger bass with lowered recruitment, likely from the shad introduction (Figure 17). The sunfish population shifted from relatively balanced in 2013-17 to fewer large sunfish in 2019 and 2021, again likely due to shad being introduced. In observing other lakes where shad have been introduced, the bluegill fishery tends to be more negatively affected compared to the redear sunfish population. The 2023 PSD index indicated a balanced sunfish population, while largemouth bass had the highest PSD value observed since sampling began in 2005.

William F. Miles Green Heron Lake (Jefferson County)

William F. Miles Green Heron Lake (1.2 acres) had bluegill up to the 7 in class and redear sunfish up to the 9 in class sampled in 2023 (Table 50). The overall catch rate for bluegill in 2023 (101.8 fish/hr) was slightly below the long-term mean (141.2 fish/hr), with fish in the 6.0 – 7.9 in length group making up the majority of the catch (Table 51). The redear sunfish catch rate continued to be low in 2023, with the majority of fish sampled in the ≥ 8.0 in length group. Largemouth bass in the 8.0 – 11.9 in length group made up the highest proportion of the catch, similar to past years (Table 52); however, the catch rate of this length group was below the long-term average in 2023. The PSD index indicates a stunted bass population, with a few fish making it through the growth bottleneck, and the sunfish population nearly balanced in most years (Figure 18). The 2023 PSD value for sunfish was the highest observed since sampling began in 2013 and indicated abundant large sunfish with low recruitment.

Middleton Mills Long Pond (Kenton County)

The catch rates were moderate in 2023 for bluegill and largemouth bass at Middleton Mills Long Pond (1.2 acres; Table 53). Bluegill in the 3.0 – 5.9 in length group made up the majority of the catch, similar to past years (Table 54). The bluegill catch rate has been highly variable between samples at this pond. Redear sunfish were stocked in 2018 to establish a population. The redear sunfish catch was split evenly between fish in the 3.0 – 5.9 and ≥ 8.0 in length groups, with no fish sampled in the 6.0 – 7.9 in length group in 2023. The overall bass catch rate in 2023 (347.3 fish/hr) was higher than the long-term average (210.3 fish/hr; Table 55). The vast majority of the bass sampled in 2023 were < 12 in, which was similar to the 2020 and 2021 samples. A total of 50 largemouth bass (4 – 10 in) were stocked in September 2018 to bolster bass numbers and supplement a couple low abundance year classes observed in 2018. The PSD index is also highly variable between years, with the bass sample size lacking some years to make a precise estimate (Figure 19). The 2020-23 samples had a sufficient sample size and indicated low numbers of large bass with plentiful stocker sized fish. The sunfish PSD value has been low in every year since sampling began in 2010, with the exception of the 2021 sample where there was considerable number of larger bluegill and redear sunfish sampled.

Middleton Mills Shelterhouse Pond (Kenton County)

Largemouth bass up to the 17 in class were sampled in 2023 at Middleton Mills Shelterhouse Pond (1.2 acres), with no sunfish < 7 in (Table 56). All bluegill sampled were small in the < 3.0 and 3.0 – 5.9 in length groups, while there were some redear sunfish in 6.0 – 7.9 in length group, the vast majority of fish were in the 3.0 – 5.9 in length group (Table 57). The bluegill and redear sunfish fisheries continue to be poor, while the bass catch rate continues to be low (Table 58). Largemouth bass catch rates have never been high at the lake, but the 2012-21 samples indicate a major issue with recruitment of bass in the lake. Largemouth bass (4 – 14 in) have been stocked nearly annually since 2014 to supplement the population and reduce a crowded sunfish population; however, poor survival of stocked bass or high harvest of bass may be an issue as bass numbers have not increased substantially. The 2023 sample was the first time bass had been sampled in the < 8.0 in length group since 2014. The PSD index has consistently indicated a poor sunfish population since sampling began in 2005, while the largemouth bass PSD has bounced around due to low sample sizes for bass every year (Figure 20).

Prisoners Lake (Kenton County)

The size structure of bluegill was poor at Prisoners Lake (3.8 acres) with bluegill only up to the 5 in class sampled in 2023 (Table 59). The overall bluegill catch rate (383.2 fish/hr) was well above the long-term average (231.3 fish/hr); however, no fish were sampled in the 6.0 – 7.9 and ≥ 8.0 in length groups (Table 60). A supplemental stocking of large bluegill occurred in June 2022 and 2023 to bolster the sunfish population. Redear sunfish were stocked in 2018 and 2019 to establish a population; however, no redear sunfish were sampled in 2019. The redear sunfish catch rate remained low in 2023 with fish sampled in the 6.0 – 7.9 in length group. Largemouth bass up to the 17 in class were sampled in 2023, with bass well distributed through all length groups (Table 61). The catch rate for bass in 2023 was similar to the long-term average in most length groups, with the exception of a slight decrease in the catch rate for the ≥ 15.0 in length group. A successful gizzard shad eradication was conducted with a light dose of rotenone during January 2017. The fishery has not positively responded as expected to the shad removal to this point. The PSD index lacks an adequate sample size for assessing bass in all years sampled, with sunfish PSD highly variable between years, but overall tending towards few large sunfish (Figure 21).

Brickyard Pond (Knox County)

A light dose rotenone treatment was conducted at Brickyard Pond (9.5 acres) in January 2017 to remove gizzard shad. However, spring sampling in 2017 revealed this effort was unsuccessful. The lake continues to have a low catch rate for largemouth bass and abundant small sunfish in 2023, both typical for a lake with gizzard shad present (Table 62). The catch rate for bluegill in 2023 (550.9 fish/hr) was above the long-term average (438.9 fish/hr), with bluegill in the 3.0 – 5.9 in length group still making up the vast majority of the catch (Table 63). The redear sunfish catch rate in 2023 (33.9 fish/hr) was well below the long-term average (118.5 fish/hr); however, the catch rate of fish in the ≥ 8.0 in length group was over double the long-term mean. Largemouth bass were present in all length groups in 2023, with catch rates for bass in the 8.0 – 11.9 and 12.0 – 14.9 in length groups considerably lower than the long-term means (Table 64). To supplement the bass population, 300 largemouth bass (6 – 13 in) were stocked in June 2017, with another 157 largemouth bass (4 – 13 in) in June 2023 after the sample. The PSD indicated a balanced bass population from 2016-23, with the exception of 2021 where too many large bass with low recruitment were observed (Figure 22). The PSD index has been low for sunfish in all years except 2017 indicating few large sunfish available to anglers.

Logan Hubble Park Lake (Lincoln County)

There was a significant fish kill during the summer 2022 due to low oxygen at Logan Hubble Park Lake (9.2 acres). This fish kill significantly reduced catch rates of larger fish in the 2023 sample (Table 65). The overall bluegill catch rate actually increased in 2023 (221.6 fish/hr) compared to the previous two samples in 2019 and 2021 (141.7 and 112.3 fish/hr respectively), due to a large increase in the catch rate of fish in the 3.0 – 5.9 in length group (Table 66). The 2023 catch rate of bluegill in the 6.0 – 7.9 in length group was less than half the long-term mean and bluegill were absent from the ≥ 8.0 in length group. The majority of the redear sunfish catch was in the ≥ 8.0 in length group in 2021; however no fish were sampled in this length group in 2023. The 2023 catch of redear sunfish consisted of fish in the 3.0 – 5.9 and 6.0 – 7.9 in length groups which were both above the long-term means. The 2023 largemouth bass catch (91.8 fish/hr) consisted almost exclusively of fish in the < 8.0 in length group (Table 67). The 2022 fish kill appears to have eliminated all large bass from the population. The PSD index indicated a sunfish and bass population with lots of large fish with low recruitment 2017-21 with the fish kill having a devastating effect on the fishery. The lake was added to the FINs program in January 2017.

Whitehall Park Lake (Madison County)

The size structure of bluegill and largemouth bass was poor in 2023 at Whitehall Park Lake (6.0 acres), with bluegill only up to the 5 in class and largemouth bass up to the 13 in class sampled (Table 68). The bluegill catch rate has varied drastically between years, with 2021 being on the low end of the spectrum (32.9 fish/hr; Table 69). The 2023 bluegill catch rate (281.4 fish/hr) was near the long-term mean (263.1

fish/hr). The 2023 bluegill catch consisted mostly of fish in the 3.0 – 5.9 in length group. A supplemental stocking of large bluegill occurred in June 2022 and 2023 to bolster the bluegill population. Redear sunfish were stocked in the fall of 2018 to establish a population, with fish in the 2 – 10 in classes sampled in 2023. The overall catch rate for redear sunfish in 2023 (302.4 fish/hr) was very similar to the 2021 sample (290.4 fish/hr). Redear sunfish in the 3.0 – 5.9 in length group made up the majority of the catch. Chinese mystery snails are present in the lake and likely contribute to the abundant redear sunfish. The majority of largemouth bass sampled in 2023 were in the < 8.0 in length group with no fish sampled in the ≥ 15.0 in length group (Table 70). The overall catch rate in 2023 for largemouth bass (401.2 fish/hr) was near the long-term average (466.6 fish/hr). The PSD index varies widely between sampling years (Figure 24). Currently the lake has few large sunfish and bass available to anglers. In June 2019, 100 largemouth bass (4 – 10 in) were removed from Whitehall Park Lake. An additional 210 bass (4 – 12 in) were removed after the 2021 sample, and another 171 largemouth bass (4 – 12 in) after the 2023 sample and stocked in nearby FINs lakes in need of bass. Additional bass removals in the future will likely be necessary and benefit the fishery. Grass carp have been stocked in recent years to control aquatic vegetation and keep bank fishing access open. Lake fertilizations began in 2022 to increase productivity.

Maysville-Mason County Recreation Park Lake (Mason County)

Maysville-Mason County Recreation Park Lake (11.6 acres) had gizzard shad prior to a successful shad eradication conducted in February 2017. Bluegill and redear sunfish up to the 7 in class and largemouth bass up to the 21 in class were sampled in 2023 (Table 71). The 2023 bluegill catch rate (544.9 fish/hr) was near the long-term average (609.5 fish/hr; Table 72), but still higher than desired. Bluegill in the 3.0 – 5.9 in length group continued to make up the majority of the catch. However, there was an increase in the catch rate of 6.0 – 7.9 in length group of bluegill in 2023 (161.7 fish/hr) which was well above the long-term mean (81.2 fish/hr). The rotenone treatment in 2017 resulted in some incidental non-target fish mortality, resulting in the lowered 2017 bluegill catch rate. Redear sunfish were stocked in the fall of 2018 to establish a population, with low numbers of fish sampled in 2023. The largemouth bass catch rate in 2023 (131.7 fish/hr) was near the long-term average (118.1 fish/hr; Table 73). The 2023 bass catch rates were near the long-term average in every length group. The lake received a stocking of 400 largemouth bass (5 in) in October 2015. However, these fish failed to show up in subsequent sampling efforts. Another 425 largemouth bass (4 – 10 in) were stocked in March 2018 to bolster the bass population and in hopes of curtailing sunfish numbers. These fish did show up in the 2019 and 2021 samples. An additional 150 (4 – 14 in) bass were stocked after the 2021 sample. The PSD index indicates the bass population has lots of large fish in 2023 with low recruitment (Figure 25). The PSD value for sunfish in 2023 was the highest observed since sampling began in 2014.

Carlson Lake (Fort Knox; Meade County)

The catch rates for bluegill, redear sunfish and largemouth bass were moderate in 2023 at Carlson Lake (Fort Knox 14.0 acres; Table 74). Bluegill were present up to the 7 in class and redear up to the 11 in class. The catch rate of bluegill in the < 3.0 in length group in 2023 (169.7 fish/hr) was above the long-term mean (106.4 fish/hr), while catch rates in all other length groups were near the long-term averages (Table 75). The overall catch rate for redear sunfish in 2023 (313.4 fish/hr) was near the long-term mean (270.6 fish/hr), with an increased catch of fish in the < 3.0 in length group and a decreased catch rate of ≥ 8.0 in length group compared to the long-term averages. Largemouth bass in the 8.0 – 11.9 in length group made up the majority of the catch, with the 2023 overall catch rate (183.6 fish/hr), below the long-term mean (254.9 fish/hr; Table 76). The PSD index indicated a balanced sunfish population from 2013-21, with the sunfish PSD value in 2023 the lowest observed since sampling began in 2011 (Figure 26). The bass population being was nearly balanced from 2015-19 and 2023, with bass stunted population in 2011-13 and 2021. Grass carp were stocked in 2014 and 2023 to control aquatic vegetation and keep bank fishing access open. The lake had a ring of naiad around the perimeter of the lake during the 2023 sample.

Easy Walker Park Pond (Montgomery County)

In late August 2019, a near complete fish kill occurred at Easy Walker Park Pond (1.6 acres), due to low oxygen after a lake turnover. Another significant fish kill occurring during the summer 2022 due to low oxygen. An aeration system was installed in 2023 to alleviate oxygen issues. Adult bluegill, redear sunfish and bass were restocked in October 2019 to restore a fish population. The sunfish stockings immediately following the 2019 fish kill consisted primarily of redear sunfish from Pfeiffer Hatchery. Bluegill up to 8 in class, redear sunfish up to the 9 in class and largemouth bass up to the 17 in class were sampled in 2023 (Table 77). The 2023 bluegill catch rate (149.7 fish/hr) was greatly reduced from the long-term mean (252.4 fish/hr) mainly due to a reduced catch of fish in the 3.0 – 5.9 in length group (Table 78). A supplemental stocking of large bluegill occurred in June 2022 and 2023 to bolster the bluegill population. The 2023 redear sunfish catch rate of 77.8 fish/hr was much lower than the 407.2 fish/hr sampled in 2021, with the majority of redear sunfish in the ≥ 8.0 in length group. The 2023 largemouth bass catch rate (455.1 fish/hr) was high and above the long-term average (339.6 fish/hr), with bass in the < 8.0 in length group making up the majority of the catch (Table 79). A total of 40 largemouth bass (4 – 12 in) were removed after the 2021 sample and an additional 72 bass (5 – 12 in) after the 2023 sample. The PSD index in 2021 and 2023 indicates a bass population with few large fish, while the sunfish population has abundant large fish with low recruitment (Figure 27). The PSD index will likely shift as the fish population becomes reestablished in the coming years.

TANDEM HOOP NET SAMPLING

Tandem hoop net sampling for channel catfish and channel/blue hybrid catfish was conducted at 16 FINs lakes in October 2023. Tandem hoop net sets consisted of three nets per set, each 11 ft long with one-inch bar mesh and seven fiberglass hoops with the throats constricted. Three tandem sets per lake were soaked for 72-hr before checking. Each net was baited with 1/3 of a commercially prepared cheese log (about 2-lbs per net) from The Fish Net Company. Care was taken not to set nets below the thermocline. Catfish were measured to the nearest 0.1 in and weighed to the nearest 0.01 pound. Relative weight (W_r) was used to determine condition of catfish at each lake. However, differentiating between channel catfish and channel/blue hybrid catfish was difficult and time consuming in the field. Therefore, channel catfish and the hybrid catfish were grouped together for analysis and the channel catfish relative weight equation was used.

Robert J. Barth Lake (Campbell County)

Robert J. Barth Lake (3.7 acres) was sampled for the first time in 2023 with 104 channel/hybrid catfish netted (34.7 fish/set; Table 80). Catfish ranged in size from the 9 – 23 in classes with 27% of fish < 13 in. Relative weights were low for catfish in the 11.0 – 15.9 and 16.0 – 23.9 in classes at 79 and 82 respectively, while smaller catfish in the 7.0 – 10.9 in length group had a moderate relative weight of 89 (Table 81). Spring electrofishing data and hoop net bycatch indicate forage may be limited and a contributing factor to the low relative weights of catfish. Robert J. Barth Lake normally receives 2,800 catfish annually as a primary FINs lakes, but only received 2,414 catfish in 2023 due to a production shortfall.

Southgate Lake (Campbell County)

The catch rate of channel/hybrid catfish was moderate in 2023 at Southgate Lake (1.8 acres), with 62 catfish sampled (20.7 fish/set; Table 82). The 2023 catch rate (20.7 fish/set) was higher compared to the 2018 and 2020 catch rates (0.7 and 1.3 fish/set respectively). Catfish ranged in size from the 9 – 19 in classes with 52% of fish < 13 in. All length groups of catfish had lower than desired relative weights. Relative weights increased with fish size from 79 for catfish in the 7.0 – 10.9 in length group to 84 for catfish in the 16.0 – 23.9 in length group (Table 83). The relative weights were lower for all length groups of catfish in 2023 compared to past samples in 2015, 2018 and 2020. Southgate Lake is a secondary FINs lake which normally receives 800 catfish annually, but only received 700 catfish in 2023 due to a production shortfall.

Panther Creek Park Lake (Daviess County)

Only two catfish (0.7 fish/set), were sampled in 2023 at Panther Creek Park Lake (3.8 acres; Table 84). The 2023 catch rate was similar to the 2016 catch rate of 4.3 fish/set but considerably lower than the high of 32.7 fish/set sampled in 2019. Catfish in the 11.0 – 15.9 in length group had a relative weight of 94 which was an increase from the 83 observed in the 2021 sample for the same size length group (Table 85). Panther Creek Park Lake is a primary FINs lake and receives 3,200 catfish annually. A gizzard shad eradication was conducted with a light dose of rotenone during February 2022.

Waymond Morris Park Lake (Daviess County)

A complete renovation of the fish population was conducted with rotenone during September 2021 at Waymond Morris Park Lake (4.8 acres). A total of 41 channel/hybrid catfish were caught in three tandem hoop net sets in 2023 (13.7 fish/set; Table 86). Catfish ranged in size from the 9 – 18 in classes with 69% of catfish < 13 in. Relative weights increased as fish size increased. Catfish in the 16.0 – 23.9 in length group had the highest relative weight at 87, while catfish in the 7.0 – 10.9 in length group were the lowest at 81 (Table 87). The relative weights of catfish have never been consistently high at this lake, despite low catch rates. The lake receives 4,000 catfish annually as a primary FINs lake, but only received 2,932 catfish in 2023 due to a production shortfall.

Yellow Creek Park Lake (Daviess County)

A total of 50 channel/hybrid catfish were caught in three tandem hoop net sets (16.7 fish/set) in 2023 at Yellow Creek Park Lake (3.1 acres; Table 88). The catfish catch rate in 2023 was lower compared to the 2019 and 2021 catch rates of 37.0 and 57.3 fish/set respectively. Catfish ranged in size from the 9 – 20 in classes with 40% of catfish < 13 in. Relative weights had improved in 2023 compared to the 2021 sample in all length groups. Relative weights were only 81 for catfish in the 11.0 – 15.9 and 16.0 – 23.9 in length groups in 2021 and increased to 88 and 93 in those respective length groups in 2023, with catfish in the 7.0 – 10.9 in length group having an exceptional relative weight of 104. Yellow Creek Park Lake is a primary FINs lake and is stocked with 2,400 catfish annually.

Kentucky Horse Park Rolex Lake (Fayette County)

The catch rate of catfish has continued to decline at Kentucky Horse Park Rolex Lake (5.6 acres) but is still high with 85.0 fish/set sampled in 2023 (Table 90). A total of 800 (8 – 11 in) catfish were removed in November 2017 after the sample, another 559 catfish (8 – 12 in) after the 2018 sample and 250 catfish (9 – 14 in) after the 2021 sample. Catfish ranged in size from the 9 – 24 in classes in the 2023 sample. The size structure of catfish has drastically improved with only 16% of catfish sampled in 2023 < 13 in. Catfish < 13 in made up 82%, 76%, and 61% of catfish sampled in 2017, 2018, and 2021 respectively. Catfish stockings at the lake as part of the FINs program began in 2016. Either the park manager had been overstocking the lake for years, or natural reproduction of channel catfish was occurring. Relative weights of catfish in the 11.0 – 15.9 and 16.0 – 23.9 in length groups was 83 and 80 respectively in 2023, indicating limited food availability (Table 91). Kentucky Horse Park Rolex Lake is a secondary FINs lake and normally receives 2,200 fish annually, but only received 724 catfish in 2023 due to a production shortfall and based off the recommendation to reduce stocking rates in the short term until relative weights and size structure improved.

Jacobson Park Lake (Fayette County)

The catch rate of channel/hybrid catfish at Jacobson Park Lake (46.3 acres) was high in 2023 with 131.7 fish/set sampled (Table 92). This 2023 catch rate was comparable to the 2014 and 2017 samples (156.3 and 166.3 fish/set respectively) and considerably higher than the 2015 and 2020 catch rates (31.7 and 18.3 fish/set respectively). A large proportion (79%) of catfish in the 2023 sample were small < 13 in. This was similar to the 79% of catfish in the same size range in the 2017 sample which was likely from a stocking of surplus hybrid catfish (5 – 10 in) in 2016-17. The small catfish sampled in 2017 (< 13 in) were mostly absent in the 2020 sample. The size structure of small catfish in 2023 can likely be

attributed to several stockings of channel catfish where grading did not occur and a large proportion of stocked fish were < 13 in. Relative weights were acceptable for fish in the 7.0 – 10.9 and 11.0 – 15.9 in length groups at 92 and 86 respectively (Table 93). Larger catfish in the 16.0 – 23.9 in length group had an exceptional relative weight of 102. Jacobson Park Lake is a primary FINs lake which normally receives 9,200 catfish annually, but only received 7,200 catfish in 2023 due to a production shortfall.

James D. Beville Park Lake (Grayson County)

A total of 236 channel/hybrid catfish were sampled in three tandem hoop net sets (78.7 fish/set) in 2023 at James D. Beville Park Lake (3.1 acres; Table 94). This was less than 110.0 fish/set sampled in 2021. Catfish in the 2023 sample ranged in size from the 9 – 20 in classes with 32% of fish < 13 in. The relative weight improved for all length groups in 2023 compared to the 2021 sample (Table 95). Relative weights decreased with fish size, ranging from 95 for catfish in the 7.0 – 10.9 in length group to 81 for catfish in the 16.0 – 23.9 in length group. The relative weight for catfish in the 16.0 – 23.9 in length group in 2023 (81) was lower compared to the 2015 and 2019 samples of 89 and 90 respectively and should continue to be monitored. James D. Beville Park Lake is a primary FINs lake and normally receives 2,400 catfish annually, but only received 1,450 catfish in 2023 due to a production shortfall and based off the recommendation to reduce stocking rates in the short term until relative weight improved.

Kingdom Come State Park Lake (Harlan County)

The catch rate of channel/hybrid catfish at Kingdom Come State Park Lake (2.5 acres) was low, with a total of 22 catfish sampled (7.3 fish/set; Table 96). The 2023 catch rate was similar to the 2016 and 2020 samples (6.7 and 10.0 fish/set respectively). Catfish ranged in size from the 11 – 19 in classes in 2023 with 45% of fish < 13 in. The overall relative weight of 90 in 2023 indicated catfish were in good condition and was higher than the overall relative weight of 82 observed in 2020 (Table 97). Kingdom Come State Park Lake is a secondary FINs lake and is stocked with 1,000 catfish annually.

Fisherman's Park Lake #3 (Jefferson County)

The catch rate of channel/hybrid catfish at Fisherman's Park Lake #3 (1.8 acres) was low at 7.0 fish/set in 2023 (Table 98). Catfish ranged in size from the 11 – 19 in classes in 2023 with only 5% of fish < 13 in. The catch rate in 2023 was similar to the low catch rate in 2020 (1.3 fish/set), and well below the 82.7 fish/set in 2014 and 23.0 fish/set sampled in 2017. The relative weights were low for both the 11.0 – 15.9 and 16.0 – 23.9 in length groups (82 and 80 respectively; Table 99). Fisherman's Park Lake #3 is a secondary FINs lake which normally receives 800 catfish annually, but only received 300 catfish in 2023 due to a production shortfall.

William F. Miles Angler Lake (Jefferson County)

Only 10 channel/hybrid catfish were sampled at William F. Miles Angler Lake (3.6 acres) in 2023 (3.3 fish/set; Table 100). Catfish ranged in size from the 8 – 19 in classes in 2023 with 60% of fish < 13 in. Despite being a primary FINs lake and receiving 2,800 catfish in a typical year, catfish catch rates in 2017, 2020 and 2023 have been low. Relative weights of small (7.0 – 10.9 in length group) and large catfish (16.0 – 23.9 in length group) were in the low 90's and indicated healthy fish, while catfish in the 11.0 – 15.9 in length group had a relative weight of 83 (Table 101). This was similar to the relative weight of 85 and 84 observed in 2014 and 2020 for the same length group. William F. Miles Angler Lake only received 2,343 catfish in 2023 due to a production shortfall. A gizzard shad eradication was conducted with a light dose of rotenone during February 2022.

Prisoners Lake (Kenton County)

A total of 281 channel/hybrid catfish were caught in three tandem hoop net sets (93.7 fish/set) in 2023 at Prisoners Lake (3.8 acres; Table 102). Catfish netted in 2023 ranged in size from the 8 – 23 in classes with 38% of fish < 13 in. The size structure of catfish sampled in 2023 was similar to the 43% of catfish sampled in 2021 that were < 13 in. In the 2013 and 2016 samples 83% and 69% of catfish sampled were

< 13 in. Relative weights in 2023 were moderate for catfish in the 7.0 – 10.9 in length group at 88, while catfish in the 11.0 – 15.9 and 16.0 – 23.9 in length groups had low relative weights of 75 and 79 respectively (Table 103). The low relative weight of larger catfish in 2023 was similar to the 2019 and 2021 samples. Prisoners Lake is a secondary FINs lake and normally receives 1,600 catfish annually, but only received 1,200 catfish in 2023 due to a production shortfall and based off the recommendation to reduce stocking rates until relative weights improve. The stocking rate may need to be reduced further in the short-term.

Brickyard Pond (Knox County)

A total of 242 channel/hybrid catfish were sampled in three tandem hoop net sets (80.7 fish/set) in 2023 at Brickyard Pond (9.5 acres; Table 104). The catch rate in 2023 was similar to the 2013 catch rate of 66.3 fish/set. The catch rate was much lower in the previous two surveys at 3.0 fish/set in 2016 and no fish caught in 2020. Catfish netted in 2023 ranged in size from the 9 – 24 in classes with 41% of fish < 13 in. Relative weights were moderate for catfish in the 11.0 – 15.9 and 16.0 – 23.9 in length groups at 89 and 90 respectively (Table 105). Brickyard Pond is a primary FINs lake and normally receives 8,000 catfish annually, but only received 4,778 catfish in 2023 due to a production shortfall.

Easy Walker Park Pond (Montgomery County)

The catch rate of channel/hybrid catfish at Easy Walker Park Pond (1.6 acres) was low, with a total of eight catfish sampled in 2023 (2.7 fish/set; Table 106). The catch rate of catfish has been low in all four samples, since surveying began in 2014 (< 10 fish/set). The overall relative weight of 94 in 2023 indicated catfish were in good condition and was similar to the overall relative weight of 90 observed in 2016 (Table 107). Easy Walker Park Pond is a primary FINs lake and normally receives 1,600 catfish annually, but only received 1,400 catfish in 2023 due to a production shortfall. There was a near total fish kill in the summer of 2019 and another significant kill in summer 2022 due to low dissolved oxygen in the pond. An aeration system was installed in 2023 to alleviate oxygen issues.

Lusby Lake (Scott County)

The catch rate of channel/hybrid catfish was moderate in 2023 at Lusby Lake (2.3 acres), with 134 catfish sampled (44.7 fish/set; Table 108). Catfish ranged in size from the 10 – 29 in classes in 2023 with only 19% of the catfish sampled < 13 in. The 2023 catch rate (44.7 fish/set) was similar to the 2014 catch rate of 53.0 fish/set and much higher than the catch rates in 2017 and 2020 (10.7 and 1.3 fish/set respectively). Relative weights were moderate for catfish in the 11.0 – 15.9 and 16.0 – 23.9 in length groups at 88 and 90 respectively and were very similar to the relative weights observed in 2017 and 2020 for the same length groups (Table 109). Lusby Lake is a primary FINs lake and normally receives 2,000 catfish annually, but only received 1,700 catfish in 2023 due to a production shortfall. A gizzard shad eradication was conducted with a light dose of rotenone during January 2023.

Scott County Park Lake (Scott County)

No channel/hybrid catfish were sampled in 2023 in three tandem hoop net sets at Scott County Park Lake (2.5 acres; Table 110). The catch rate of catfish has been low in all four samples, since surveying began in 2014 (< 10 fish/set). There were no relative weights to report in 2023 as no fish were sampled (Table 111). Scott County Park Lake is a primary FINs lake and normally receives 2,000 catfish annually, but only received 1,700 catfish in 2023 due to a production shortfall.

Table 1. 2023 yearly summary of sampling conditions by waterbody and date.

Waterbody	Date	Time (24-hr)	Weather	Water temp (F)	Water level	Seochi (in)	Lake conditions/pertinent sampling information
Anderson County Community Park Lake	5/1/2023	900	Cloudy	58	Full	25	No aquatic vegetation present, grass carp observed, one common carp removed
Millennium Park Pond	5/1/2023	1000	Cloudy	61	Full	54	Filamentous algae ring around pond and some duckweed present, fertilized two weeks prior
Logan Hubble Park Lake	5/1/2023	1200	Cloudy	60	Full	60	Fishery took considerable hit from fish kill last summer, naiad present with some filamentous algae
Waverly Park Lake	5/2/2023	900	Sunny	58	Full	50	No grass carp or shad observed after rotenone treatment, grass carp needed, some algae and naiad present
Tom Wallace Park Lake	5/2/2023	1100	Sunny	58	Full	66	Four leaf water clover present and treatment needed, lake fertilized after sample
Carlson Lake	5/2/2023	1300	Sunny	62	Full	60	Some naiad and algae present, more grass carp needed
Whitehall Park Lake	5/3/2023	900	Sunny	57	Full	54	Naiad and filamentous algae ring around pond, moved 171 crowded bass (4-12 in) after sample
Jacobson Park Lake	5/3/2023	1100	Cloudy	52	3' Low	14	Turbid, hard to see fish, ramp recently replaced, lake lowered with 3-ft maximum depth
William F. Miles Green Heron Lake	5/4/2023	900	Sunny	59	Full	84	Water willow, water crowfoot, coontail and filamentous algae present limiting bank access, difficult to launch
William F. Miles Angler Lake	5/4/2023	1000	Sunny	58	2' Low	102	No grass carp or shad observed after rotenone treatment, grass carp needed, water willow, naiad and coontail present
Fisherman's Park Lake #3	5/4/2023	1200	Sunny	63	Full	96	Water willow and cattails around perimeter, lake fertilized after sample, bass fry present
Fisherman's Park Lake #4	5/4/2023	1200	Sunny	63	Full	84	Water willow, cattails filamentous algae, coontail and watermeal present, lake fertilized after sample
Cherokee Park Lake	5/4/2023	1200	Sunny	66	Full	48	Cattails around perimeter with filamentous algae present, no submerged vegetation, needs renovation
Middleton Mills Long Pond	5/5/2023	900	Sunny	59	Full	42	Some cattails and black willows limit bank access
Middleton Mills Shelterhouse Pond	5/5/2023	900	Sunny	59	Full	22	Minimal amount of water primrose and algae present, turbid
Southgate Lake	5/5/2023	1100	Sunny	59	Full	14	Turbid, no aquatic vegetation present
Prisoners Lake	5/5/2023	1200	Sunny	64	Full	30	Yellow floating heart still present around 5% of perimeter after herbicide treatment last year by city, good water color
Leary Lake	5/10/2023	900	Sunny	67	Full	30	No aquatic vegetation, treated willows and cattails with herbicide around fishing pier and dam
Lake Pollywog	5/10/2023	1000	Sunny	69	Full	78	No aquatic vegetation, several large sunfish beds
Camp Ernst Lake	5/10/2023	1300	Sunny	70	Full	78	Curlyleaf pondweed present and limiting bank access, common carp and grass carp observed, stock more grass carp
Brickyard Pond	5/11/2023	1000	Sunny	73	Full	27	No vegetation, shad and common carp present and abundant, stocked 157 bass after sample
Kingdom Come State Park Lake	5/11/2023	1300	Sunny	71	Full	84	Very clear, no vegetation, lake fertilized after sample, grass carp observed
Easy Walker Park Pond	5/16/2023	800	Cloudy	71	Full	34	Curlyleaf pondweed, primrose and filamentous algae present, recovering from fall 2019 and summer 2022 fish kills
Flemingsburg Old Reservoir	5/16/2023	1000	Cloudy	71	Full	36	Aquashade was used, no aquatic vegetation present
Maysville-Mason County Rec Park Lake	5/16/2023	1100	Cloudy	69	Full	24	No shad present, no aquatic vegetation, six common carp removed, water off colored
Yellow Creek Park Lake	5/18/2023	1000	Sunny	74	Full	24	Some filamentous algae present, treated with herbicide by lake owner previous week
Easy Walker Park Pond	10/5/2023	1000	Cloudy	72	1' Low	18	No vegetation, big redear > 8 in, small bluegill, several yellow bullheads
Scott County Park Lake	10/5/2023	1100	Cloudy	72	1' Low	24	Diatom bloom, brown turbid color, few nice redear, small bluegill, no catfish sampled
Lusby Lake	10/5/2023	1200	Cloudy	71	1' Low	24	Lots of filamentous algae (50% coverage), some duckweed, nice white & black crappie and redear, small bluegill
Southgate Lake	10/6/2023	1000	Cloudy	69	1' Low	18	Some duckweed and water primrose, one bullhead, lots of small white crappie and bluegill, decent redear
Robert J. Barth Park Lake	10/6/2023	1100	Cloudy	72	1' Low	24	No vegetation, very little bycatch, small bluegill, few redear
Prisoners Lake	10/6/2023	1300	Sunny	74	3' Low	36	Some water primrose and yellow floating heart, but not bad, not much bycatch
Brickyard Pond	10/12/2023	1000	Cloudy	68	Full	12	No vegetation, stunted crappie but one 2-pounder
Kingdom Come State Park Lake	10/12/2023	1200	Sunny	64	1' Low	36	No vegetation, decent bluegill 6-7 in classes
William F. Miles Angler Lake	10/13/2023	900	Sunny	63	6' Low	30	Lake very low, dam leaking
Fisherman's Park Lake #3	10/13/2023	1000	Sunny	64	1' Low	42	No vegetation, some nice redear, few nice black crappie 9-10", 10 musk turtles
Panther Creek Park Lake	10/19/2023	1100	Cloudy	60	2' Low	24	No vegetation, small black crappie, one 14 inch, small bluegill, 10 turtles
Waymond Morris Park Lake	10/19/2023	1100	Cloudy	59	1' Low	18	No vegetation, two golden shiners, all bluegill, no crappie or other bycatch in nets after renovation
Yellow Creek Park Lake	10/19/2023	1300	Cloudy	60	2' Low	54	No vegetation, nice redear and bluegill
James D. Beville Park Lake	10/19/2023	1400	Cloudy	61	2' Low	30	No vegetation, 10 turtles
Jacobson Park Lake	10/20/2023	900	Cloudy	57	1' Low	12	No vegetation, lots of small catfish, some nice black and white crappie
Kentucky Horse Park Rolex Lake	10/20/2023	1100	Cloudy	57	1' Low	6	No vegetation, filamentous algae bad this spring, skinny catfish, nice redear and bluegill, no turtles

Table 2. Length frequency and CPUE (fish/hr) of fish collected in one, 10-min electrofishing run at Anderson County Community Park Lake on 1 May 2023. Standard errors were not calculated because only one sampling run could be completed.

Species	Inch class											Total	CPUE
	2	3	4	5	6	7	8	9	10	11	12		
Bluegill	13	26	3	4	15	1						62	371.3
Largemouth bass			9	4	2	3			2	3	3	26	155.7
Redear sunfish			2	5		2						9	53.9
Warmouth					1							1	6.0
Yellow bass				1								1	6.0

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Table 3. Electrofishing CPUE data (fish/hr) for each length group of bluegill (2010-23) and redear sunfish (2019-23) collected at Anderson County Community Park Lake. Redear sunfish were first stocked in 2018. Standard errors are in parentheses.

	Length group (in)				
Year	< 3.0	3.0 - 5.9	6.0 - 7.9	≥ 8.0	Total
Bluegill					
2010	12.0	191.6	24.0	6.0	
2012	473.1	77.8	12.0		562.9
2013		640.7			640.7
2015	12.0	29.9	12.0		53.9
2017	65.9	287.4	95.8		449.1
2019			65.9		65.9
2021	47.9	317.4	143.7		509.0
2023	77.8	197.6	95.8		371.3
Mean	86.1 (56.3)	217.8 (72.8)	56.1 (18.4)	0.8 (0.8)	360.8 (78.7)
Redear					
2019		6.0	137.7	12.0	155.7
2021		6.0	41.9	29.9	77.8
2023		41.9	12.0		53.9
Mean		18.0 (12.0)	63.9 (37.9)	14.0 (8.7)	95.8 (30.7)

uftg05ac.d10, uftg04ac.d12, uftg05ac.d13-d23

Table 4. Electrofishing CPUE data (fish/hr) for each length group of largemouth bass collected at Anderson County Community Park Lake from 2010-23. Standard errors are in parentheses.

Year	Length group (in)				Total
	< 8.0	8.0 - 11.9	12.0 - 14.9	≥ 15.0	
2010	18.0	53.9	47.9	107.8	227.5
2012	131.7	41.9	24.0	53.9	251.5
2013	149.7	41.9	41.9	89.8	323.4
2015	107.8	113.8	71.9	35.9	329.3
2017	125.8	143.7	71.9		341.3
2019	12.0	125.8	125.8		263.5
2021	6.0	113.8	107.8		227.5
2023	107.8	29.9	18.0		155.7
Mean	82.3 (21.2)	83.1 (16.1)	63.6 (13.6)	35.9 (15.6)	265.0 (22.5)

uftg05ac.d10, uftg04ac.d12, uftg05ac.d13-d23

Table 5. Length frequency and CPUE (fish/hr) of fish collected in three, 10-min electrofishing runs at Camp Ernst Lake on 10 May 2023.

Species	Inch class																				Total	CPUE	Std. error
	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21			
Bluegill	6		1	4	4	6	8	1													30	59.9	9.2
Largemouth bass			1	21	17		4	49	70	51	14	3							1	1	232	463.1	146.4
Channel catfish						1						2	5	8	8	15	12	2		1	54	107.8	92.8
Longear sunfish						1															1	2.0	2.0
White crappie								1	2	1	2										6	12.0	6.0

uftg05ce.d23

Table 6. Electrofishing CPUE data (fish/hr) for each length group of bluegill (2011-23) and redear sunfish (2019-23) collected at Camp Ernst Lake. Redear sunfish were first stocked in 2018. Standard errors are in parentheses.

	Length group (in)				
Year	< 3.0	3.0 - 5.9	6.0 - 7.9	≥ 8.0	Total
Bluegill					
2011	27.9 (14.4)	331.3 (10.6)	155.7 (72.6)	2.0 (2.0)	517.0 (73.0)
2013	8.0 (4.0)	89.8 (27.7)	8.0 (5.3)		105.8 (68.2)
2015	12.0 (0.0)	110.8 (62.9)	6.0 (6.0)		128.4 (68.9)
2017	22.0 (11.1)	289.4 (55.9)	215.6 (44.9)		527.0 (93.6)
2019		55.9 (5.3)	107.8 (27.4)		163.7 (32.1)
2021		43.9 (23.0)	85.8 (20.3)	51.9 (13.1)	181.6 (26.4)
2023	12.0 (3.5)	10.0 (5.3)	20.0 (5.3)	18.0 (6.0)	59.9 (9.2)
Mean	11.7 (3.3)	134.1 (29.0)	89.5 (20.6)	10.8 (4.6)	246.1 (45.6)
Redear					
2019		10.0 (2.0)	8.0 (2.0)		18.0 (3.5)
2021		4.0 (4.0)		20.0 (14.4)	24.0 (18.3)
2023					0.0 (0.0)
Mean		4.7 (1.9)	2.7 (1.5)	6.7 (5.3)	14.0 (6.5)

uftg05ce.d11, uftg04ce.d13, uftg05ce.d15-23

Table 7. Electrofishing CPUE data (fish/hr) for each length group of largemouth bass collected at Camp Ernst Lake from 2011-23. Standard errors are in parentheses.

Year	Length group (in)				Total
	< 8.0	8.0 - 11.9	12.0 - 14.9	≥ 15.0	
2011	97.8 (38.1)	63.9 (12.1)	75.9 (15.6)	22.0 (5.3)	259.5 (39.8)
2013	227.5 (22.7)	107.8 (33.0)	49.9 (14.0)	18.0 (0.0)	403.2 (68.2)
2015	32.9 (3.0)	68.9 (15.0)	83.8 (24.0)		185.6 (41.9)
2017	45.9 (26.0)	61.9 (11.1)	41.9 (0.0)	10.0 (4.0)	159.7 (40.1)
2019	311.4 (12.0)	143.7 (48.8)	37.9 (12.1)	20.0 (2.0)	513.0 (57.5)
2021	201.6 (43.2)	283.4 (91.6)	26.0 (10.6)	4.0 (2.0)	515.0 (139.8)
2023	77.8 (24.9)	347.3 (105.9)	33.9 (14.0)	4.0 (4.0)	463.1 (146.4)
Mean	147.6 (24.0)	158.1 (31.4)	48.2 (6.0)	11.7 (2.1)	365.6 (43.1)

uftg05ce.d11, uftg04ce.d13, uftg05ce.d15-23

Table 8. Length frequency and CPUE (fish/hr) of fish collected in one, 10-min electrofishing run at Millennium Park Pond on 1 May 2023. Standard errors were not calculated because only one sampling run could be completed.

Species	Inch class																Total	CPUE
	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18		
Bluegill	80	77	11	10	1	1											180	1,077.8
Largemouth bass					1	3	3	3	2	3	11	7	4	2	1	1	41	245.5
Redear sunfish	2	4	1					6	1								14	83.8
Black crappie		1															1	6.0

uftg05mi.d23

Table 9. Electrofishing CPUE data (fish/hr) for each length group of bluegill and redear sunfish collected at Millennium Park Pond from 2011-23. Standard errors are in parentheses.

	Length group (in)				
Year	< 3.0	3.0 - 5.9	6.0 - 7.9	≥ 8.0	Total
Bluegill					
2011	431.1	1,197.6	95.8		1,724.6
2013	359.3	1,173.7	59.9		1,592.8
2015	12.0	251.5	772.5		1,035.9
2017		604.8	53.9		658.7
2019	6.0	335.3	77.8		419.2
2021		107.8	119.8	18.0	245.5
2023		1,006.0	65.9	6.0	1,077.8
Mean	115.5 (72.7)	668.1 (172.7)	177.9 (99.5)	3.4 (2.6)	964.9 (212.6)
Redear					
2011		155.7		6.0	161.7
2013		12.0	65.9	6.0	83.8
2015			6.0	35.9	41.9
2017		18.0	83.8	6.0	107.8
2019		6.0	18.0	24.0	47.9
2021			24.0	155.7	179.6
2023		41.9		41.9	83.8
Mean		33.4 (21.1)	28.2 (12.7)	39.4 (20.2)	100.9 (20.0)

uftg05mi.d11-23

Table 10. Electrofishing CPUE data (fish/hr) for each length group of largemouth bass collected at Millennium Park Pond from 2011-23. Standard errors are in parentheses.

Year	Length group (in)				Total
	< 8.0	8.0 - 11.9	12.0 - 14.9	≥ 15.0	
2011	95.8	41.9	29.9	12.0	179.6
2013	95.8	59.9	41.9	6.0	203.6
2015	35.9	89.8	71.9	47.9	245.5
2017	41.9	137.7	18.0	47.9	245.5
2019		95.8	119.8	12.0	227.5
2021		47.9	65.9	89.8	203.6
2023	6.0	65.9	125.8	47.9	245.5
Mean	39.4 (15.9)	77.0 (12.6)	67.6 (15.9)	37.6 (11.3)	221.6 (10.0)

uftg05mi.d11-d23

Table 11. Length frequency and CPUE (fish/hr) of fish collected in one, 10-min electrofishing run at Southgate Lake on 5 May 2023. Standard errors were not calculated because only one sampling run could be completed.

	Inch class																
Species	2	3	4	5	6	7	8	9	10	11	12	13	14	15	Total	CPUE	
Bluegill	15	15	17	1	12	1									61	365.3	
Largemouth bass		1	1			1	4				1	2	1	3	14	83.8	
Channel catfish														1	1	6.0	
Redear sunfish		3	1		4	5	2								15	89.8	
Green sunfish		3	1	1	1										6	35.9	
White crappie						5	1								6	35.9	

uftg05sg.d23

Table 12. Electrofishing CPUE data (fish/hr) for each length group of bluegill (2010-23) and redear sunfish (2019-23) collected at Southgate Lake. Redear sunfish were first stocked in 2018. Standard errors are in parentheses.

Year	Length group (in)				Total
	< 3.0	3.0 - 5.9	6.0 - 7.9	≥ 8.0	
Bluegill					
2010	24.0	652.7	35.9		688.6
2012		538.9	12.0		574.9
2013		269.5	47.9		317.4
2015		107.8	29.9		137.7
2017		83.8	215.6		299.4
2019		24.0	89.8		113.8
2021	24.0	227.5	59.9		311.4
2023	89.8	197.6	77.8		365.3
Mean	17.2 (11.1)	262.7 (78.7)	71.1 (22.5)		351.1 (69.6)
Redear					
2019		77.8	41.9		119.8
2021		6.0	35.9	12.0	53.9
2023		24.0	53.9	12.0	89.8
Mean		35.9 (21.6)	43.9 (5.3)	8.0 (4.0)	87.8 (19.0)
uftg05sg.d10, uftg04sg.d12-d13, uftg05sg.d15-d23					

uftg05sg.d10, uftg04sg.d12-d13, uftg05sg.d15-d23

Table 13. Electrofishing CPUE data (fish/hr) for each length group of largemouth bass collected at Southgate Lake from 2010-23. Standard errors are in parentheses.

Year	Length group (in)				Total
	< 8.0	8.0 - 11.9	12.0 - 14.9	≥ 15.0	
2010	29.9	29.9	53.9	35.9	149.7
2012	71.9	12.0	35.9	12.0	131.7
2013	12.0	53.9	47.9	24.0	137.7
2015		29.9	35.9	12.0	77.8
2017	41.9	47.9	18.0	6.0	113.8
2019	59.9	95.8	24.0	6.0	185.6
2021	12.0	77.8	35.9	6.0	131.7
2023	18.0	24.0	24.0	18.0	83.8
Mean	30.7 (8.9)	46.4 (10.1)	34.4 (4.4)	15.0 (3.8)	126.5 (12.4)

uftg05sg.d10, uftg04sg.d12-d13, uftg05sg.d15-d23

Table 14. Length frequency and CPUE (fish/hr) of fish collected in one, 10-min electrofishing run at Yellow Creek Park Lake on 18 May 2023. Standard errors were not calculated because only one sampling run could be completed.

	Inch class																				
Species	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	Total	CPUE	
Bluegill	4	39	9		1														53	317.4	
Largemouth bass		17	20	6		4	8	4	2	3								1	65	389.2	
Redear sunfish			2	1	11														14	83.8	
Black crappie			1																1	6.0	

uftg05yc.d23

Table 15. Electrofishing CPUE data (fish/hr) for each length group of bluegill (2010-23) and redear sunfish (2023) collected at Yellow Creek Park Lake. Redear sunfish were first stocked in 2018. Standard errors are in parentheses.

Year	Length group (in)				Total
	< 3.0	3.0 - 5.9	6.0 - 7.9	≥ 8.0	
2010	24.0	137.2	383.2	6.0	550.9
2012	35.3	223.5	82.4		341.2
2014		83.8	83.8		167.7
2016		35.9	47.9		83.8
2018		95.8	179.6		275.5
2023		257.5	53.9	6.0	317.4
Mean	10.0 (6.5)	139.7 (35.3)	138.7 (52.6)	2.0 (1.3)	290.4 (65.8)
Redear					
2023			18.0	65.9	83.8

uftg04yc.d10-d12, uftg05yc.d14-d23

Table 16. Electrofishing CPUE data (fish/hr) for each length group of largemouth bass collected at Yellow Creek Park Lake from 2010-23. Standard errors are in parentheses.

Year	Length group (in)				Total
	< 8.0	8.0 - 11.9	12.0 - 14.9	≥ 15.0	
2010	83.8	389.2			473.1
2012		270.6			270.6
2014	47.9	191.6	12.0	29.9	281.4
2016	119.8	125.8	12.0	6.0	263.5
2018	113.8	251.5		6.0	371.3
2023	257.5	95.8	29.9	6.0	389.2
Mean	103.8 (35.7)	221.6 (43.9)	9.0 (4.8)	8.0 (4.6)	342.3 (33.9)

uftg04yc.d10-d12, uftg05yc.d14-d23

Table 17. Length frequency and CPUE (fish/hr) of fish collected in three, 10-min electrofishing runs at Jacobson Park Lake on 3 May 2023.

Species	Inch class																		Total	CPUE	Std. error
	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19			
Bluegill	40	96	160	44	7														347	692.6	268.5
Largemouth bass			1		2	1	1		1	2	4	5		2		1	4	2	26	51.9	7.2
Channel catfish														1			3		4	8.0	5.3
Brown bullhead											1								1	2.0	2.0
Green sunfish	3	9	7	3															22	43.9	26.9
Redear sunfish	1	2	1	3	1														8	16.0	16.0
Longear sunfish	4	18	10																32	63.9	32.7
Warmouth	1	2	1																4	8.0	5.3
White crappie			2	4	1															14.0	11.1
Black crappie		1		1	2	4													8	16.0	5.3
Hybrid striped bass									1										1	2.0	2.0

uftg05jp.d23

Table 18. Electrofishing CPUE data (fish/hr) for each length group of bluegill collected at Jacobson Park Lake from 2013-23. Standard errors are in parentheses.

Year	Length group (in)				Total
	< 3.0	3.0 - 5.9	6.0 - 7.9	≥ 8.0	
2013	16.8 (6.4)	1,121.0 (213.4)	79.0 (14.8)		1,216.8 (227.5)
2015	2.0 (2.0)	415.2 (205.7)	57.9 (31.4)		475.1 (235.8)
2017	4.0 (4.0)	195.6 (36.6)	12.0 (3.5)		211.6 (42.7)
2019	27.9 (13.1)	499.0 (83.4)	35.9 (9.2)		562.9 (73.6)
2021	28.4 (8.9)	534.4 (133.7)	12.0 (6.5)		574.9 (147.7)
2023	79.8 (38.2)	598.8 (232.4)	14.0 (7.2)		692.6 (268.5)
Mean	25.7 (7.6)	612.8 (94.5)	38.2 (8.1)		676.7 (102.6)

uftg05jp.d13-d23

Table 19. Electrofishing CPUE data (fish/hr) for each length group of largemouth bass collected at Jacobson Park Lake from 2001-23. Standard errors are in parentheses.

Year	Length group (in)				Total
	< 8.0	8.0 - 11.9	12.0 - 14.9	≥ 15.0	
2001	14.4 (3.0)	38.4 (6.3)	16.0 (4.6)	17.6 (6.5)	86.4 (17.0)
2003	11.0 (5.5)	24.0 (4.9)	13.0 (5.7)	2.0 (1.2)	50.0 (12.9)
2004	5.0 (3.8)	23.0 (5.8)	17.0 (1.0)	5.0 (3.0)	50.0 (9.6)
2005	21.5 (6.3)	23.0 (5.2)	24.5 (2.9)	18.0 (3.9)	87.0 (5.3)
2006	24.0 (5.9)	21.0 (4.1)	23.0 (10.5)	22.0 (8.4)	90.0 (22.4)
2007	12.0 (0.0)	14.0 (3.5)	13.0 (1.9)	13.0 (4.1)	52.0 (7.5)
2008	13.3 (4.8)	6.7 (2.7)	20.0 (2.3)	16.0 (4.6)	56.0 (4.6)
2009	6.0 (2.6)	14.0 (1.2)	8.0 (1.6)	2.0 (1.2)	30.0 (3.5)
2011	2.7 (1.3)	8.0 (2.3)	5.3 (1.3)	9.3 (3.5)	25.3 (7.1)
2013	15.6 (5.6)	35.9 (6.3)	55.1 (11.4)	27.5 (4.9)	134.1 (14.7)
2015	12.0 (3.5)	10.0 (7.2)	18.0 (6.0)	22.0 (7.2)	61.9 (19.0)
2017	6.0 (3.5)	35.9 (6.0)	18.0 (6.0)	35.9 (15.1)	95.8 (21.6)
2019	16.0 (2.0)	27.9 (7.2)	22.0 (10.0)	33.9 (13.1)	99.8 (31.0)
2021	27.0 (11.1)	28.4 (14.5)	19.5 (13.7)	15.0 (9.3)	89.8 (45.8)
2023	8.0 (2.0)	8.0 (5.3)	18.0 (12.0)	18.0 (6.0)	51.9 (7.2)
Mean	12.6 (1.4)	23.1 (2.1)	20.1 (2.4)	17.0 (2.0)	72.7 (5.9)

bbrpsjac.d01, cfdpsjac.d03-d11, uftg05jp.d13-d23

Table 20. Length frequency and CPUE (fish/hr) of fish collected in two, 10-min electrofishing runs at Flemingsburg Old Reservoir on 16 May 2023.

Species	Inch class																		Total	CPUE	Std. error
	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19				
Bluegill	8	14	53	52	2													129	386.2	62.9	
Largemouth bass			1		1	5	7	7	1	1	1	5	10	1	3	2	1	46	137.7	12.0	
Channel catfish							1						1	1				3	9.0	9.0	
Redear sunfish					24	31	2											57	170.7	44.9	
Green sunfish			1															1	3.0	3.0	
White crappie				5	2													7	21.0	9.0	

uftg05fo.d23

Table 21. Electrofishing CPUE data (fish/hr) for each length group of bluegill (2017-23) and redear sunfish (2019-23) collected at Flemingsburg Old Reservoir. Redear sunfish were first stocked in 2018. Standard errors are in parentheses.

	Length group (in)				
Year	< 3.0	3.0 - 5.9	6.0 - 7.9	≥ 8.0	Total
Bluegill					
2017		329.3 (95.8)	32.9 (27.0)	27.0 (3.0)	389.2 (125.8)
2019	3.0 (3.0)	95.8 (35.9)	137.7 (24.0)	27.0 (9.0)	263.5 (47.9)
2021	3.0 (3.0)	68.9 (21.0)	27.0 (3.0)	6.0 (6.0)	104.8 (27.0)
2023		224.6 (38.9)	161.7 (24.0)		386.2 (62.9)
Mean	1.5 (1.0)	179.6 (44.8)	89.8 (24.3)	15.0 (5.1)	285.9 (52.4)
Redear					
2019		29.9 (12.0)	27.0 (3.0)		56.9 (15.0)
2021			9.0 (3.0)	18.0 (18.0)	27.0 (21.0)
2023			71.9 (12.0)	98.8 (32.9)	170.7 (44.9)
Mean		10.0 (7.0)	35.9 (12.3)	38.9 (21.5)	84.8 (30.7)

uftg05fo.d17-d23

Table 22. Electrofishing CPUE data (fish/hr) for each length group of largemouth bass collected at Flemingsburg Old Reservoir from 2017-23. Standard errors are in parentheses.

Year	Length group (in)				Total
	< 8.0	8.0 - 11.9	12.0 - 14.9	≥ 15.0	
2017	50.9 (38.9)	24.0 (0.0)	119.8 (29.9)	3.0 (3.0)	197.6 (71.9)
2019	32.9 (3.0)	164.7 (3.0)	27.0 (9.0)	12.0 (6.0)	236.5 (21.0)
2021		104.8 (44.9)	116.8 (21.0)		221.6 (65.9)
2023	6.0 (0.0)	59.9 (18.0)	21.0 (3.0)	50.9 (9.0)	137.7 (12.0)
Mean	22.5 (10.7)	88.3 (21.9)	71.1 (19.2)	16.5 (8.0)	198.4 (23.7)

uftg05fo.d17-d23

Table 23. Length frequency and CPUE (fish/hr) of fish collected in one, 10-min electrofishing run at Lake Pollywog on 10 May 2023. Standard errors were not calculated because only one sampling run could be completed.

Species	Inch class																				Total	CPUE
	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21		
Bluegill	11	40	28	24	32	20															155	928.1
Largemouth bass		2	4	1	1	2			4	2	20	6	3	2		1	2	1			51	305.4
Channel catfish											1						2	1		2	6	35.9
Redear sunfish			1		4	32	12	3													52	311.4
Green sunfish				1																	1	6.0
White crappie						2	12														14	83.8
Black crappie							2														2	12.0

uftg05lp.d23

Table 24. Electrofishing CPUE data (fish/hr) for each length group of bluegill (2010-23) and redear sunfish (2019-23) collected at Lake Pollywog. Redear sunfish were first stocked in 2018. Standard errors are in parentheses.

	Length group (in)				
Year	< 3.0	3.0 - 5.9	6.0 - 7.9	≥ 8.0	Total
Bluegill					
2010	251.5	383.2	167.7		802.4
2011	449.1	1,574.9	215.6		2,239.5
2013	113.8	377.3	89.8		580.8
2015	29.9	634.7	323.4		988.0
2017	12.0	910.2	95.8		1,018.0
2019		47.9	215.6		263.5
2021	77.8	89.8	77.8		245.5
2023	65.9	550.9	311.4		928.1
Mean	125.0 (54.2)	571.1 (174.5)	187.1 (34.3)		883.2 (222.0)
Redear					
2019		263.5	24.0		287.4
2021		24.0	101.8	155.7	281.4
2023		6.0	215.6	89.8	311.4
Mean		97.8 (83.0)	113.8 (55.6)	81.8 (45.1)	293.4 (9.2)

uftg05lp.d10-d11, uftg04lp.d13, uftg05lp.d15-d23

Table 25. Electrofishing CPUE data (fish/hr) for each length group of largemouth bass collected at Lake Pollywog from 2010-23. Standard errors are in parentheses.

Year	Length group (in)				Total
	< 8.0	8.0 - 11.9	12.0 - 14.9	≥ 15.0	
2010	113.8	179.6	24.0	24.0	341.3
2011	179.6	263.5	83.8	6.0	532.9
2013	65.9	59.9	71.9	6.0	203.6
2015	35.9	29.9	24.0	24.0	113.8
2017	18.0	59.9	71.9	6.0	155.7
2019	83.8	107.8	6.0	6.0	203.6
2021	89.8	101.8	47.9		239.5
2023	59.9	35.9	173.7	35.9	305.4
Mean	80.8 (17.7)	104.8 (28.4)	62.9 (18.6)	13.5 (4.5)	262.0 (46.7)

uftg05lp.d10-d11, uftg04lp.d13, uftg05lp.d15-d23

Table 26. Length frequency and CPUE (fish/hr) of fish collected in two, 10-min electrofishing runs at Leary Lake on 10 May 2023.

Species	Inch class																				Total	CPUE	Std. error
	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21				
Bluegill	1	10	26	36	63	19															155	464.1	15.0
Largemouth bass	1	11	14	3	1	2	5	6	6	12	6	1	1	1		1			1	1	73	218.6	21.0
Channel catfish										2	2	4	2			1	1				12	35.9	12.0
Redear sunfish		4	7	1	3	3	4	1													23	68.9	21.0
Black crappie				1																	1	3.0	3.0
Sauger												1									1	3.0	3.0

uftg05le.d23

Table 27. Electrofishing CPUE data (fish/hr) for each length group of bluegill (2016-23) and redear sunfish (2019-23) collected at Leary Lake. Redear sunfish were first stocked in 2018. Standard errors are in parentheses.

Stocked in 2019. Standard errors are in parentheses.

	Length group (in)				
Year	< 3.0	3.0 - 5.9	6.0 - 7.9	≥ 8.0	Total
Bluegill					
2016	8.0 (8.0)	85.3 (7.1)	90.7 (27.8)	21.3 (7.1)	205.3 (34.7)
2017		92.8 (38.9)	113.8 (47.9)	77.8 (29.9)	284.4 (116.8)
2019	3.0 (3.0)	239.5 (12.0)	242.5 (110.8)	3.0 (3.0)	488.0 (128.7)
2021		182.6 (9.0)	257.5 (83.8)	9.0 (9.0)	449.1 (83.8)
2023		110.8 (3.0)	296.4 (15.0)	56.9 (3.0)	464.1 (15.0)
Mean	2.7 (2.2)	137.1 (19.6)	190.2 (34.0)	32.5 (9.9)	362.5 (46.3)
Redear					
2019		68.9 (21.0)	21.0 (3.0)		89.8 (18.0)
2021		15.0 (9.0)		24.0 (0.0)	38.9 (9.0)
2023		32.9 (9.0)	12.0 (6.0)	24.0 (6.0)	68.9 (21.0)
Mean		38.9 (11.9)	11.0 (4.2)	16.0 (5.3)	65.9 (12.0)

uftg04le.d16, uftg05le.d17-d23

Table 28. Electrofishing CPUE data (fish/hr) for each length group of largemouth bass collected at Leary Lake from 2016-23. Standard errors are in parentheses.

Year	Length group (in)				Total
	< 8.0	8.0 - 11.9	12.0 - 14.9	≥ 15.0	
2016	128.0 (21.2)	338.7 (46.7)	181.3 (47.4)	13.3 (2.7)	661.3 (93.5)
2017	35.9 (6.0)	242.5 (92.8)	35.9 (0.0)	9.0 (3.0)	323.4 (89.8)
2019	47.9 (12.0)	32.9 (3.0)	38.9 (3.0)	3.0 (3.0)	122.8 (9.0)
2021	6.0 (6.0)	74.9 (27.0)	71.9 (41.9)	6.0 (0.0)	158.7 (62.9)
2023	89.8 (12.0)	56.9 (21.0)	56.9 (3.0)	15.0 (9.0)	218.6 (21.0)
Mean	67.6 (15.3)	166.4 (43.7)	86.5 (22.5)	9.6 (2.0)	330.1 (72.4)

uftg04le.d16, uftg05le.d17-d23

Table 29. Length frequency and CPUE (fish/hr) of fish collected in two, 10-min electrofishing runs at Kingdom Come State Park Lake on 11 May 2023.

	Inch class																						Std.
Species	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	Total	CPUE	error	
Bluegill	3	4	4	4	13	6	1													35	104.8	21.0	
Largemouth bass		3	3	1	1	19	8	19	14	25	15	7	1		1			1	2	120	359.3	53.9	
Channel catfish								1								1			1	3	9.0	9.0	
Redbreast sunfish		1	5	6	4															16	47.9	0.0	
White crappie											1									1	3.0	3.0	
uftg05kc.d23																							

Table 30. Electrofishing CPUE data (fish/hr) for each length group of bluegill collected at Kingdom Come State Park Lake from 2010-23. Standard errors are in parentheses.

Year	Length group (in)				Total
	< 3.0	3.0 - 5.9	6.0 - 7.9	≥ 8.0	
2010	3.0 (3.0)	12.0 (12.0)	9.0 (3.0)		24.0 (15.0)
2012	2.9 (2.9)	20.6 (2.9)	2.9 (2.9)	2.9 (2.9)	29.4 (5.9)
2014		15.0 (9.0)	12.0 (6.0)		27.0 (3.0)
2016		29.9	18.0		47.9
2018	6.0	119.8	6.0		131.7
2021		35.9 (18.0)	44.9 (21.0)		80.8 (38.9)
2023	9.0 (3.0)	35.9 (0.0)	56.9 (21.0)	3.0 (3.0)	104.8 (21.0)
Mean	3.0 (1.2)	32.4 (8.9)	23.0 (7.2)	1.0 (0.7)	59.4 (12.6)

uftg04kc.d10, uftg05kc.d12-d23

Table 31. Electrofishing CPUE data (fish/hr) for each length group of largemouth bass collected at Kingdom Come State Park Lake from 2010-23. Standard errors are in parentheses.

Year	Length group (in)				Total
	< 8.0	8.0 - 11.9	12.0 - 14.9	≥ 15.0	
2010	15.0 (3.0)	158.7 (27.0)	9.0 (3.0)	3.0 (3.0)	185.6 (29.9)
2012	94.1 (29.4)	164.7 (0.0)	8.8 (2.9)	8.8 (2.9)	276.5 (23.5)
2014	38.9 (3.0)	125.8 (24.0)	24.0 (6.0)	12.0 (0.0)	200.6 (15.0)
2016	35.9	185.6		24.0	245.5
2018	113.8	245.5		6.0	365.3
2021	35.9 (6.0)	95.8 (41.9)	27.0 (3.0)	9.0 (3.0)	167.7 (35.9)
2023	80.8 (15.0)	197.6 (12.0)	68.9 (21.0)	12.0 (6.0)	359.3 (53.9)
Mean	56.9 (10.7)	160.2 (14.5)	23.0 (7.3)	10.0 (1.9)	250.0 (24.3)

uftg04kc.d10, uftg05kc.d12-d23

Table 32. Length frequency and CPUE (fish/hr) of fish collected in one, 10-min electrofishing run at Cherokee Park Lake on 4 May 2023. Standard errors were not calculated because only one sampling run could be completed.

	Inch class																				Total	CPUE
Species	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21			
Bluegill	6	14	8	6	11																45	269.5
Largemouth bass	2	6	2			1	1							2							14	83.8
Channel catfish							1												1		2	12.0
Redear sunfish		8	17		1	3															29	173.7
White crappie			14	13	1				1												29	173.7
Black crappie				4																	4	24.0

uftg05cp.d23

Table 33. Electrofishing CPUE data (fish/hr) for each length group of bluegill and redear sunfish collected at Cherokee Park Lake from 2010-23. Standard errors are in parentheses.

	Length group (in)				
Year	< 3.0	3.0 - 5.9	6.0 - 7.9	≥ 8.0	Total
Bluegill					
2010	29.9	65.9	41.9		137.2
2011	77.8	12.0	18.0		107.8
2013		53.9	77.8		131.7
2015		113.8			113.8
2017		113.8	59.9		173.7
2019		65.9	47.9		113.8
2021	53.9	467.1	53.9		574.9
2023		167.7	101.8		269.5
Mean	20.2 (10.9)	132.5 (50.6)	50.2 (11.3)		202.8 (56.4)
Redear					
2010				18.0	18.0
2011					0.0
2013			12.0	6.0	18.0
2015		29.9	6.0		35.9
2017			65.9		65.9
2019		41.9		18.0	59.9
2021		24.0		18.0	41.9
2023		149.7	6.0	18.0	173.7
Mean		30.7 (18.0)	11.2 (8.0)	9.7 (3.2)	51.7 (19.1)

uftg05cp.d10-23

Table 34. Electrofishing CPUE data (fish/hr) for each length group of largemouth bass collected at Cherokee Park Lake from 2010-23. Standard errors are in parentheses.

Year	Length group (in)				Total
	< 8.0	8.0 - 11.9	12.0 - 14.9	≥ 15.0	
2010	29.9	29.9	143.7	12.0	215.6
2011	101.8	65.9	35.9	18.0	221.6
2013	24.0	95.8	41.9	71.9	233.5
2015	29.9	6.0	6.0		41.9
2017	95.8	53.9	12.0	35.9	197.6
2019	131.7	71.9	41.9		245.5
2021	125.8	24.0	185.6	18.0	353.3
2023	59.9	12.0		12.0	83.8
Mean	74.9 (15.7)	44.9 (11.3)	58.4 (24.2)	21.0 (8.3)	199.1 (34.3)

uftg05cp.d10-d23

Table 35. Length frequency and CPUE (fish/hr) of fish collected in one, 10-min electrofishing run at Fisherman's Park Lake #3 on 4 May 2023. Standard errors were not calculated because only one sampling run could be completed.

	Inch class																			Total	CPUE
Species	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20			
Bluegill	4	13	6	10	1														34	203.6	
Largemouth bass						1	1	5	6	7	4	4	5		1	1	1	1	37	221.6	
Channel catfish								1											1	6.0	
Black bullhead											1								1	6.0	
Redear sunfish		1	1	3	1	2	7	2											17	101.8	
Longear sunfish		1																	1	6.0	
Black crappie		1	1																2	12.0	

uftg05fp.d23

Table 36. Electrofishing CPUE data (fish/hr) for each length group of bluegill (2010-23) and redear sunfish (2019-23) collected at Fisherman's Park Lake #3. Redear sunfish were first stocked in 2018. Standard errors are in parentheses.

Year	Length group (in)				Total
	< 3.0	3.0 - 5.9	6.0 - 7.9	≥ 8.0	
Bluegill					
2010	71.9	161.7	35.9		269.5
2011	83.8	203.6	35.9		323.4
2013	6.0	179.6	35.9		221.6
2015		119.8	29.9		149.7
2017	6.0	161.7	29.9		197.6
2019		89.8	24.0		113.8
2021	6.0	221.6	18.0		245.5
2023		137.7	65.9		203.6
Mean	21.7 (12.3)	159.4 (15.3)	34.4 (5.0)		215.6 (23.4)
Redear					
2019		24.0	6.0	6.0	35.9
2021		29.9	18.0	12.0	59.9
2023		12.0	24.0	65.9	101.8
Mean		22.0 (5.3)	16.0 (5.3)	27.9 (19.0)	65.9 (19.3)

uftg05fp.d10-d23

Table 37. Electrofishing CPUE data (fish/hr) for each length group of largemouth bass collected at Fisherman's Park Lake #3 from 2010-23. Standard errors are in parentheses.

Year	Length group (in)				Total
	< 8.0	8.0 - 11.9	12.0 - 14.9	≥ 15.0	
2010	18.0	107.8	101.8	41.9	269.5
2011	77.8	155.7	59.9	47.9	341.3
2013	24.0	131.7	35.9	53.9	245.5
2015	29.9	65.9	35.9	18.0	149.7
2017	77.8	35.9	24.0	29.9	167.7
2019	95.8	107.8	12.0	18.0	233.5
2021	6.0	137.7	29.9	24.0	197.6
2023		77.8	89.8	53.9	221.6
Mean	41.2 (13.1)	102.5 (14.2)	48.7 (11.4)	35.9 (5.4)	228.3 (21.4)

uftg05fp.d10-d23

Table 38. Length frequency and CPUE (fish/hr) of fish collected in one, 10-min electrofishing run at Fisherman's Park Lake #4 on 4 May 2023. Standard errors were not calculated because only one sampling run could be completed.

Inch class																									Total	CPUE
Species	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22					
Bluegill	1	1	17	7	10	2	1																39	233.5		
Largemouth bass				1	2		1	1	3	7	3	2	2	2			1	1					26	155.7		
Channel catfish										1											1		2	12.0		
Redear sunfish					1	1	2	3	3														10	59.9		
Green sunfish				1																			1	6.0		
Warmouth					2																		2	12.0		
Black crappie								2	2														4	24.0		

uftg05fl.d23

Table 39. Electrofishing CPUE data (fish/hr) for each length group of bluegill (2010-23) and redear sunfish (2019-23) collected at Fisherman's Park Lake #4. Redear sunfish were first stocked in 2018. Standard errors are in parentheses.

	Length group (in)				
Year	< 3.0	3.0 - 5.9	6.0 - 7.9	≥ 8.0	Total
Bluegill					
2010	29.9	179.6	101.8		311.4
2011	65.9	251.5	65.9		383.2
2013		353.3	29.9		383.2
2015		215.6			215.6
2017	6.0	197.6	47.9		251.5
2019	6.0	101.8	59.9		167.7
2021	47.9	335.3	24.0		407.2
2023	6.0	149.7	71.9	6.0	233.5
Mean	20.2 (8.8)	223.1 (30.8)	50.2 (11.3)	0.8 (0.8)	294.2 (31.8)
Redear					
2019		6.0	18.0		24.0
2021				12.0	12.0
2023			12.0	47.9	59.9
Mean		2.0 (2.0)	10.0 (5.3)	20.0 (14.4)	31.9 (14.4)
uftg05fl.d10-d23					

uftg05fl.d10-d23

Table 40. Electrofishing CPUE data (fish/hr) for each length group of largemouth bass collected at Fisherman's Park Lake #4 from 2010-23. Standard errors are in parentheses.

Year	Length group (in)				Total
	< 8.0	8.0 - 11.9	12.0 - 14.9	≥ 15.0	
2010	6.0	35.9	83.8	6.0	131.7
2011	65.9	89.8	83.8	18.0	257.5
2013	59.9	113.8	29.9	6.0	209.6
2015	65.9	137.7	18.0	24.0	245.5
2017	53.9	131.7	65.9	24.0	275.5
2019	47.9	113.8	89.8	12.0	263.5
2021	24.0	71.9	71.9	18.0	185.6
2023	18.0	71.9	41.9	24.0	155.7
Mean	42.7 (8.3)	95.8 (12.3)	60.6 (9.6)	16.5 (2.7)	215.6 (18.9)

uftg05fl.d10-d23

Table 41. Length frequency and CPUE (fish/hr) of fish collected in two, 10-min electrofishing runs at Tom Wallace Park Lake on 2 May 2023.

Species	Inch class																						Total	CPUE	Std. error
	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22					
Bluegill	1	15	14	10	9	1																50	149.7	41.9	
Largemouth bass	5	5	1	2	20	21	13	5	2	3	3		2				2		1	1		86	257.5	71.9	
Channel catfish							1								1				1			3	9.0	9.0	
Redear sunfish						2	1															3	9.0	9.0	

uftg05tw.d23

Table 42. Electrofishing CPUE data (fish/hr) for each length group of bluegill (2005-23) and redear sunfish (2021-23) collected at Tom Wallace Park Lake. Redear sunfish were stocked in 2019. Standard errors are in parentheses.

Year	Length group (in)				Total
	< 3.0	3.0 - 5.9	6.0 - 7.9	≥ 8.0	
Bluegill					
2005	73.8 (36.3)	186.3 (23.8)			260.0 (60.0)
2006	39.2 (19.9)	63.3 (21.7)	27.1 (7.6)		129.5 (41.8)
2007	4.0 (4.0)	32.1 (4.0)	16.1 (16.1)		52.2 (22.4)
2010	35.9	6.0	41.9		83.8
2011		116.8 (27.0)	18.0 (12.0)	6.0 (6.0)	140.7 (32.9)
2013		74.9 (3.0)	21.0 (15.0)	12.0 (6.0)	107.8 (18.0)
2015		68.9 (27.0)	12.0 (6.0)		80.8 (32.9)
2017		9.0 (9.0)	18.0 (0.0)	38.9 (3.0)	65.9 (6.0)
2019		53.9 (6.0)	71.9 (18.0)	29.9 (24.0)	155.7 (47.9)
2021		56.9 (21.0)	18.0 (6.0)	12.0 (12.0)	86.8 (3.0)
2023		89.8 (29.9)	56.9 (9.0)	3.0 (3.0)	149.7 (41.9)
Mean	14.7 (6.1)	69.5 (10.6)	26.2 (4.8)	8.5 (3.1)	118.9 (14.5)
Redear					
2021			9.0 (3.0)	32.9 (27.0)	41.9 (29.9)
2023				9.0 (9.0)	9.0 (9.0)
Mean			4.5 (2.9)	21.0 (13.5)	25.5 (15.9)

ufrpstom.d05, ufr05tom.d06-d07, uftg05tw.d10-d23

Table 43. Electrofishing CPUE data (fish/hr) for each length group of largemouth bass collected at Tom Wallace Park Lake from 2005-23. Standard errors are in parentheses.

Year	Length group (in)				Total
	< 8.0	8.0 - 11.9	12.0 - 14.9	≥ 15.0	
2005	153.8 (16.3)	116.3 (3.8)	18.8 (18.8)		288.8 (1.3)
2006	60.2 (19.1)	105.4 (18.7)	18.1 (11.5)	6.0 (3.5)	189.8 (44.6)
2007	68.3 (38.3)	164.7 (32.9)	32.1 (14.5)	8.0 (8.0)	273.1 (47.4)
2010	71.9	119.8	24.0	35.9	251.5
2011	80.8 (9.0)	95.8 (12.0)	12.0 (6.0)	6.0 (6.0)	194.6 (32.9)
2013	146.7 (27.0)	113.8 (12.0)	18.0 (12.0)	6.0 (6.0)	284.4 (3.0)
2015	92.8 (9.0)	98.8 (32.9)	21.0 (3.0)	12.0 (6.0)	224.6 (27.0)
2017	71.9 (18.0)	197.6 (29.9)	9.0 (3.0)	3.0 (3.0)	281.4 (12.0)
2019	92.8 (15.0)	98.8 (3.0)	3.0 (3.0)	18.0 (0.0)	212.6 (15.0)
2021	80.8 (15.0)	74.9 (38.9)	15.0 (9.0)	15.0 (9.0)	185.6 (71.9)
2023	98.8 (15.0)	122.8 (32.9)	18.0 (18.0)	18.0 (6.0)	257.5 (71.9)
Mean	89.8 (8.4)	119.7 (9.2)	17.6 (3.3)	10.0 (2.1)	237.0 (13.5)

ufrpstom.d05, ufr05tom.d06-d07, uftg05tw.d10-d23

Table 44. Length frequency and CPUE (fish/hr) of fish collected in two, 10-min electrofishing runs at Waverly Park Lake on 2 May 2023.

	Inch class																						Std.
Species	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	Total	CPUE	error	
Bluegill	6		2	8	14	2														32	95.8	12.0	
Largemouth bass	46	228	19	4	1				1		5	1		1	1				1	308	922.2	113.8	
Channel catfish						1	1	3	3	2	1	1		2	1					15	44.9	3.0	
Green sunfish		5	1	1																7	21.0	15.0	
Redear sunfish	11	1	2						1											15	44.9	44.9	
Longear sunfish			1	1																2	6.0	6.0	
Warmouth				3		1														4	12.0	6.0	

uftg05wp.d23

Table 45. Electrofishing CPUE data (fish/hr) for each length group of bluegill (2010-23) and redear sunfish (2015-23) collected at Waverly Park Lake. Redear sunfish were first stocked in 2013 and again in 2019. Standard errors are in parentheses.

	Length group (in)				
Year	< 3.0	3.0 - 5.9	6.0 - 7.9	≥ 8.0	Total
Bluegill					
2010	6.0	191.6	29.9		227.5
2011	509.0	191.6	6.0		706.6
2013	3.0 (3.0)	239.5 (41.9)	35.9 (12.0)		278.4 (56.9)
2015	29.9	179.6	12.0		221.6
2017	6.0	107.8	35.9		149.7
2019	18.0	125.8	18.0	6.0	167.7
2021	74.9 (62.9)	521.0 (203.6)	15.0 (3.0)		610.8 (269.5)
2023	18.0 (0.0)	29.9 (6.0)	47.9 (6.0)		95.8 (12.0)
Mean	69.1 (45.5)	216.1 (57.6)	27.2 (4.8)	0.5 (0.5)	313.0 (76.5)
Redear					
2015		6.0		12.0	18.0
2017		12.0	12.0	6.0	29.9
2019	6.0	6.0	6.0	18.0	35.9
2021		6.0 (6.0)	62.9 (9.0)	12.0 (0.0)	80.8 (15.0)
2023	32.9 (32.9)	9.0 (9.0)		3.0 (3.0)	44.9 (44.9)
Mean	10.3 (9.3)	7.7 (2.5)	20.5 (11.2)	9.4 (2.2)	47.9 (13.8)

uftg05wp.d10-d23

Table 46. Electrofishing CPUE data (fish/hr) for each length group of largemouth bass collected at Waverly Park Lake from 2010-23. Standard errors are in parentheses.

Year	Length group (in)				Total
	< 8.0	8.0 - 11.9	12.0 - 14.9	≥ 15.0	
2010	59.9			6.0	65.9
2011	125.8	65.9	12.0		203.6
2013	113.8 (18.0)	89.8 (12.0)	27.0 (15.0)	12.0 (6.0)	242.5 (50.9)
2015	167.7	107.8	18.0	6.0	299.4
2017	89.8	161.7	29.9		281.4
2019	35.9	47.9	83.8	6.0	173.7
2021	41.9 (18.0)	29.9 (0.0)	29.9 (18.0)	24.0 (0.0)	125.8 (35.9)
2023	892.2 (113.8)	3.0 (3.0)	18.0 (0.0)	9.0 (3.0)	922.2 (113.8)
Mean	234.1 (100.1)	57.2 (15.6)	26.7 (7.1)	9.8 (2.6)	327.7 (92.8)

uftg05wp.d10-d23

Table 47. Length frequency and CPUE (fish/hr) of fish collected in two, 10-min electrofishing runs at William F. Miles Angler Lake on 4 May 2023.

Species	Inch class																				Total	CPUE	Std. error
	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21			
Bluegill	2	8	7	2	1	1	1														22	65.9	0.0
Largemouth bass	1	15	14	16	5	4	3		1	1	4	5	4	1			1		1	1	77	230.5	3.0
Channel catfish					1					1			1	2		1					6	18.0	12.0
Green sunfish				3																	3	9.0	3.0
Redear sunfish		1	1			2		3													7	21.0	9.0

uftg05mp.d23

Table 48. Electrofishing CPUE data (fish/hr) for each length group of bluegill and redear sunfish collected at William F. Miles Angler Lake from 2005-23. Standard errors are in parentheses.

Year	Length group (in)				Total
	< 3.0	3.0 - 5.9	6.0 - 7.9	≥ 8.0	
Bluegill					
2005	4.0 (4.0)	57.7 (31.4)	52.9 (26.5)		114.6 (59.0)
2006	18.1 (6.0)	36.1 (12.1)	42.2 (30.1)		96.4 (48.2)
2007	21.1 (7.6)	105.4 (37.9)	33.1 (16.6)		159.6 (60.1)
2010	27.0 (3.0)	122.8 (9.0)	32.9 (27.0)		182.6 (38.9)
2011	28.9 (21.0)	182.6 (98.8)	21.0 (3.0)		242.5 (122.8)
2013	3.0 (3.0)	128.7 (44.9)	62.9 (32.9)		194.6 (9.0)
2015	3.0 (3.0)	80.8 (3.0)	18.0 (6.0)		101.8 (6.0)
2017	9.0 (3.0)	242.5 (74.9)	21.0 (3.0)		272.5 (80.8)
2019	6.0 (0.0)	140.7 (21.0)	15.0 (3.0)		161.7 (18.0)
2021		137.7 (18.0)	12.0 (6.0)		149.7 (12.0)
2023	6.0 (6.0)	50.9 (3.0)	6.0 (0.0)	3.0 (3.0)	65.9 (0.0)
Mean	12.7 (2.9)	113.6 (15.1)	30.1 (5.8)	0.2 (0.2)	156.7 (18.1)
Redear					
2005		2.8 (1.4)	34.5 (15.7)	4.2 (2.5)	41.5 (18.9)
2006		18.1 (18.1)	18.1 (18.1)		36.1 (36.1)
2007		39.2 (23.8)	9.0 (3.0)	3.0 (3.0)	51.2 (27.6)
2010		18.0 (0.0)	125.8 (24.0)	9.0 (3.0)	152.7 (21.0)
2011		107.8 (59.9)	65.9 (29.9)		173.7 (89.8)
2013		27.0 (15.0)	98.8 (32.9)	6.0 (6.0)	131.7 (53.9)
2015		32.9 (15.0)	62.9 (3.0)	6.0 (6.0)	101.8 (12.0)
2017	3.0 (3.0)	83.8 (12.0)	122.8 (56.9)	9.0 (3.0)	218.6 (44.9)
2019		41.9 (6.0)	107.8 (53.9)	6.0 (6.0)	155.7 (53.9)
2021		38.9 (15.0)	68.9 (32.9)	3.0 (3.0)	110.8 (50.9)
2023		6.0 (0.0)	6.0 (6.0)	9.0 (3.0)	21.0 (9.0)
Mean	0.2 (0.2)	36.6 (8.0)	59.7 (10.6)	4.8 (1.1)	101.3 (15.6)

ufrpsmi4.d05, ufr05mi4.d06-d07, uftg05mp.d10-d23

Table 49. Electrofishing CPUE data (fish/hr) for each length group of largemouth bass collected at William F. Miles Angler Lake from 2005-23. Standard errors are in parentheses.

Year	Length group (in)				Total
	< 8.0	8.0 - 11.9	12.0 - 14.9	≥ 15.0	
2005	30.3 (16.3)	62.8 (38.2)			93.1 (54.3)
2006	12.1 (0.0)	90.4 (54.2)	6.0 (6.0)	6.0 (6.0)	114.5 (42.2)
2007	27.1 (5.8)	42.2 (22.8)	18.1 (3.5)	3.0 (3.0)	90.4 (26.7)
2010	27.0 (3.0)	89.8 (0.0)	21.0 (3.0)	18.0 (6.0)	155.7 (12.0)
2011	80.8 (56.9)	128.7 (21.0)	56.9 (9.0)	12.0 (12.0)	278.4 (15.0)
2013	12.0 (6.0)	101.8 (6.0)	18.0 (0.0)	12.0 (0.0)	143.7 (0.0)
2015	21.0 (15.0)	98.8 (15.0)	35.9 (6.0)	18.0 (12.0)	173.7 (12.0)
2017	35.9 (12.0)	47.9 (29.9)	18.0 (0.0)	18.0 (0.0)	119.8 (41.9)
2019	59.9 (12.0)	44.9 (3.0)	29.9 (12.0)	38.9 (27.0)	173.7 (6.0)
2021	9.0 (9.0)	59.9 (29.9)	18.0 (18.0)	32.9 (9.0)	119.8 (65.9)
2023	164.7 (9.0)	15.0 (3.0)	38.9 (3.0)	12.0 (0.0)	230.5 (3.0)
Mean	41.8 (9.3)	68.5 (9.1)	22.3 (3.4)	13.9 (3.1)	146.4 (14.2)

ufrpsmi4.d05, ufr05mi4.d06-d07, uftg05mp.d10-d23

Table 50. Length frequency and CPUE (fish/hr) of fish collected in one, 10-min electrofishing run at William F. Miles Green Heron Lake on 4 May 2023. Standard errors were not calculated because only one sampling run could be completed.

Inch class																
Species	3	4	5	6	7	8	9	10	11	12	13	14	15	Total	CPUE	
Bluegill	3	3	1	5	5									17	101.8	
Largemouth bass	2	6	3	2			7	6	2	1			1	30	179.6	
Channel catfish												1	1	2	12.0	
Redear sunfish				1	1	6	1							9	53.9	

uftg05mg.d23

Table 51. Electrofishing CPUE data (fish/hr) for each length group of bluegill and redear sunfish collected at William F. Miles Green Heron Lake from 2013-23. Standard errors are in parentheses.

	Length group (in)				
Year	< 3.0	3.0 - 5.9	6.0 - 7.9	≥ 8.0	Total
Bluegill					
2013		185.6	107.8		293.4
2016		29.9	6.0		35.9
2017		59.9	12.0		71.9
2019		131.7	131.7		263.5
2021	6.0	131.7	83.8		221.6
2023		41.9	59.9		101.8
Mean	0.9 (0.9)	83.0 (19.0)	57.3 (16.2)		141.2 (32.9)
Redear					
2013		12.0	18.0	12.0	41.9
2016				6.0	6.0
2017		47.9	53.9		101.8
2019		18.0	18.0	41.9	77.8
2021		18.0		12.0	29.9
2023			12.0	41.9	53.9
Mean		13.7 (6.5)	14.5 (7.3)	16.3 (6.9)	44.5 (13.9)
uftg05mg.d13, uftg04mg.d16, uftg05mg.d17-d23					

uftg05mg.d13, uftg04mg.d16, uftg05mg.d17-d23

Table 52. Electrofishing CPUE data (fish/hr) for each length group of largemouth bass collected at William F. Miles Green Heron Lake from 2013-23. Standard errors are in parentheses.

Year	Length group (in)				Total
	< 8.0	8.0 - 11.9	12.0 - 14.9	≥ 15.0	
2013	83.9	287.4		6.0	377.3
2016	65.9	107.8	18.0		191.6
2017	53.9	185.6	41.9	18.0	299.4
2019	29.9	179.6	18.0	12.0	239.5
2021	113.8	209.6	12.0	6.0	341.3
2023	77.8	89.8	6.0	6.0	179.6
Mean	60.7 (14.1)	151.4 (35.4)	13.7 (5.5)	6.8 (2.4)	232.7 (47.8)

uftg05mg.d13, uftg04mg.d16, uftg05mg.d17-d23

Table 53. Length frequency and CPUE (fish/hr) of fish collected in one, 10-min electrofishing run at Middleton Mills Long Pond on 5 May 2023. Standard errors were not calculated because only one sampling run could be completed.

Species	Inch class																Total	CPUE
	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17		
Bluegill	1	9	23	11	4	1											49	293.4
Largemouth bass		1		8	15	1	4	16	7		1	2	1	1		1	58	347.3
Channel catfish												2		1	2		5	29.9
Redear sunfish	1	3	4	1			6	2									17	101.8

uftg05ml.d23

Table 54. Electrofishing CPUE data (fish/hr) for each length group of bluegill (2010-23) and redear sunfish (2020-23) collected at Middleton Mills Long Pond. Redear sunfish were first stocked in 2018. Standard errors are in parentheses.

Year	Length group (in)				Total
	< 3.0	3.0 - 5.9	6.0 - 7.9	≥ 8.0	
Bluegill					
2010	32.4	988.0	24.0		1,335.3
2012	558.8	182.4			741.2
2014	12.0	251.5	29.9		293.4
2016	155.7	359.3	29.9		544.9
2018	47.9	1,065.9	24.0		1,137.7
2020	71.9	263.5	83.8		419.2
2021	12.0	167.7	137.7		317.4
2023	6.0	257.5	29.9		293.4
Mean	149.7 (70.8)	442.4 (129.4)	44.9 (15.6)		637.0 (143.1)
Redear					
2020		53.9	119.8	6.0	179.6
2021			65.9	89.8	155.7
2023	6.0	47.9		47.9	101.8
Mean	2.0 (2.0)	33.9 (17.1)	61.9 (34.6)	47.9 (24.2)	145.7 (23.0)

uftg05ml.d10-d23

Table 55. Electrofishing CPUE data (fish/hr) for each length group of largemouth bass collected at Middleton Mills Long Pond from 2010-23. Standard errors are in parentheses.

Year	Length group (in)				Total
	< 8.0	8.0 - 11.9	12.0 - 14.9	≥ 15.0	
2010	24.0	185.6	47.9		257.5
2012	123.5	58.8	23.5	29.4	235.3
2014	209.6		29.9	6.0	245.5
2016	12.0	59.9	65.9	6.0	143.7
2018		6.0	12.0	35.9	53.9
2020	77.8	83.8	6.0	6.0	173.7
2021	29.9	179.6		12.0	221.6
2023	149.7	161.7	24.0	12.0	347.3
Mean	78.6 (26.9)	92.1 (26.5)	26.2 (7.8)	13.5 (4.5)	210.3 (30.9)

uftg05ml.d10-d23

Table 56. Length frequency and CPUE (fish/hr) of fish collected in one, 10-min electrofishing run at Middleton Mills Shelterhouse Pond on 5 May 2023. Standard errors were not calculated because only one sampling run could be completed.

Species	Inch class																Total	CPUE
	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17		
Bluegill	10	15	17	12	2												56	335.3
Largemouth bass			5				2	1	3	1	1	4		1	2	1	21	125.8
Redear sunfish		8	10	61	16												95	568.9
White crappie					1	2	1										4	24.0

uftg05ms.d23

Table 57. Electrofishing CPUE data (fish/hr) for each length group of bluegill and redear sunfish collected at Middleton Mills Shelterhouse Pond from 2005-23. Standard errors are in parentheses.

in parentheses.

Year	Length group (in)				Total
	< 3.0	3.0 - 5.9	6.0 - 7.9	≥ 8.0	
Bluegill					
2005	200.0	586.7	13.3		800.0
2006	18.1	168.7	6.0		192.8
2007	12.1	126.5	6.0		144.6
2010	6.0	107.8			113.8
2012	152.9	194.1			347.1
2014		113.8			113.8
2016	71.9	29.9			101.8
2018	41.9	71.9	6.0		119.8
2021	167.7	377.3	18.0		562.9
2023	59.9	263.5	12.0		335.3
Mean	63.6 (20.5)	194.9 (44.3)	6.1 (2.0)		264.6 (62.8)
Redear					
2007		114.5	24.1		138.6
2010		1,149.7	18.0		1,167.7
2012	23.5	664.7	52.9		741.2
2014		329.3	12.0		341.3
2016	83.8	221.6	29.9		335.3
2018	6.0	155.7	29.9		191.6
2021	6.0	215.6	29.9		251.5
2023		473.1	95.8		568.9
Mean	10.0 (7.0)	287.5 (98.3)	26.5 (7.9)		324.0 (102.1)

ufrpsmmp.d05, ufr05mmp.d06, ufr05mmp.d07, uftg05ms.d10-d23

ufrpsmmp.d05, ufr05mmp.d06, ufr05mmp.d07, uftg05ms.d10-d23

Table 58. Electrofishing CPUE data (fish/hr) for each length group of largemouth bass collected at Middleton Mills Shelterhouse Pond from 2005-23. Standard errors are in parentheses.

Year	Length group (in)				Total
	< 8.0	8.0 - 11.9	12.0 - 14.9	≥ 15.0	
2005		6.7	20.0		26.7
2006	30.1	66.3	24.1	36.1	156.6
2007	18.1	60.0	60.0		138.6
2010	83.8	18.0	6.0	24.0	131.7
2012			11.8	5.9	17.8
2014	6.0				6.0
2016			6.0		6.0
2018		6.0		12.0	18.0
2021		6.0	35.9	24.0	65.9
2023	29.9	41.9	29.9	24.0	125.8
Mean	18.0 (7.1)	27.6 (8.3)	23.2 (6.2)	13.5 (4.5)	82.4 (18.7)

ufrpsmmp.d05, ufr05mmp.d06, ufr05mmp.d07, uftg05ms.d10-d23

Table 59. Length frequency and CPUE (fish/hr) of fish collected in one, 10-min electrofishing run at Prisoners Lake on 5 May 2023. Standard errors were not calculated because only one sampling run could be completed.

Species	Inch class																Total	CPUE
	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17		
Bluegill	1	5	39	19													64	383.2
Largemouth bass		2	3			1	2	4				3				2	17	101.8
Channel catfish											1	3	1	3	2	1	11	65.9
Redear sunfish					1	1											2	12.0

uftg05pl.d23

Table 60. Electrofishing CPUE data (fish/hr) for each length group of bluegill (2010-23) and redear sunfish (2021-23) collected at Prisoners Lake. Redear sunfish were first stocked in 2018. Standard errors are in parentheses.

	Length group (in)				
Year	< 3.0	3.0 - 5.9	6.0 - 7.9	≥ 8.0	Total
Bluegill					
2010	18.0	185.6	29.9	6.0	239.5
2012	6.0	604.8	18.0		628.4
2014		59.9	24.0		83.8
2016	12.0	227.5	12.0		251.5
2017	6.0	113.8	41.9		161.7
2019		29.9	41.9		71.9
2021	6.0	24.0			29.9
2023	6.0	377.3			383.2
Mean	6.7 (2.1)	202.8 (71.1)	21.0 (5.9)	0.8 (0.8)	231.3 (70.0)
Redear					
2021		35.9	24.0		59.9
2023			12.0		12.0
Mean		18.0 (18.0)	18.0 (6.0)		35.9 (24.0)
uftg05pl.d10, uftg04pl.d12, uftg05pl.d14-d23					

Table 61. Electrofishing CPUE data (fish/hr) for each length group of largemouth bass collected at Prisoners Lake from 2010-23. Standard errors are in parentheses.

Year	Length group (in)				Total
	< 8.0	8.0 - 11.9	12.0 - 14.9	≥ 15.0	
2010	12.0	71.9	77.8	53.9	215.6
2012		35.9	6.0	41.9	83.8
2014	6.0	35.9	41.9	24.0	107.8
2016	24.0		18.0	18.0	59.9
2017	35.9	41.9	12.0	18.0	107.8
2019	18.0	59.9	24.0	35.9	137.7
2021	24.0	24.0	29.9	18.0	95.8
2023	35.9	35.9	18.0	12.0	101.8
Mean	19.5 (4.6)	38.2 (7.7)	28.4 (8.1)	27.7 (5.2)	113.8 (16.5)

uftg05pl.d10, uftg04pl.d12, uftg05pl.d14-d23

Table 62. Length frequency and CPUE (fish/hr) of fish collected in three, 10-min electrofishing runs at Brickyard Pond on 11 May 2023.

Species	Inch class																	Total	CPUE	Std. error
	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18			
Bluegill	11	39	137	74	15													276	550.9	36.1
Largemouth bass		2	3	3	3	10	8	1	1	6	2	2	3	2	1	2	2	51	101.8	15.8
Channel catfish								1			1			1	1			4	8.0	8.0
Redear sunfish						2	8	7										17	33.9	10.6
Green sunfish	1	3	3															7	14.0	5.3
Longear sunfish				1														1	2.0	2.0
Warmouth	1		1		1	1												4	8.0	5.3
White crappie			4	5	2						1							12	24.0	15.1
Black crappie			3	4	6	1		1										15	29.9	12.5

uftg05bp.d23

Table 63. Electrofishing CPUE data (fish/hr) for each length group of bluegill and redear sunfish collected at Brickyard Pond from 2010-23. Standard errors are in parentheses.

Year	Length group (in)				Total
	< 3.0	3.0 - 5.9	6.0 - 7.9	≥ 8.0	
Bluegill					
2010	93.8 (2.0)	491.0 (126.2)	16.0 (7.2)		600.8 (121.4)
2012	24.0 (6.0)	131.1 (55.6)	22.0 (8.7)		477.1 (58.9)
2014	33.9 (7.2)	271.5 (40.4)	24.0 (18.0)		329.3 (35.1)
2016	22.0 (12.1)	457.1 (67.9)	37.9 (13.1)		517.0 (76.9)
2017	8.0 (2.0)	291.4 (49.7)	63.9 (22.2)		363.3 (73.0)
2019	47.9 (15.9)	247.5 (71.7)	16.0 (13.1)		311.4 (98.9)
2021	6.0 (3.5)	335.3 (73.2)	20.0 (10.6)		361.3 (83.4)
2023	22.0 (2.0)	499.0 (28.2)	29.9 (9.2)		550.9 (36.1)
Mean	32.2 (6.0)	378.0 (28.8)	28.7 (5.1)		438.9 (31.6)
Redear					
2010		10.0 (5.3)	4.0 (2.0)	12.0 (6.9)	26.0 (8.0)
2012	4.0 (4.0)	173.7 (36.4)	55.9 (8.7)		233.5 (31.1)
2014	2.0 (2.0)	117.8 (38.1)	157.7 (61.9)		277.5 (91.8)
2016		31.9 (2.0)	159.7 (34.8)	2.0 (2.0)	193.6 (38.1)
2017			79.8 (27.7)	8.0 (5.3)	87.8 (32.9)
2019		4.0 (2.0)	6.0 (3.5)	35.9 (12.5)	45.9 (12.1)
2021		2.0 (2.0)	27.9 (5.3)	20.0 (2.0)	49.9 (7.2)
2023			4.0 (4.0)	29.9 (6.9)	33.9 (10.6)
Mean	0.8 (0.6)	42.4 (14.1)	61.9 (15.1)	13.5 (3.2)	118.5 (22.8)

uftg04bp.d10, uftg05bp.d12-d23

Table 64. Electrofishing CPUE data (fish/hr) for each length group of largemouth bass collected at Brickyard Pond from 2010-23. Standard errors are in parentheses.

Year	Length group (in)				Total
	< 8.0	8.0 - 11.9	12.0 - 14.9	≥ 15.0	
2010	81.8 (23.0)	87.8 (16.3)	49.9 (12.1)	12.0 (6.0)	231.5 (38.1)
2012	59.9 (6.0)	183.6 (31.0)	39.9 (10.6)	18.0 (3.5)	301.4 (46.9)
2014	26.0 (7.2)	155.7 (12.5)	39.9 (13.1)	6.0 (3.5)	227.5 (33.0)
2016	18.0 (9.2)	93.8 (20.3)	57.9 (11.1)	26.0 (7.2)	195.6 (37.0)
2017	8.0 (2.0)	65.9 (9.2)	35.9 (13.8)	14.0 (8.0)	123.8 (12.1)
2019	10.0 (5.3)	43.9 (16.3)	27.9 (8.7)	10.0 (2.0)	91.8 (22.2)
2021	12.0 (6.0)	31.9 (10.0)	37.9 (5.3)	27.9 (2.0)	109.8 (16.0)
2023	41.9 (3.5)	31.9 (10.6)	14.0 (4.0)	14.0 (2.0)	101.8 (15.8)
Mean	32.2 (6.0)	86.8 (12.2)	37.9 (4.0)	16.0 (2.1)	172.9 (17.4)

uftg04bp.d10, uftg05bp.d12-d23

Table 65. Length frequency and CPUE (fish/hr) of fish collected in four, 10-min electrofishing runs at Logan Hubble Park Lake on 1 May 2023.

	Inch class																			Std.
Species	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	Total	CPUE	error	
Bluegill	4	29	34	33	9	2											111	221.6	34.6	
Largemouth bass		9	22	11	1	2				1							46	91.8	41.0	
Channel catfish				1												1	2	4.0	4.0	
Redear sunfish		9	6	14	11	1											41	81.8	7.2	
White crappie			7	41	12												60	119.8	39.9	

uftg05lh.d23

Table 66. Electrofishing CPUE data (fish/hr) for each length group of bluegill and redear sunfish collected at Logan Hubble Park Lake from 2016-23. Standard errors are in parentheses.

	Length group (in)				
Year	< 3.0	3.0 - 5.9	6.0 - 7.9	≥ 8.0	Total
Bluegill					
2016	6.0 (3.5)	121.8 (8.7)	24.0 (9.2)		151.7 (17.1)
2017	24.0 (12.5)	169.7 (56.3)	119.8 (51.2)	75.9 (8.7)	389.2 (56.9)
2019	8.0 (8.0)	77.8 (45.7)	41.9 (13.8)	14.0 (4.0)	141.7 (66.9)
2021		41.9 (10.1)	64.4 (9.9)	6.0 (3.5)	112.3 (15.0)
2023	8.0 (2.0)	191.6 (26.1)	22.0 (7.2)		221.6 (34.6)
Mean	8.6 (3.2)	115.6 (19.3)	55.0 (12.7)	18.3 (7.4)	197.6 (29.9)
Redear					
2016		2.0 (2.0)	8.0 (4.0)	16.0 (4.0)	26.0 (8.7)
2017		2.0 (2.0)	2.0 (2.0)	18.0 (10.4)	22.0 (8.7)
2019		4.0 (2.0)	16.0 (4.0)	4.0 (2.0)	24.0 (6.9)
2021			7.5 (2.9)	40.4 (11.3)	47.9 (12.9)
2023		57.9 (8.0)	34.0 (9.2)		81.8 (7.2)
Mean		12.4 (5.8)	11.2 (2.7)	17.2 (5.0)	40.8 (6.9)

uftg06lh.d16, uftg05lh.d17-d23

Table 67. Electrofishing CPUE data (fish/hr) for each length group of largemouth bass collected at Logan Hubble Park Lake from 2016-23. Standard errors are in parentheses.

Year	Length group (in)				Total
	< 8.0	8.0 - 11.9	12.0 - 14.9	≥ 15.0	
2016	18.0 (6.0)	37.9 (4.0)	67.9 (16.3)	18.0 (3.5)	141.7 (23.0)
2017	31.9 (4.0)	37.9 (4.0)	81.8 (14.4)	26.0 (10.6)	177.6 (22.2)
2019	47.9 (15.1)	73.9 (16.0)	145.7 (22.2)	24.0 (18.0)	291.4 (17.4)
2021	55.4 (14.1)	76.4 (17.4)	88.3 (4.5)	24.0 (7.3)	244.0 (24.5)
2023	89.8 (39.0)	2.0 (2.0)			91.8 (41.0)
Mean	49.0 (9.6)	47.5 (8.6)	77.5 (12.7)	18.7 (4.4)	192.7 (20.8)

uftg06lh.d16, uftg05lh.d17-d23

Table 68. Length frequency and CPUE (fish/hr) of fish collected in two, 10-min electrofishing runs at Whitehall Park Lake on 3 May 2023.

Species	Inch class												Total	CPUE	Std. error
	2	3	4	5	6	7	8	9	10	11	12	13			
Bluegill	16	70	7	1									94	281.4	47.9
Largemouth bass			2	17	37	29	13	6	8	15	6	1	134	401.2	24.0
Redear sunfish	3	40	36	3	8	1	1	4	5				101	302.4	62.9
Green sunfish	1	1	2	1									5	15.0	15.0
White crappie			1	1	1								3	9.0	9.0

uftg05wh.d23

Table 69. Electrofishing CPUE data (fish/hr) for each length group of bluegill (2011-23) and redear sunfish (2019-23) collected at Whitehall Park Lake. Redear sunfish were first stocked in 2018. Standard errors are in parentheses.

collected in 2019. Standard errors are in parentheses.

Year	Length group (in)				Total
	< 3.0	3.0 - 5.9	6.0 - 7.9	≥ 8.0	
Bluegill					
2011	371.3	167.7	95.8		634.7
2012	320.6 (202.9)	247.1 (5.9)	47.1 (41.2)	2.9 (2.9)	617.4 (152.9)
2014	3.0 (3.0)	77.8 (12.0)			80.8 (9.0)
2015		77.8			77.8
2017		341.3 (191.6)	74.9 (56.9)		416.2 (248.5)
2019	6.0 (6.0)	12.0 (12.0)	21.0 (15.0)	6.0 (6.0)	44.9 (27.0)
2021	9.0 (3.0)	21.0 (3.0)	3.0 (3.0)		32.9 (3.0)
2023	47.9 (12.0)	233.5 (35.9)			281.4 (47.9)
Mean	82.6 (43.6)	151.4 (38.6)	27.8 (11.8)	1.3 (0.9)	263.1 (71.6)
Redear					
2019	3.0 (3.0)	21.0 (9.0)	35.9 (35.9)		59.9 (41.9)
2021		143.7 (24.0)	113.8 (53.9)	32.9 (21.0)	290.4 (50.9)
2023	9.0 (3.0)	236.5 (38.9)	27.0 (9.0)	29.9 (12.0)	302.4 (62.9)
Mean	4.0 (2.0)	133.7 (41.3)	58.9 (24.3)	21.0 (9.1)	217.6 (55.2)

uftg05wh.d11-d12, uftg04wh.d14, uftg05wh.d15-d23

Table 70. Electrofishing CPUE data (fish/hr) for each length group of largemouth bass collected at Whitehall Park Lake from 2011-23. Standard errors are in parentheses.

Year	Length group (in)				Total
	< 8.0 in	8.0 - 11.9 in	12.0 - 14.9 in	≥ 15.0 in	
2011	227.5	77.8	137.7	6.0	449.1
2012	214.7 (55.9)	185.3 (26.5)	26.5 (2.9)	14.7 (2.9)	441.2 (23.5)
2014	128.7 (21.0)	227.5 (59.9)	167.7 (24.0)	9.0 (3.0)	532.9 (101.8)
2015	173.7	47.9	89.8	18.0	329.3
2017	275.5 (59.9)	6.0 (0.0)	9.0 (3.0)	3.0 (3.0)	293.4 (59.9)
2019	434.1 (128.7)	110.8 (32.9)	9.0 (3.0)	3.0 (3.0)	556.9 (155.7)
2021	254.5 (21.0)	365.3 (6.0)	21.0 (21.0)	3.0 (3.0)	643.7 (44.9)
2023	254.5 (44.9)	125.8 (18.0)	21.0 (3.0)		401.2 (24.0)
Mean	252.4 (29.6)	155.3 (31.5)	52.6 (16.6)	6.4 (1.7)	466.6 (37.7)

uftg05wh.d11-d12, uftg04wh.d14, uftg05wh.d15-23

Table 71. Length frequency and CPUE (fish/hr) of fish collected in three, 10-min electrofishing runs at Maysville-Mason County Recreation Park Lake on 16 May 2023.

Species	Inch class																				Total	CPUE	Std. error
	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21			
Bluegill	4	25	79	84	79	2															273	544.9	78.3
Largemouth bass		4	2			1		5	4	5	11	4	7	10	2	3	2	4	1	1	66	131.7	19.3
Channel catfish							2			3			1	2							8	16.0	10.6
Green sunfish	12	1	7	2																	22	43.9	16.3
Redear sunfish					1	3															4	8.0	5.3
Longear sunfish				3																	3	6.0	3.5
White crappie						1															1	2.0	2.0
Black crappie					2																2	4.0	4.0

uftg05ma.d23

Table 72. Electrofishing CPUE data (fish/hr) for each length group of bluegill (2014-23) and redear sunfish (2019-23) collected at Maysville-Mason County Recreation Park Lake. Redear sunfish were first stocked in 2018. Standard errors are in parentheses.

Year	Length group (in)				Total
	< 3.0	3.0 - 5.9	6.0 - 7.9	≥ 8.0	
Bluegill					
2014	67.9 (33.2)	682.6 (129.7)	135.7 (29.0)		886.2 (181.2)
2015	16.0 (5.3)	437.1 (88.2)	47.9 (21.6)		501.0 (100.9)
2016	24.0 (6.0)	928.1 (251.5)	9.0 (9.0)		961.1 (266.5)
2017	9.0 (3.0)	158.7 (50.9)	32.9 (15.0)		200.6 (38.9)
2019	47.9 (24.0)	547.9 (302.4)	56.9 (44.9)	6.0 (6.0)	652.7 (323.4)
2021	16.0 (2.0)	423.2 (41.3)	75.9 (17.1)		515.0 (55.3)
2023	8.0 (2.0)	375.3 (37.0)	161.7 (81.7)		544.9 (78.3)
Mean	27.0 (7.3)	501.3 (64.2)	81.2 (18.3)		609.5 (71.3)
Redear					
2019		44.9 (15.0)	6.0 (0.0)		50.9 (15.0)
2021		2.0 (2.0)	14.0 (8.7)	2.0 (2.0)	18.0 (9.2)
2023			8.0 (5.3)		8.0 (5.3)
Mean		12.0 (7.8)	9.7 (3.6)	0.8 (0.8)	22.5 (7.8)
uftg05ma.d14-d15, uftg04ma.d16, uftg05ma.d17-d23					

Table 73. Electrofishing CPUE data (fish/hr) for each length group of largemouth bass collected at Maysville-Mason County Recreation Park Lake from 2014-23. Standard errors are in parentheses.

Year	Length group (in)				Total
	< 8.0	8.0 - 11.9	12.0 - 14.9	≥ 15.0	
2014	14.0 (2.0)	55.9 (10.6)	14.0 (5.3)	22.0 (16.3)	105.8 (21.1)
2015	12.0 (0.0)	37.9 (10.6)	27.9 (10.6)	16.0 (13.1)	93.8 (33.2)
2016	12.0 (0.0)	18.0 (6.0)	47.9 (6.0)	18.0 (6.0)	95.8 (18.0)
2017	6.0 (0.0)	12.0 (6.0)	15.0 (3.0)	27.0 (21.0)	59.9 (24.0)
2019	15.0 (3.0)	83.8 (18.0)	62.9 (9.0)	32.9 (3.0)	194.6 (15.0)
2021	41.9 (15.8)	10.0 (5.3)	53.9 (10.4)	37.9 (4.0)	143.7 (21.6)
2023	14.0 (2.0)	27.9 (2.0)	43.9 (7.2)	45.9 (14.0)	131.7 (19.3)
Mean	17.3 (3.6)	34.6 (6.3)	37.3 (4.9)	28.9 (4.8)	118.1 (11.6)

uftg05ma.d14-d15, uftg04ma.d16, uftg05ma.d17-d23

Table 74. Length frequency and CPUE (fish/hr) of fish collected in three, 10-min electrofishing runs at Carlson Lake (Ft. Knox) on 2 May 2023.

	Inch class																						Std.
Species	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	Total	CPUE	error	
Bluegill	85	54	34	14	8	2														197	393.2	112.9	
Largemouth bass			1	1	3	5	5	6	9	28	22	8	2		1	1				92	183.6	2.0	
Channel catfish														1	2				1	4	8.0	4.0	
Green sunfish		1	1		3															5	10.0	5.3	
Redear sunfish	35	31	29	24	22	5	6	4		1										157	313.4	22.5	
White crappie		4	3	2	16		2					1								28	55.9	49.9	

uftg05cl.d23

Table 75. Electrofishing CPUE data (fish/hr) for each length group of bluegill and redear sunfish collected at Carlson Lake (Ft. Knox) from 2011-23. Standard errors are in parentheses.

	Length group (in)				
Year	< 3.0	3.0 - 5.9	6.0 - 7.9	≥ 8.0	Total
Bluegill					
2011	201.6 (125.2)	203.6 (120.2)	119.8 (85.0)	6.0 (6.0)	530.9 (180.4)
2013	4.0 (2.0)	10.0 (5.3)	8.0 (2.0)		22.0 (8.0)
2015	111.8 (85.0)	105.8 (70.2)	43.9 (20.8)		261.5 (137.3)
2017	67.9 (22.2)	323.4 (15.8)	51.9 (5.3)		443.1 (33.0)
2019	127.7 (62.4)	403.2 (102.6)	20.0 (17.1)		550.9 (152.9)
2021	61.9 (23.0)	149.7 (53.2)	16.0 (2.0)	2.0 (2.0)	229.5 (75.1)
2023	169.7 (79.5)	203.6 (60.6)	20.0 (8.0)		393.2 (112.9)
Mean	106.4 (26.2)	199.9 (35.6)	39.9 (13.4)	1.1 (0.9)	347.3 (53.6)
Redear					
2011	16.0 (13.1)	51.9 (16.3)	26.0 (2.0)	109.8 (19.7)	203.6 (12.0)
2013		91.8 (19.0)	37.9 (17.7)	14.0 (7.2)	143.7 (36.1)
2015	6.0 (3.5)	95.8 (24.9)	89.8 (44.9)	4.0 (4.0)	195.6 (32.9)
2017	2.0 (2.0)	103.8 (20.3)	63.9 (27.7)	47.9 (22.7)	217.6 (19.0)
2019	49.9 (27.9)	277.5 (40.5)	91.8 (31.9)	161.7 (52.3)	580.8 (92.2)
2021	10.0 (5.3)	101.8 (21.0)	61.9 (5.3)	65.9 (12.5)	239.5 (3.5)
2023	69.9 (19.7)	167.7 (28.3)	53.9 (15.8)	22.0 (8.7)	313.4 (22.5)
Mean	22.0 (7.2)	127.2 (17.4)	60.7 (9.4)	60.7 (14.0)	270.6 (32.9)

uftg05cl.d11, uftg04cl.d13, uftg05cl.d15-d23

Table 76. Electrofishing CPUE data (fish/hr) for each length group of largemouth bass collected at Carlson Lake (Ft. Knox) from 2011-23. Standard errors are in parentheses.

Year	Length group (in)				Total
	< 8.0	8.0 - 11.9	12.0 - 14.9	≥ 15.0	
2011	201.6 (35.3)	171.7 (35.0)	20.0 (5.3)	8.0 (4.0)	401.2 (63.1)
2013	10.0 (7.2)	125.8 (12.0)	49.9 (20.8)	2.0 (2.0)	187.6 (7.2)
2015	53.9 (24.9)	61.9 (4.0)	101.8 (21.0)		217.6 (13.1)
2017	27.9 (2.0)	143.7 (24.2)	143.7 (18.3)	10.0 (7.2)	325.4 (20.0)
2019	22.0 (5.3)	67.9 (17.1)	125.8 (33.0)	6.0 (0.0)	221.6 (50.9)
2021	20.0 (10.0)	159.7 (16.3)	61.9 (17.1)	6.0 (6.0)	247.5 (35.3)
2023	20.0 (8.7)	95.8 (9.2)	63.9 (7.2)	4.0 (4.0)	183.6 (2.0)
Mean	50.8 (15.1)	118.1 (10.9)	81.0 (11.0)	5.1 (1.5)	254.9 (19.9)

uftg05cl.d11, uftg04cl.d13, uftg05cl.d15-d23

Table 77. Length frequency and CPUE (fish/hr) of fish collected in one, 10-min electrofishing run at Easy Walker Park Pond on 16 May 2023. Standard errors were not calculated because only one sampling run could be completed.

	Inch class															Total	CPUE
Species	4	5	6	7	8	9	10	11	12	13	14	15	16	17			
Bluegill		4	10	9	2										25	149.7	
Largemouth bass		7	17	14	1	1	8	13	11	2		1		1	76	455.1	
Channel catfish													1		1	6.0	
Redear sunfish	1			1	2	9									13	77.8	

uftg05ew.d23

Table 78. Electrofishing CPUE data (fish/hr) for each length group of bluegill (2010-23) and redear sunfish (2019-23) collected at Easy Walker Park Pond. Redear sunfish were first stocked in 2018. Standard errors are in parentheses.

	Length group (in)				
Year	< 3.0	3.0 - 5.9	6.0 - 7.9	≥ 8.0	Total
Bluegill					
2010	59.9	179.6	12.0		251.5
2012		64.7	123.5		188.2
2014		107.8	89.8		197.6
2016		209.6	35.9		245.5
2019		335.3	287.4		622.8
2021		47.9	59.9		107.8
2023		24.0	113.8	12.0	149.7
Mean	8.6 (8.6)	138.6 (41.7)	103.5 (34.3)	1.7 (1.7)	252.4 (64.6)
Redear					
2019		77.8	12.0		89.8
2021		24.0	323.4	59.9	407.2
2023		6.0	6.0	65.9	77.8
Mean		35.9 (21.6)	113.8 (104.8)	41.9 (21.0)	191.6 (107.8)
uftg04ew.d10-d12, uftg05ew.d14, uftg04ew.d16, uftg05ew.d19-d23					

Table 79. Electrofishing CPUE data (fish/hr) for each length group of largemouth bass collected at Easy Walker Park Pond from 2010-23. Standard errors are in parentheses.

Year	Length group (in)				Total
	< 8.0	8.0 - 11.9	12.0 - 14.9	≥ 15.0	
2010	233.5	263.5	12.0		509.0
2012	17.7	335.3	64.7	5.9	423.5
2014	24.0	83.3	47.9		155.7
2016	101.8	179.6	29.9	29.9	341.3
2019	6.0		6.0	35.9	47.9
2021	263.5	143.7	29.9		437.1
2023	227.5	137.7	77.8	12.0	455.1
Mean	124.9 (43.1)	164.2 (42.5)	38.5 (10.1)	12.0 (5.7)	339.6 (65.3)

uftg04ew.d10-d12, uftg05ew.d14, uftg04ew.d16, uftg05ew.d19-d23

Table 80. Length frequency and CPUE (fish/net set) of channel/hybrid catfish collected by baited-tandem hoop nets (three sets; 72-hr soak time) that were set at Robert J. Barth Lake on 6 October 2023. 3

	Inch class																
Year	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	Total	CPUE
2023	3	5	9	11	16	13	19	9	3	10	4		1		1	104	34.7
ufcf10rb.d23																	

Table 81. Number of fish and the relative weight (Wr) for each length group of channel/hybrid catfish collected by baited-tandem hoop nets (three sets; 72-hr soak time) that were set at Robert J. Barth Lake in 2023. Standard errors are in parentheses.

Year	Length group (in)								Total	
	7.0 - 10.9		11.0 - 15.9		16.0 - 23.9		≥ 24			
	No.	Wr	No.	Wr	No.	Wr	No.	Wr	No.	Wr
2023	8	89 (4)	68	79 (1)	28	82 (1)			104	81 (1)
ufcf10rb.d23										

Table 82. Length frequency and CPUE (fish/net set) of channel/hybrid catfish collected by baited-tandem hoop nets (three sets; 72-hr soak time) that were set at Southgate Lake on 6 October 2023. Additional samples were collected in 2015, 2018 and 2020.

Year	Inch class														Total	CPUE
	9	10	11	12	13	14	15	16	17	18	19	20	21			
2015	1	7	16	20	15	8	6	3	1			2	1		80	40.0
2018						1	1								2	0.7
2020				1	2	1									4	1.3
2023	3	5	9	15	9	9	3	2	4	2	1				62	20.7

ufcf10sg.d15-d20

Table 83. Number of fish and the relative weight (Wr) for each length group of channel/hybrid catfish collected by baited-tandem hoop nets (three sets; 72-hr soak time) that were set at Southgate Lake from 2015-23. Standard errors are in parentheses.

Year	Length group (in)								Total	
	7.0 - 10.9		11.0 - 15.9		16.0 - 23.9		≥ 24			
	No.	Wr	No.	Wr	No.	Wr	No.	Wr	No.	Wr
2015	8	85 (3)	65	82 (1)	7	103 (3)			80	84 (1)
2018			2	89 (1)					2	89 (1)
2020			4	88 (4)					4	88 (4)
2023	8	79 (3)	45	80 (1)	9	84 (5)			62	81 (1)

ufcf10sg.d15-d23

Table 84. Length frequency and CPUE (fish/net set) of channel/hybrid catfish collected by baited-tandem hoop nets (three sets; 72-hr soak time) that were set at Panther Creek Park Lake on 19 October 2023. Additional samples were collected in 2013, 2016, 2019 and 2021.

Year	Inch class																				Total	CPUE
	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25			
2013				2	11	20	17	13	10	4	2	1		1		1				82	27.3	
2016					1	3		3	1	1	2		1	1						13	4.3	
2019	1	1	7	7	3	13	15	13	8	9	3	8	4	2		1		2	1	98	32.7	
2021					2	2	11	6	3	4	2	3	1							34	11.3	
2023					1			1												2	0.7	

ufcf09pc.d13, ufcf10pc.d16-d23

Table 85. Number of fish and the relative weight (Wr) for each length group of channel/hybrid catfish collected by baited-tandem hoop nets (three sets; 72-hr soak time) that were set at Panther Creek Park Lake from 2013-23. Standard errors are in parentheses.

Year	Length group (in)								Total	
	7.0 - 10.9		11.0 - 15.9		16.0 - 23.9		≥ 24			
	No.	Wr	No.	Wr	No.	Wr	No.	Wr	No.	Wr
2013	2	101 (4)	71	90 (1)	9	95 (5)			82	91 (1)
2016			8	90 (3)	5	99 (5)			13	93 (3)
2019	16	96 (3)	52	92 (1)	27	97 (3)	3	105 (11)	98	94 (1)
2021			24	83 (1)	10	86 (3)			34	84 (1)
2023			2	94 (3)					2	94 (3)

ufcf09pc.d13, ufcf10pc.d16-d23

Table 86. Length frequency and CPUE (fish/net set) of channel/hybrid catfish collected by baited-tandem hoop nets (three sets; 72-hr soak time) that were set at Waymond Morris Park Lake on 19 October 2023. Additional samples were collected in 2013, 2016 and 2019.

Year	Inch class												Total	CPUE
	9	10	11	12	13	14	15	16	17	18	19	20		
2013	6	1	3	1	2	2							15	5.0
2016			1	2	5	2		1					11	3.7
2019	1	6	5	18	15	13	6	5	3	5	2	2	81	27.0
2023	1	7	10	10	6	4	1	1		1			41	13.7

ufcf09wm.d13, ufcf10wm.d16-d23

Table 87. Number of fish and the relative weight (Wr) for each length group of channel/hybrid catfish collected by baited-tandem hoop nets (three sets; 72-hr soak time) that were set at Waymond Morris Park Lake from 2013-23. Standard errors are in parentheses.

Year	Length group (in)								Total	
	7.0 - 10.9		11.0 - 15.9		16.0 - 23.9		≥ 24			
	No.	Wr	No.	Wr	No.	Wr	No.	Wr	No.	Wr
2013	7	96 (3)	8	84 (3)					15	89 (2)
2016			10	84 (3)	1	78			11	84 (2)
2019	7	84 (4)	57	89 (2)	17	95 (3)			81	90 (2)
2023	8	81 (2)	31	85 (1)	2	87 (4)			41	84 (1)

ufcf09wm.d13, ufcf10wm.d16-d23

Table 88. Length frequency and CPUE (fish/net set) of channel/hybrid catfish collected by baited-tandem hoop nets (three sets; 72-hr soak time) that were set at Yellow Creek Park Lake on 19 October 2023. Additional samples were collected in 2013, 2016, 2019 and 2021.

Year	Inch class																Total	CPUE
	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23		
2013		1	9	24	54	46	25	12	6	3		1	1			1	183	61.0
2016				1	2	2	3	1	1	2	1		1				14	4.7
2019		2	7	4	13	17	20	23	11	4	5	2	1		1	1	111	37.0
2021				7	19	39	44	27	11	13	6	2	2	1		1	172	57.3
2023		3	8	4	5	12	8	3	2	1		3	1				50	16.7

ufcf09yc.d13, ufcf10yc.d16-d23

Table 89. Number of fish and the relative weight (Wr) for each length group of channel/hybrid catfish collected by baited-tandem hoop nets (three sets; 72-hr soak time) that were set at Yellow Creek Park Lake from 2013-23. Standard errors are in parentheses.

Year	Length group (in)								Total	
	7.0 - 10.9		11.0 - 15.9		16.0 - 23.9		≥ 24			
	No.	Wr	No.	Wr	No.	Wr	No.	Wr	No.	Wr
2013	10	98 (3)	160	89 (1)	12	87 (2)			182	89 (1)
2016	1	100	8	92 (3)	4	99 (6)			13	95 (3)
2019	13	106 (3)	84	93 (2)	14	98 (3)			111	95 (2)
2021	6	89 (4)	89	81 (1)	25	81 (1)			120	81 (1)
2023	11	104 (7)	32	88 (2)	7	93 (3)			50	92 (2)

ufcf09yc.d13, ufcf10yc.d16-d23

Table 90. Length frequency and CPUE (fish/net set) of channel/hybrid catfish collected by baited-tandem hoop nets (three sets; 72-hr soak time) that were set at Kentucky Horse Park Rolex Lake on 20 October 2023. Additional samples were collected in 2017, 2018 and 2021.

Year	Inch class																		Total	CPUE
	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
2017	3	56	189	421	274	108	108	54	37	13	6	5	7	4	1	1			1,287	437.0
2018		9	44	140	190	176	88	58	19	7	4				1	1			737	245.7
2021		1	13	53	68	74	52	37	18	13	6	6					1		342	114.0
2023			1	6	15	19	34	50	43	35	23	14	9	2		2	1	1	255	85.0

ufcf10rl.d17-d23

Table 91. Number of fish and the relative weight (Wr) for each length group of channel/hybrid catfish collected by baited-tandem hoop nets (three sets; 72-hr soak time) that were set at Kentucky Horse Park Rolex Lake from 2017-23. Standard errors are in parentheses.

Year	Length group (in)								Total	
	7.0 - 10.9		11.0 - 15.9		16.0 - 23.9		≥ 24			
	No.	Wr	No.	Wr	No.	Wr	No.	Wr	No.	Wr
2017	90	98 (3)	108	85 (1)	18	85 (2)			216	90 (1)
2018	36	94 (2)	148	84 (1)	13	82 (3)			197	86 (1)
2021	67	86 (1)	249	80 (0)	26	80 (2)			342	81 (0)
2023	7	96 (7)	161	83 (1)	86	80 (1)	1	107	255	83 (1)

ufcf10rl.d17-d23

Table 92. Length frequency and CPUE (fish/net set) of channel/hybrid catfish collected by baited-tandem hoop nets (three sets; 72-hr soak time) that were set at Jacobson Park Lake on 20 October 2023. Additional samples were also collected in 2012, 2014, 2015, 2017 and 2020.

Year	Inch class																		Total	CPUE
	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
2012		1	2				1					1				2			7	2.3
2014		6	15	39	77	103	91	46	31	26	11	7	4	3	5	2	1	2	469	156.3
2015				2	6	16	23	24	7	9	3	1	1	1	1			1	95	31.7
2017	1	21	224	107	24	18	32	28	19	7	5	3	6	1	1	2			499	166.3
2020			1		2	10	15	8	11	5	2				1				55	18.3
2023		4	56	105	85	58	40	22	14	2	2	1	1		2				392	131.7

ufcf10jp.d12-d15, ufcf09jp.d17, ufcf10jp.d20-d23

Table 93. Number of fish and the relative weight (Wr) for each length group of channel/hybrid catfish collected by baited-tandem hoop nets (three sets; 72-hr soak time) that were set at Jacobson Park Lake from 2012-23. Standard errors are in parentheses.

Year	Length group (in)								Total	
	7.0 - 10.9		11.0 - 15.9		16.0 - 23.9		≥ 24			
	No.	Wr	No.	Wr	No.	Wr	No.	Wr	No.	Wr
2012	3	106 (9)	1	78	3	103 (3)			7	101 (5)
2014	32	101 (2)	126	93 (1)	58	98 (2)	2	100 (18)	218	95 (1)
2015	2	98 (2)	76	91 (1)	16	97 (3)	1	105	95	92 (1)
2017	56	89 (2)	46	83 (1)	17	83 (3)			119	86 (1)
2020	1	106	46	99 (1)	8	94 (2)			55	98 (1)
2023	70	92 (2)	108	86 (1)	8	102 (6)			186	89 (1)

ufcf10jp.d12-d15, ufcf09jp.d17, ufcf10jp.d20-d23

Table 94. Length frequency and CPUE (fish/net set) of channel/hybrid catfish collected by baited-tandem hoop nets (three sets; 72-hr soak time) that were set at James D. Beville Park Lake on 19 October 2023. Additional samples were collected in 2015, 2019 and 2021.

Year	Inch class															Total	CPUE
	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22		
2015		1	1	8	30	45	42	21	16	3			1			168	56.0
2019			1		2	6	4	8	8	4		2	1			36	12.0
2021	1	15	26	37	63	55	52	39	29	9	1	1	1		1	330	110.0
2023		9	14	21	31	26	34	36	23	23	6	8	2			236	78.7

ufcf10jb.d15-d23

Table 95. Number of fish and the relative weight (Wr) for each length group of channel/hybrid catfish collected by baited-tandem hoop nets (three sets; 72-hr soak time) that were set at James D. Beville Park Lake from 2015-23. Standard errors are in parentheses.

Year	Length group (in)								Total	
	7.0 - 10.9		11.0 - 15.9		16.0 - 23.9		≥ 24			
	No.	Wr	No.	Wr	No.	Wr	No.	Wr	No.	Wr
2015	2	90 (13)	146	87 (1)	19	89 (2)			167	88 (1)
2019	1	87	20	85 (3)	15	90 (3)			36	87 (2)
2021	31	82 (1)	112	77 (1)	32	79 (1)			175	78 (1)
2023	23	95 (2)	148	84 (1)	65	81 (1)			236	84 (1)

ufcf10jb.d15-d23

Table 96. Length frequency and CPUE (fish/net set) of channel/hybrid catfish collected by baited-tandem hoop nets (three sets; 72-hr soak time) that were set at Kingdom Come State Park Lake on 12 October 2023. Additional samples were collected in 2014, 2016 and 2020.

Year	Inch class													Total	CPUE
	8	9	10	11	12	13	14	15	16	17	18	19			
2014	2				1								3	1.0	
2016		2	9	5	3	1							20	6.7	
2020				2	7	11	4	3	3				30	10.0	
2023				5	5	8	2	1				1	22	7.3	

ufcf10kc.d14, ufcf09kc.d16, ufcf10kc.d20-d23

Table 97. Number of fish and the relative weight (Wr) for each length group of channel/hybrid catfish collected by baited-tandem hoop nets (three sets; 72-hr soak time) that were set at Kingdom Come State Park Lake from 2014-23. Standard errors are in parentheses.

Year	Length group (in)								Total	
	7.0 - 10.9		11.0 - 15.9		16.0 - 23.9		≥ 24			
	No.	Wr	No.	Wr	No.	Wr	No.	Wr	No.	Wr
2014	2	85 (5)	1	106					3	92 (7)
2016	11	98 (8)	9	100 (4)					20	99 (5)
2020			27	82 (2)	3	83 (2)			30	82 (2)
2023			21	90 (2)	1	100			22	90 (2)

ufcf10kc.d23

Table 98. Length frequency and CPUE (fish/net set) of channel/hybrid catfish collected by baited-tandem hoop nets (three sets; 72-hr soak time) that were set at Fisherman's Park Lake #3 on 13 October 2023. Additional samples were collected in 2014, 2017 and 2020.

Year	Inch class														Total	CPUE
	8	9	10	11	12	13	14	15	16	17	18	19	20	21		
2014	13	43	72	49	40	12	10	2	2	2	1	1		1	248	82.7
2017		1	4	3	9	10	12	8	8	5	6	2	1		69	23.0
2020					1	1		2							4	1.3
2023				1		2	7	5	3	1	1	1			21	7.0

ufcf10fp.d14-d23

Table 99. Number of fish and the relative weight (Wr) for each length group of channel/hybrid catfish collected by baited-tandem hoop nets (three sets; 72-hr soak time) that were set at Fisherman's Park Lake #3 from 2014-23. Standard errors are in parentheses.

Year	Length group (in)								Total	
	7.0 - 10.9		11.0 - 15.9		16.0 - 23.9		≥ 24			
	No.	Wr	No.	Wr	No.	Wr	No.	Wr	No.	Wr
2014	128	93 (2)	113	87 (1)	7	73 (11)			249	90 (1)
2017	5	89 (2)	45	85 (1)	22	92 (2)			68	87 (1)
2020			4	78 (2)					4	78 (2)
2023			15	82 (2)	6	80 (4)			21	81 (2)

ufcf10fp.d14-d23

Table 100. Length frequency and CPUE (fish/net set) of channel/hybrid catfish collected by baited-tandem hoop nets (three sets; 72-hr soak time) that were set at William F. Miles Angler Lake on 13 October 2023. Additional samples were collected in 2014, 2017 and 2020.

Year	Inch class														Total	CPUE
	8	9	10	11	12	13	14	15	16	17	18	19	20	21		
2014	20	68	53	29	14	13	7	5	10	1	3	2		1	226	75.3
2017		2	1		5	2	4	3	6	1	1				25	8.3
2020					2	1			1	1	1				6	2.0
2023	1	1	1	1	2	1		1	1			1			10	3.3

ufcf10mp.d14-d23

Table 101. Number of fish and the relative weight (Wr) for each length group of channel/hybrid catfish collected by baited-tandem hoop nets (three sets; 72-hr soak time) that were set at William F. Miles Angler Lake from 2014-23. Standard errors are in parentheses.

Year	Length group (in)								Total	
	7.0 - 10.9		11.0 - 15.9		16.0 - 23.9		≥ 24			
	No.	Wr	No.	Wr	No.	Wr	No.	Wr	No.	Wr
2014	141	92 (1)	62	85 (1)	17	87 (2)			220	90 (1)
2017	3	116 (1)	14	91 (2)	8	91 (5)			25	94 (3)
2020			3	84 (5)	3	83 (3)			6	83 (3)
2023	3	92 (5)	5	83 (3)	2	94 (12)			10	88 (3)

ufcf10mp.d14-d23

Table 102. Length frequency and CPUE (fish/net set) of channel/hybrid catfish collected by baited-tandem hoop nets (three sets; 72-hr soak time) that were set at Prisoners Lake on 6 October 2023. Additional samples were collected in 2013, 2016, 2019 and 2021.

Year	Inch class																	Total	CPUE
	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23		
2013	1	2	23	16	14	12	5	4		2	1	1		1				82	27.3
2016		2	2	22	10	6	9	6	2		2							61	20.3
2019		3	14	15	25	31	71	56	40	20	18	17	10	4	1	3		328	109.3
2021	3	6	9	18	12	23	32	17	19	10	8	4	3			1		165	55.0
2023		2	11	13	27	54	48	43	25	23	18	6	7	2		1	1	281	93.7

ufcf10pl.d13-d23

Table 103. Number of fish and the relative weight (Wr) for each length group of channel/hybrid catfish collected by baited-tandem hoop nets (three sets; 72-hr soak time) that were set at Prisoners Lake from 2013-23. Standard errors are in parentheses.

Year	Length group (in)								Total	
	7.0 - 10.9		11.0 - 15.9		16.0 - 23.9		≥ 24			
	No.	Wr	No.	Wr	No.	Wr	No.	Wr	No.	Wr
2013	42	91 (2)	35	84 (2)	15	81 (6)			82	88 (1)
2016	25	98 (3)	33	86 (2)	2	100 (0)			60	92 (2)
2019	25	82 (2)	92	77 (1)	63	82 (1)			180	80 (1)
2021	36	99 (5)	103	81 (2)	26	78 (1)			165	85 (2)
2023	26	88 (2)	197	75 (1)	58	79 (1)			281	77 (1)

ufcf10pl.d13-d23

Table 104. Length frequency and CPUE (fish/net set) of channel/hybrid catfish collected by baited-tandem hoop nets (three sets; 72-hr soak time) that were set at Brickyard Pond on 12 October 2023. Additional samples were collected in 2013, 2016 and 2020.

Year	Inch class																	Total	CPUE
	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
2013	4	16	32	31	41	31	11	7	7	7	4	2	5	1				199	66.3
2016			1		1	1	3	1		1		1						9	3.0
2020																		0	
2023		7	22	31	39	40	35	22	18	13	9	3	1		1		1	242	80.7

ufcf09bp.d13-d23

Table 105. Number of fish and the relative weight (Wr) for each length group of channel/hybrid catfish collected by baited-tandem hoop nets (three sets; 72-hr soak time) that were set at Brickyard Pond from 2013-23. Standard errors are in parentheses.

Year	Length group (in)								Total	
	7.0 - 10.9		11.0 - 15.9		16.0 - 23.9		≥ 24			
	No.	Wr	No.	Wr	No.	Wr	No.	Wr	No.	Wr
2013	52	97 (2)	121	85 (1)	26	82 (2)			199	88 (1)
2016	1	110	6	86 (3)	2	108 (5)			9	94 (4)
2020									0	
2023	2	102 (4)	35	89 (2)	45	90 (2)	1	114	83	90 (1)

ufcf09bp.d13-d23

Table 106. Length frequency and CPUE (fish/net set) of channel/hybrid catfish collected by baited-tandem hoop nets (three sets; 72-hr soak time) that were set at Easy Walker Park Pond on 5 October 2023. Additional samples were collected in 2014, 2016 and 2020.

Year	Inch class											Total	CPUE
	10	11	12	13	14	15	16	17	18	19	20		
2014	2	1	6	5	4	5						23	7.7
2016			1	8	4	7	2	1	1		1	25	8.3
2020												0	
2023		3	2		1	1			1			8	2.7

ufcf09ew.d14, ufcf10ew.d16-d23

Table 107. Number of fish and the relative weight (Wr) for each length group of channel/hybrid catfish collected by baited-tandem hoop nets (three sets; 72-hr soak time) that were set at Easy Walker Park Pond from 2014-23. Standard errors are in parentheses.

Year	Length group (in)								Total	
	7.0 - 10.9		11.0 - 15.9		16.0 - 23.9		≥ 24			
	No.	Wr	No.	Wr	No.	Wr	No.	Wr	No.	Wr
2014	2	101 (11)	21	100 (2)					23	100 (2)
2016			20	90 (2)	5	89 (4)			25	90 (2)
2020									0	
2023			7	93 (4)	1	100			8	94 (4)

ufcf09ew.d14, ufcf10ew.d16-d23

Table 108. Length frequency and CPUE (fish/net set) of channel/hybrid catfish collected by baited-tandem hoop nets (three sets; 72-hr soak time) that were set at Lusby Lake on 5 October 2023. Additional samples were collected in 2014, 2017 and 2020.

Year	Inch class																				Total	CPUE	
	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28			29
2014	1	2	4	28	39	46	25	9	4	1												159	53.0
2017					1	6	6	8	4	3	3	1										32	10.7
2020						1	2	1														4	1.3
2023		3	11	12	20	22	18	22	11	6	5	1	1	1							1	134	44.7

ufcf09ll.d14, ufcf10ll.d17-d23

Table 109. Number of fish and the relative weight (Wr) for each length group of channel/hybrid catfish collected by baited-tandem hoop nets (three sets; 72-hr soak time) that were set at Lusby Lake from 2014-23. Standard errors are in parentheses.

Year	Length group (in)								Total	
	7.0 - 10.9		11.0 - 15.9		16.0 - 23.9		≥ 24			
	No.	Wr	No.	Wr	No.	Wr	No.	Wr	No.	Wr
2014	3	120 (3)	142	97 (1)	14	97 (3)			159	98 (1)
2017			13	87 (2)	19	90 (2)			32	89 (2)
2020			3	89 (5)	1	90			4	89 (3)
2023	3	95 (1)	83	88 (1)	47	90 (2)	1	112	134	89 (1)

ufcf09ll.d14, ufcf10ll.d17-d23

Table 110. Length frequency and CPUE (fish/net set) of channel/hybrid catfish collected by baited-tandem hoop nets (three sets; 72-hr soak time) that were set at Scott County Park Lake on 5 October 2023. Additional samples were collected in 2014, 2017, and 2020.

Year	Inch class											Total	CPUE
	12	13	14	15	16	17	18	19	20	21	22		
2014		2	2	2								6	2.0
2017			3		2	1	2					8	2.7
2020	1			2	11	5	4				1	24	8.0
2023												0	

ufcf09sc.d14, ufcf10sc.d17-d23

Table 111. Number of fish and the relative weight (Wr) for each length group of channel/hybrid catfish collected by baited-tandem hoop nets (three sets; 72-hr soak time) that were set at Scott County Park Lake from 2014-23. Standard errors are in parentheses.

Year	Length group (in)								Total	
	7.0 - 10.9		11.0 - 15.9		16.0 - 23.9		≥ 24			
	No.	Wr	No.	Wr	No.	Wr	No.	Wr	No.	Wr
2014			6	93 (1)					6	93 (1)
2017			3	91 (4)	5	99 (2)			8	96 (2)
2020			3	89 (11)	21	101 (2)			24	100 (2)
2023									0	

ufcf09sc.d14, ufcf10sc.d17-d23

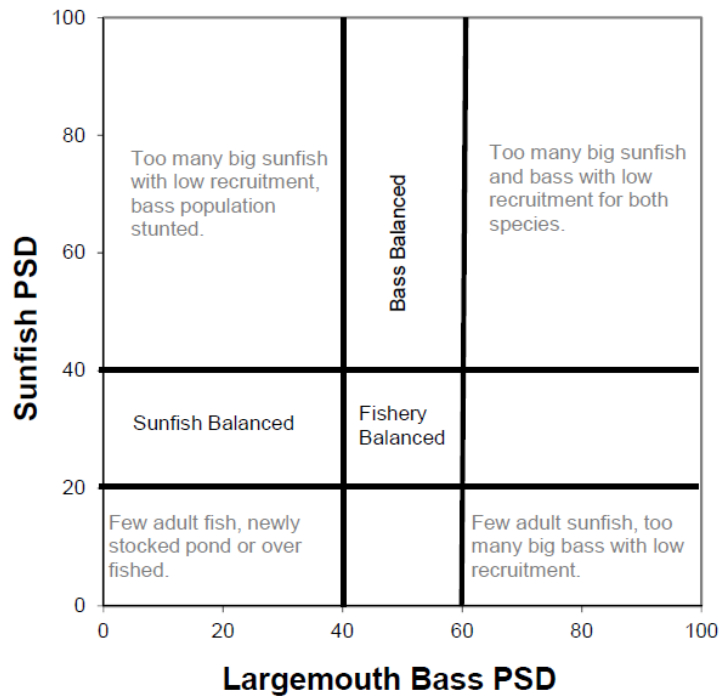


Figure 1. Generally accepted proportional stock density (PSD) index ranges for sunfish (bluegill and redear sunfish, weighted) and largemouth bass populations in small impoundments.

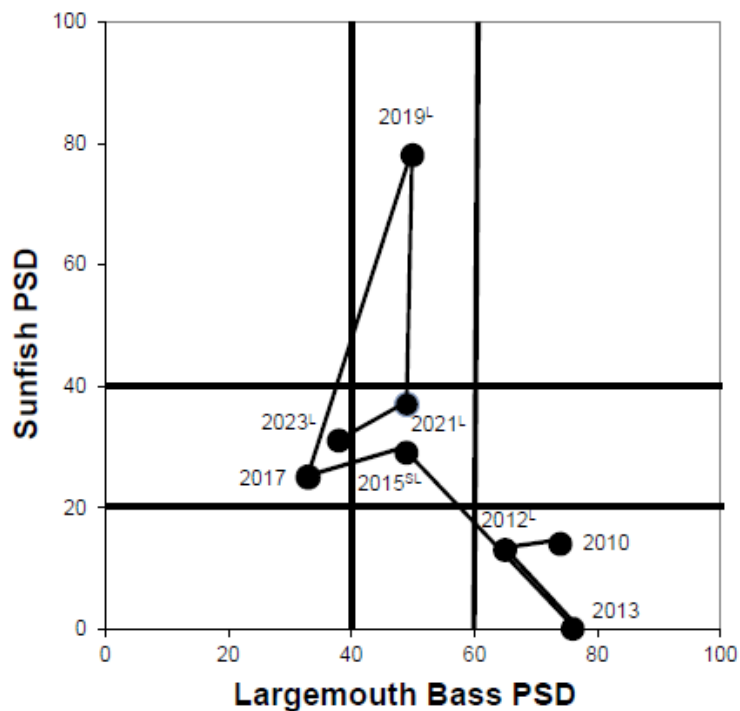


Figure 2. Proportional stock density (PSD) index for sunfish (weighted) and largemouth bass populations at Anderson County Community Park Lake from 2010-23. Superscripts denote occasions where sample size of either sunfish (^S) or largemouth bass (^L) was insufficient to estimate PSD with 90% confidence of being in one of three intervals (0-39, 40-60, 61-100).

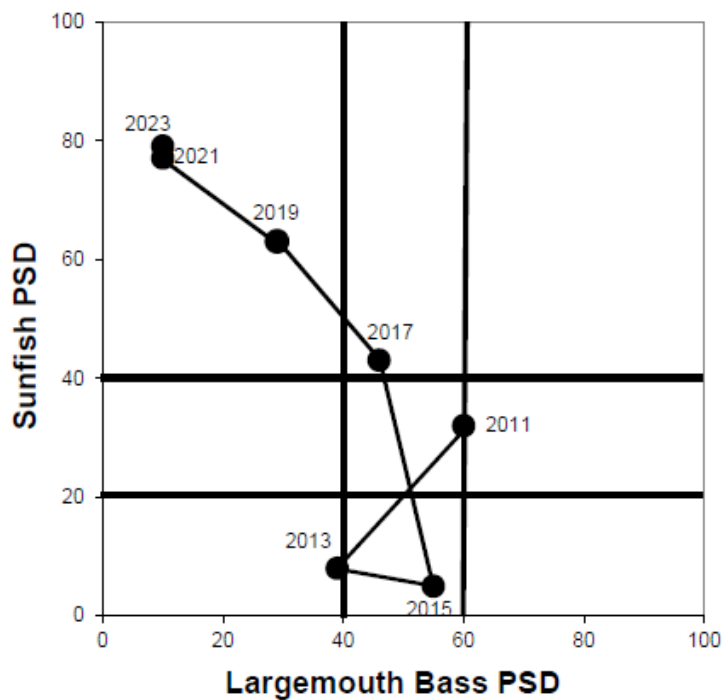


Figure 3. Proportional stock density (PSD) index for sunfish (weighted) and largemouth bass populations at Camp Ernst Lake from 2011-23.

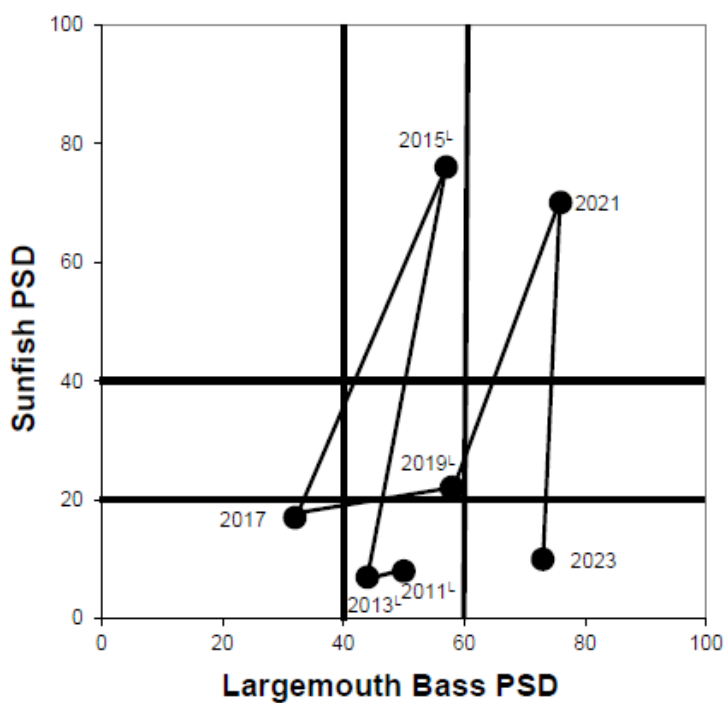


Figure 4. Proportional stock density (PSD) index for sunfish (weighted) and largemouth bass populations at Millennium Park Pond from 2011-23. Superscripts denote occasions where sample size of either sunfish (S) or largemouth bass (L) was insufficient to estimate PSD with 90% confidence of being in one of three intervals (0-39, 40-60, 61-100).

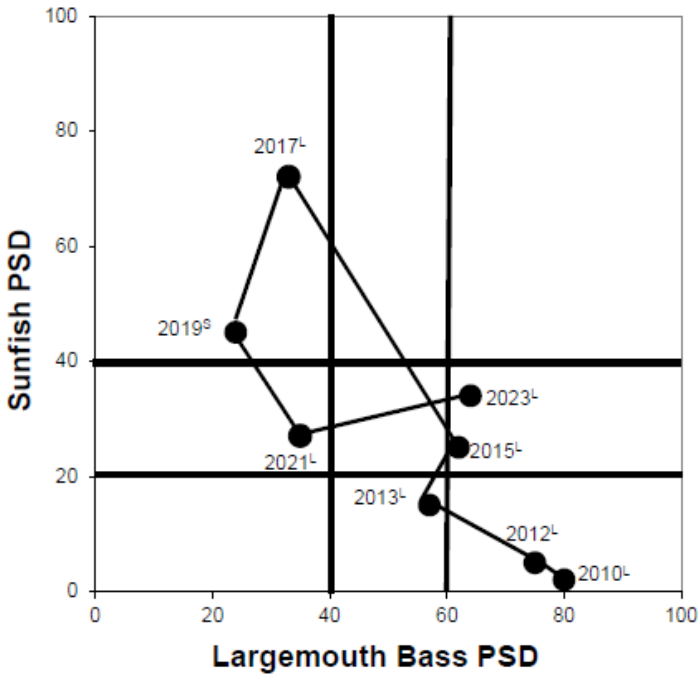


Figure 5. Proportional stock density (PSD) index for sunfish (weighted) and largemouth bass populations at Southgate Park Lake from 2010-23. Superscripts denote occasions where sample size of either sunfish (^S) or largemouth bass (^L) was insufficient to estimate PSD with 90% confidence of being in one of three intervals (0-39, 40-60, 61-100).

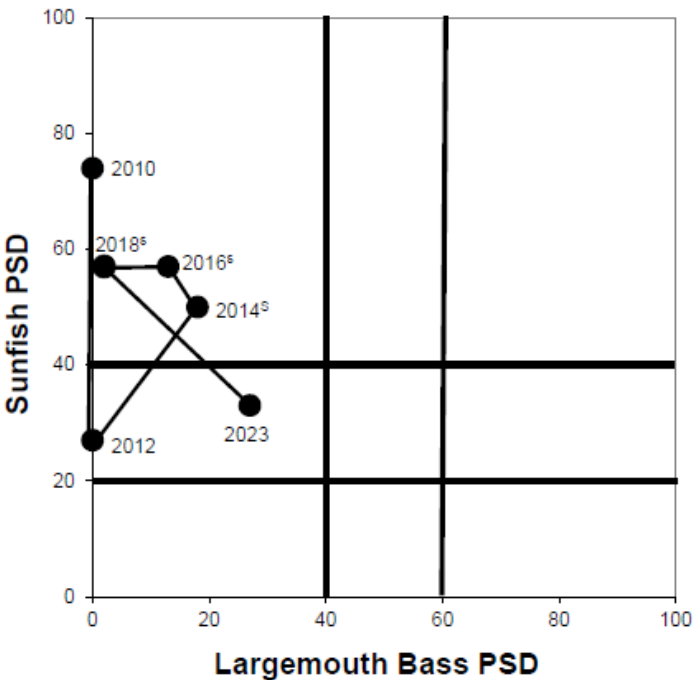


Figure 6. Proportional stock density (PSD) index for sunfish (weighted) and largemouth bass populations at Yellow Creek Park Lake from 2010-23. Superscripts denote occasions where sample size of either sunfish (^S) or largemouth bass (^L) was insufficient to estimate PSD with 90% confidence of being in one of three intervals (0-39, 40-60, 61-100).

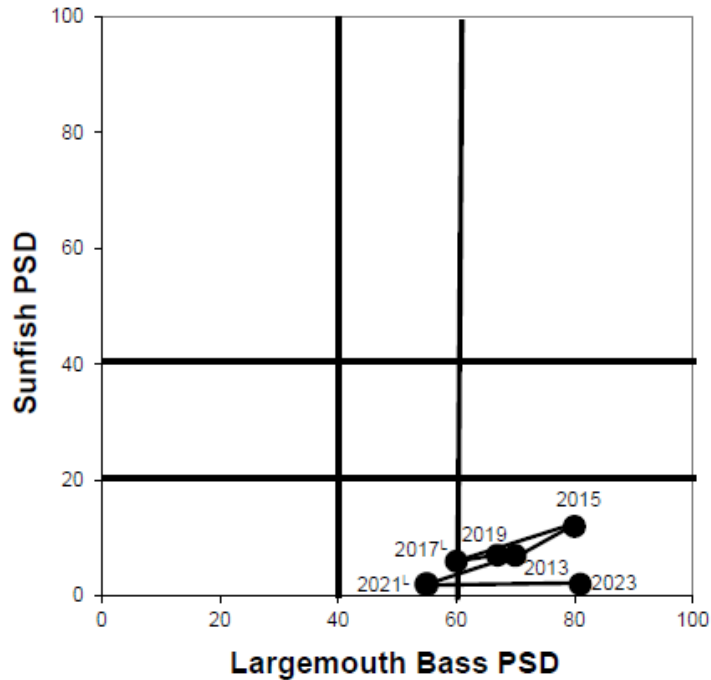


Figure 7. Proportional stock density (PSD) index for sunfish (weighted) and largemouth bass populations at Jacobson Park Lake from 2013-23. Superscripts denote occasions where sample size of either sunfish (^S) or largemouth bass (^L) was insufficient to estimate PSD with 90% confidence of being in one of three intervals (0-39, 40-60, 61-100).

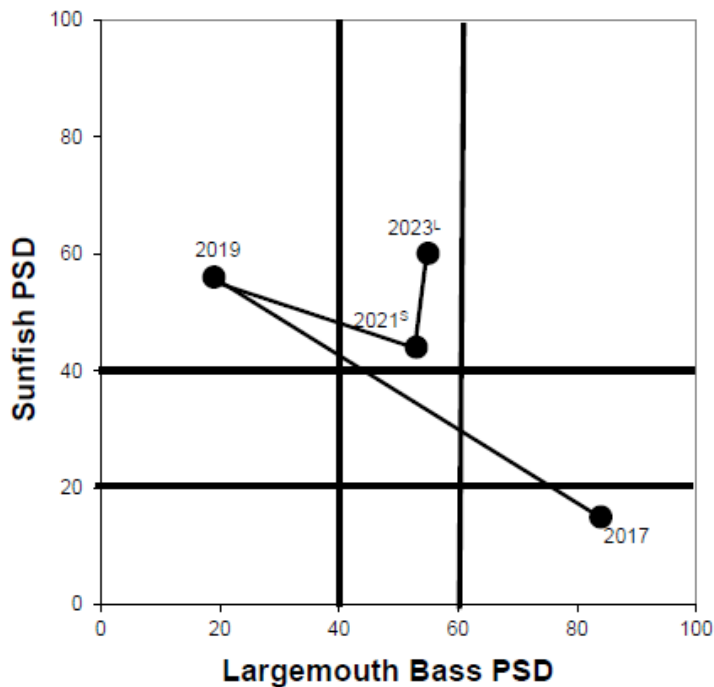


Figure 8. Proportional stock density (PSD) index for sunfish (weighted) and largemouth bass populations at Flemingsburg Old Reservoir from 2017-23. Superscripts denote occasions where sample size of either sunfish (^S) or largemouth bass (^L) was insufficient to estimate PSD with 90% confidence of being in one of three intervals (0-39, 40-60, 61-100).

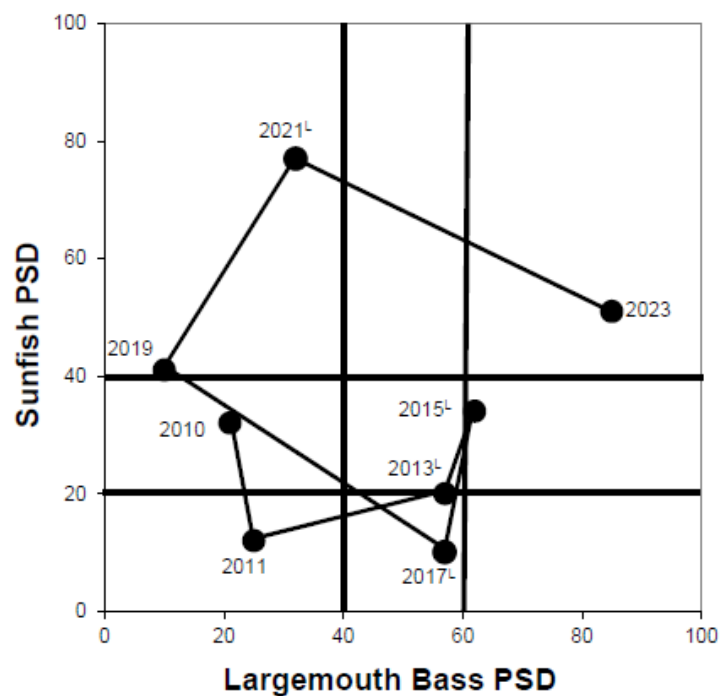


Figure 9. Proportional stock density (PSD) index for sunfish (weighted) and largemouth bass populations at Lake Pollywog from 2010-23. Superscripts denote occasions where sample size of either sunfish (^S) or largemouth bass (^L) was insufficient to estimate PSD with 90% confidence of being in one of three intervals (0-39, 40-60, 61-100).

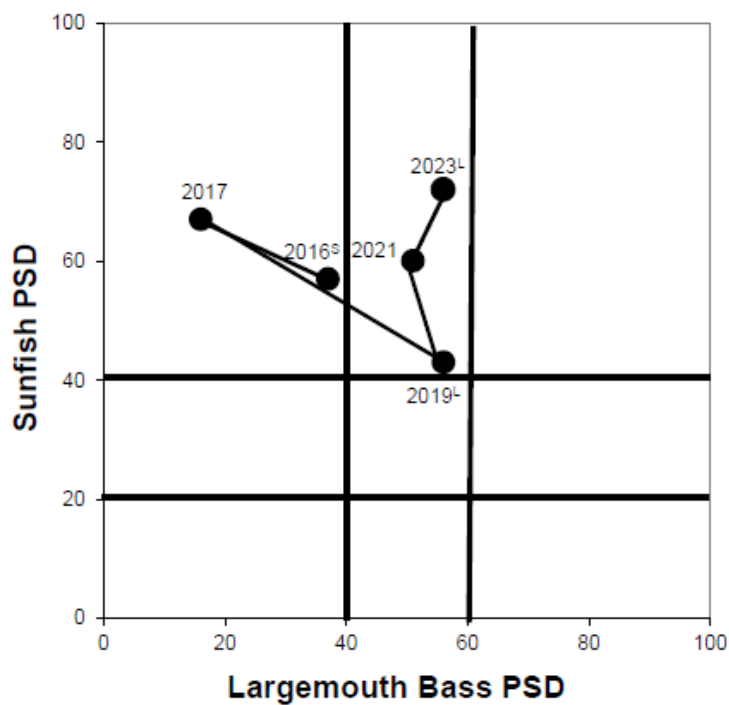


Figure 10. Proportional stock density (PSD) index for sunfish (weighted) and largemouth bass populations at Leary Lake from 2016-23. Superscripts denote occasions where sample size of either sunfish (^S) or largemouth bass (^L) was insufficient to estimate PSD with 90% confidence of being in one of three intervals (0-39, 40-60, 61-100).

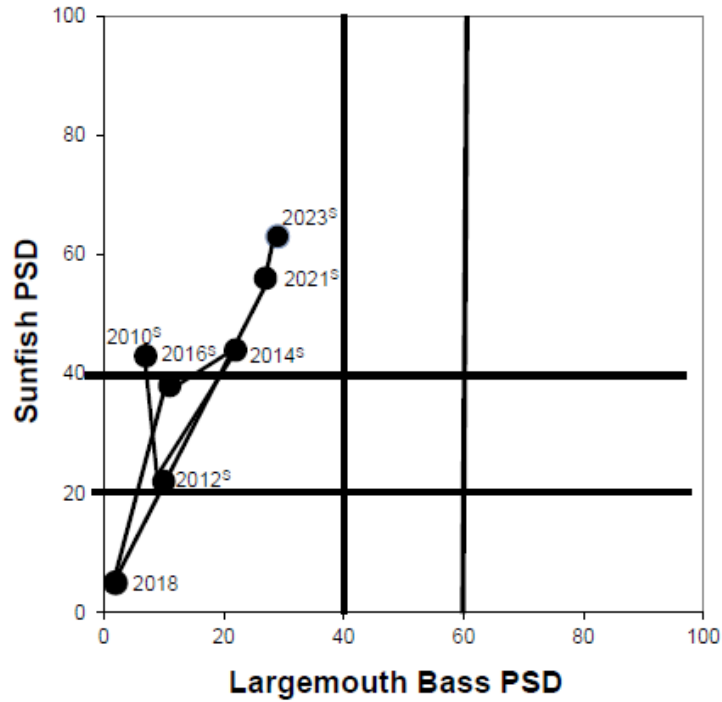


Figure 11. Proportional stock density (PSD) index for sunfish (weighted) and largemouth bass populations at Kingdom Come State Park Lake from 2010-23. Superscripts denote occasions where sample size of either sunfish (^S) or largemouth bass (^L) was insufficient to estimate PSD with 90% confidence of being in one of three intervals (0-39, 40-60, 61-100).

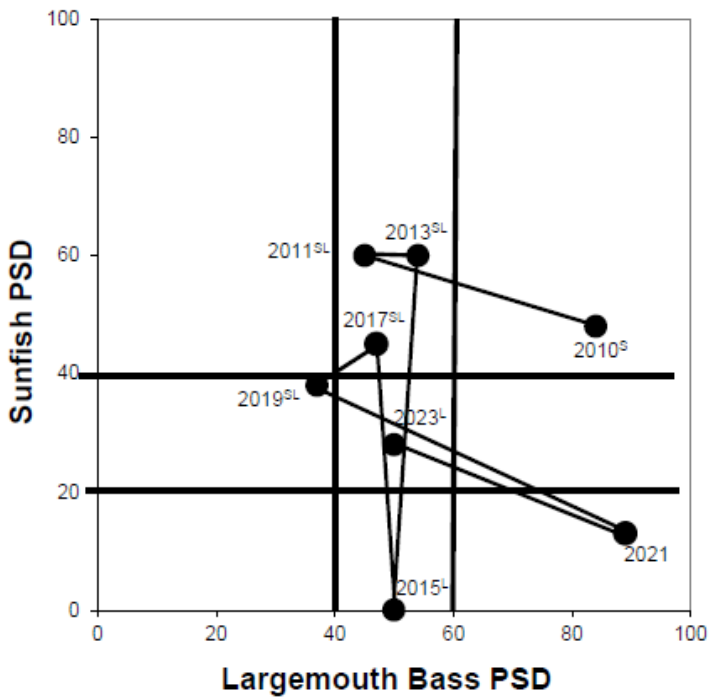


Figure 12. Proportional stock density (PSD) index for sunfish (weighted) and largemouth bass populations at Cherokee Park Lake from 2010-23. Superscripts denote occasions where sample size of either sunfish (^S) or largemouth bass (^L) was insufficient to estimate PSD with 90% confidence of being in one of three intervals (0-39, 40-60, 61-100).

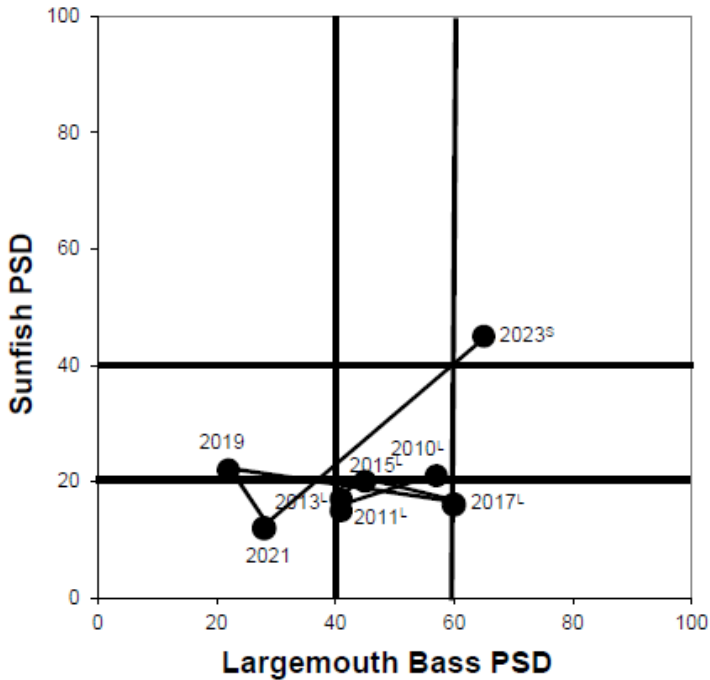


Figure 13. Proportional stock density (PSD) index for sunfish (weighted) and largemouth bass populations at Fisherman's Park Lake #3 from 2010-23. Superscripts denote occasions where sample size of either sunfish (^S) or largemouth bass (^L) was insufficient to estimate PSD with 90% confidence of being in one of three intervals (0-39, 40-60, 61-100).

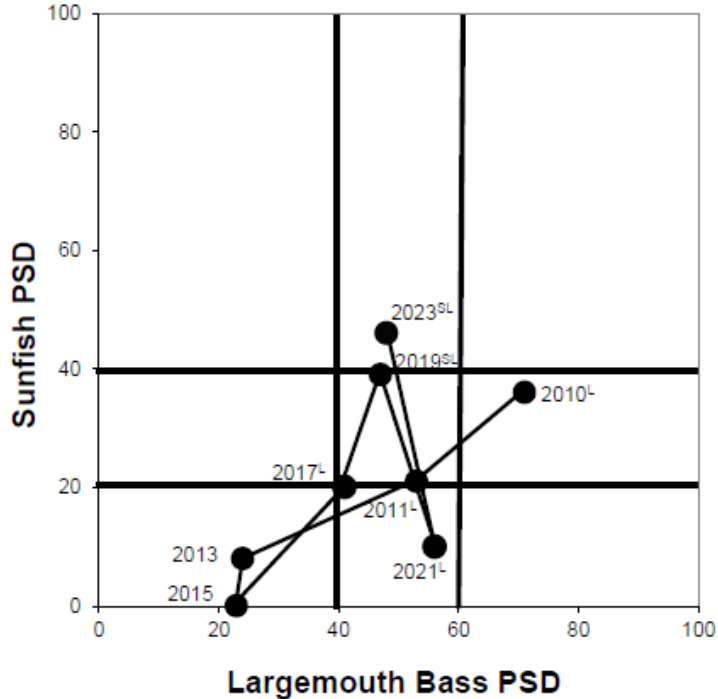


Figure 14. Proportional stock density (PSD) index for sunfish (weighted) and largemouth bass populations at Fisherman's Park Lake #4 from 2010-23. Superscripts denote occasions where sample size of either sunfish (^S) or largemouth bass (^L) was insufficient to estimate PSD with 90% confidence of being in one of three intervals (0-39, 40-60, 61-100).

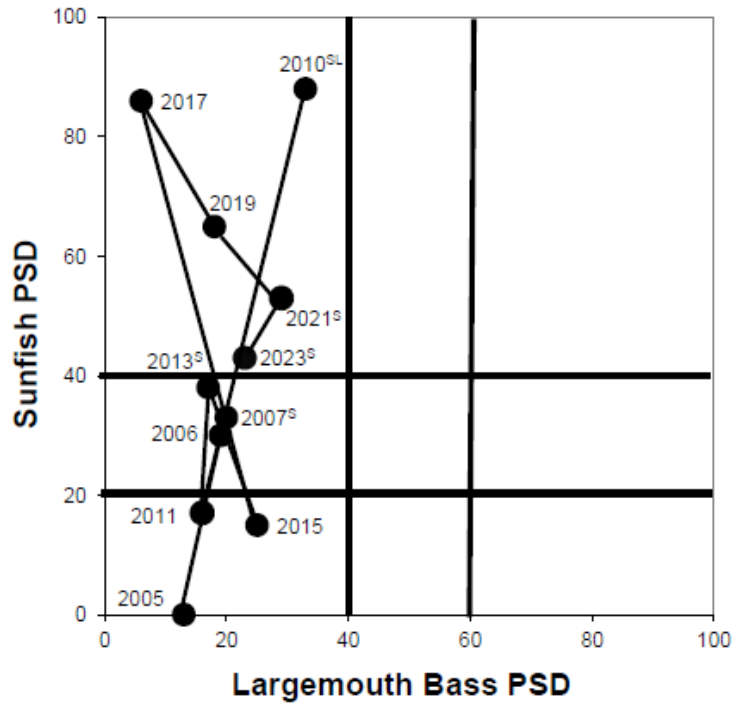


Figure 15. Proportional stock density (PSD) index for sunfish (weighted) and largemouth bass populations at Tom Wallace Park Lake from 2005-23. Superscripts denote occasions where sample size of either sunfish (^s) or largemouth bass (^L) was insufficient to estimate PSD with 90% confidence of being in one of three intervals (0-39, 40-60, 61-100).

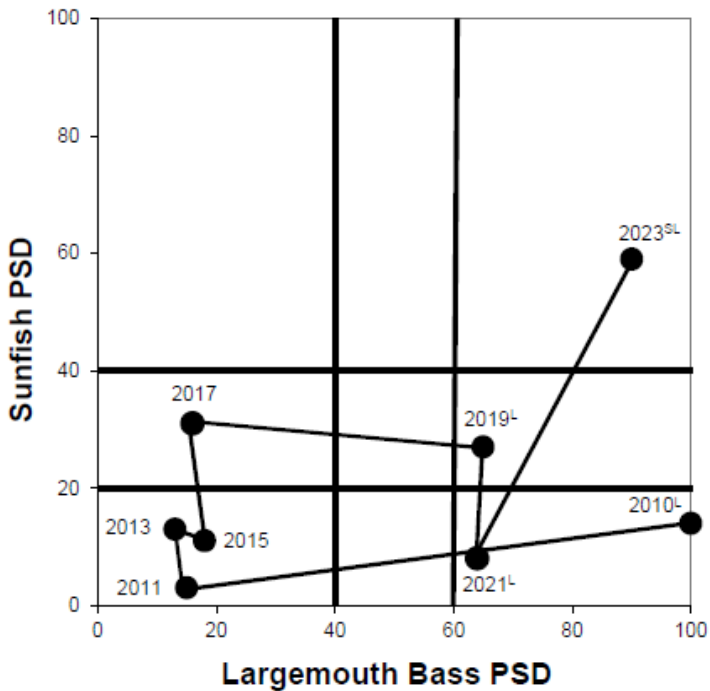


Figure 16. Proportional stock density (PSD) index for sunfish (weighted) and largemouth bass populations at Waverly Park Lake from 2010-23. Superscripts denote occasions where sample size of either sunfish (^s) or largemouth bass (^L) was insufficient to estimate PSD with 90% confidence of being in one of three intervals (0-39, 40-60, 61-100).

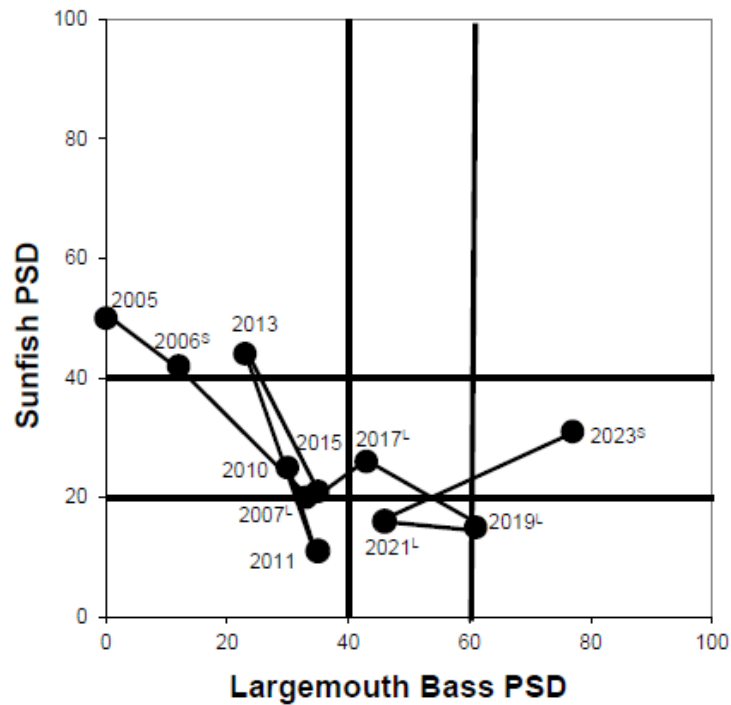


Figure 17. Proportional stock density (PSD) index for sunfish (weighted) and largemouth bass populations at William F. Miles Angler Lake from 2005-23. Superscripts denote occasions where sample size of either sunfish (^s) or largemouth bass (^L) was insufficient to estimate PSD with 90% confidence of being in one of three intervals (0-39, 40-60, 61-100).

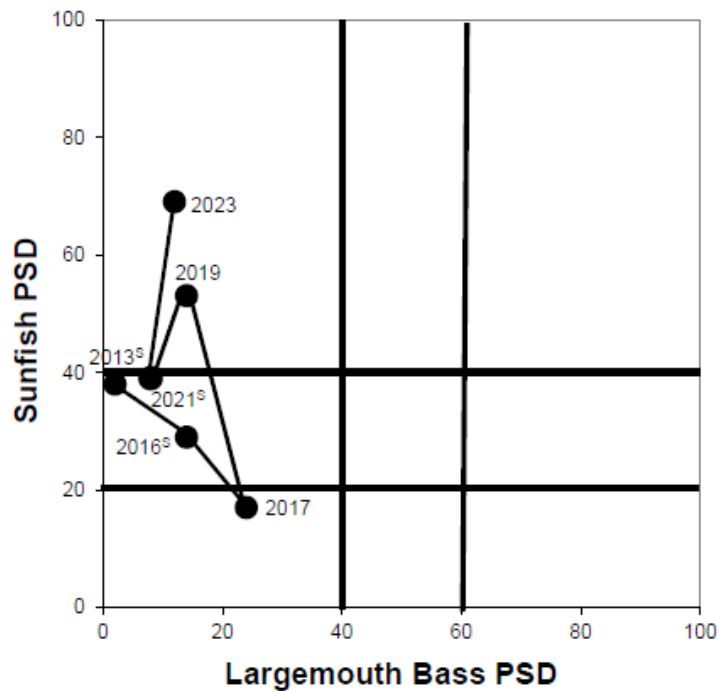


Figure 18. Proportional stock density (PSD) index for sunfish (weighted) and largemouth bass populations at William F. Miles Green Heron Lake from 2013-23. Superscripts denote occasions where sample size of either sunfish (^s) or largemouth bass (^L) was insufficient to estimate PSD with 90% confidence of being in one of three intervals (0-39, 40-60, 61-100).

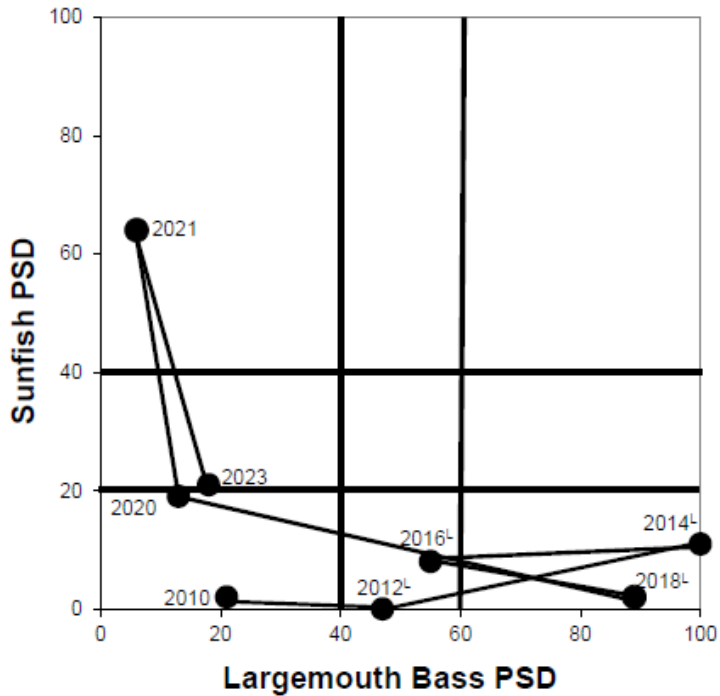


Figure 19. Proportional stock density (PSD) index for sunfish (weighted) and largemouth bass populations at Middleton Mills Long Pond from 2010-23. Superscripts denote occasions where sample size of either sunfish (^S) or largemouth bass (^L) was insufficient to estimate PSD with 90% confidence of being in one of three intervals (0-39, 40-60, 61-100).

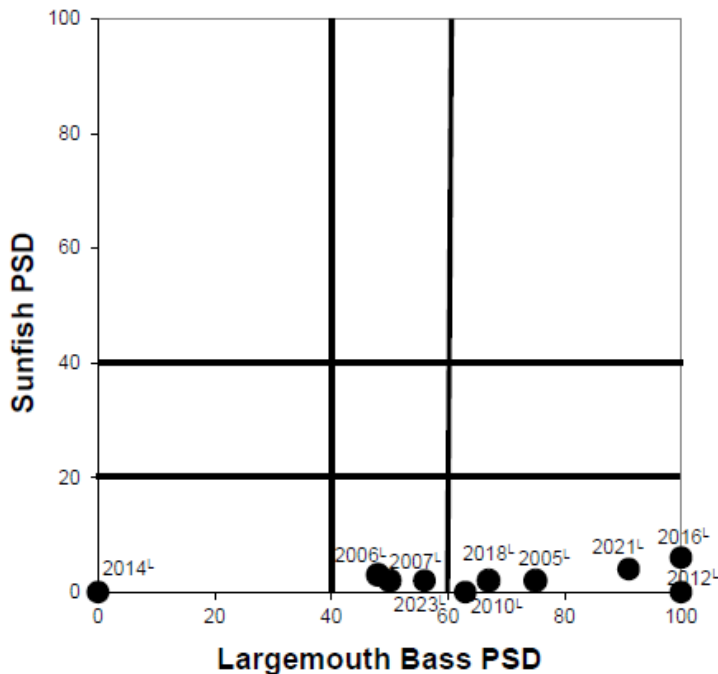


Figure 20. Proportional stock density (PSD) index for sunfish (weighted) and largemouth bass populations at Middleton Mills Shelterhouse Pond from 2005-23. Superscripts denote occasions where sample size of either sunfish (^S) or largemouth bass (^L) was insufficient to estimate PSD with 90% confidence of being in one of three intervals (0-39, 40-60, 61-100).

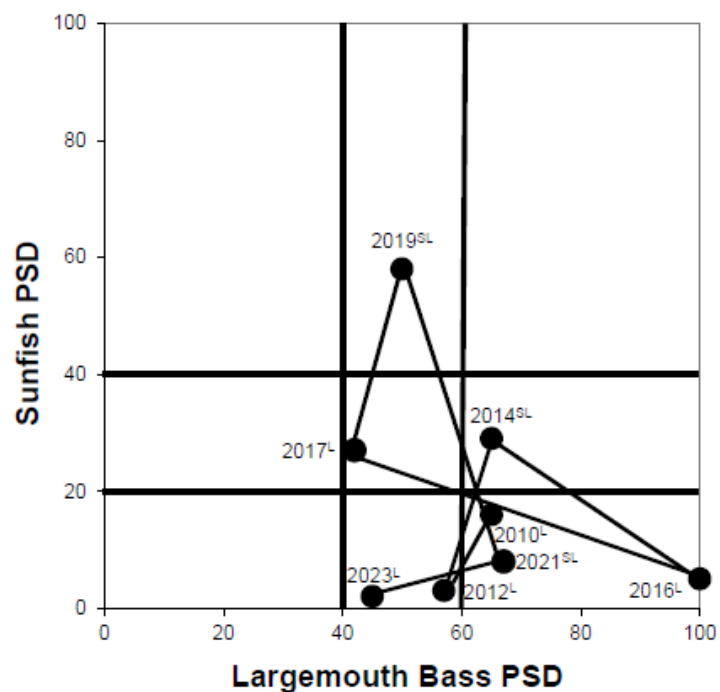


Figure 21. Proportional stock density (PSD) index for sunfish (weighted) and largemouth bass populations at Prisoners Lake from 2010-23. Superscripts denote occasions where sample size of either sunfish (^S) or largemouth bass (^L) was insufficient to estimate PSD with 90% confidence of being in one of three intervals (0-39, 40-60, 61-100).

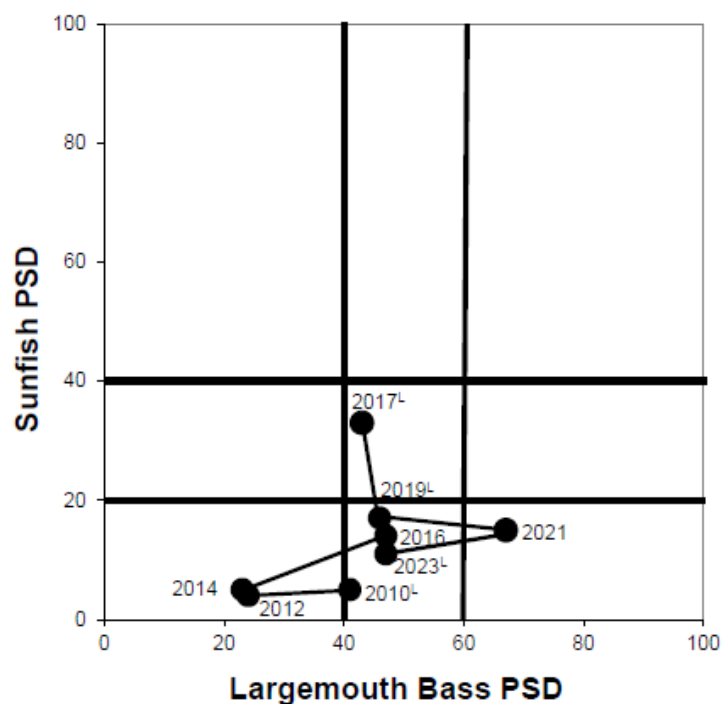


Figure 22. Proportional stock density (PSD) index for sunfish (weighted) and largemouth bass populations at Brickyard Pond from 2010-23. Superscripts denote occasions where sample size of either sunfish (^S) or largemouth bass (^L) was insufficient to estimate PSD with 90% confidence of being in one of three intervals (0-39, 40-60, 61-100).

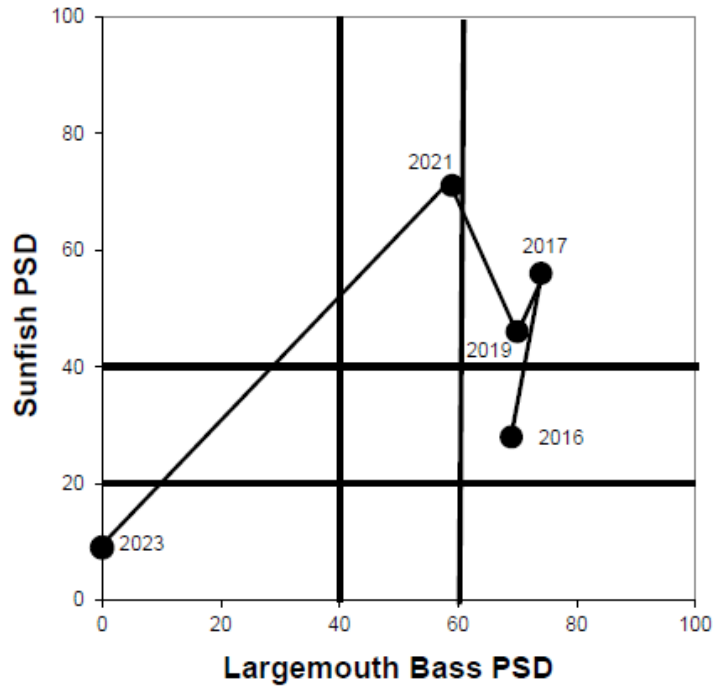


Figure 23. Proportional stock density (PSD) index for sunfish (weighted) and largemouth bass populations at Logan Hubble Park Lake from 2016-23.

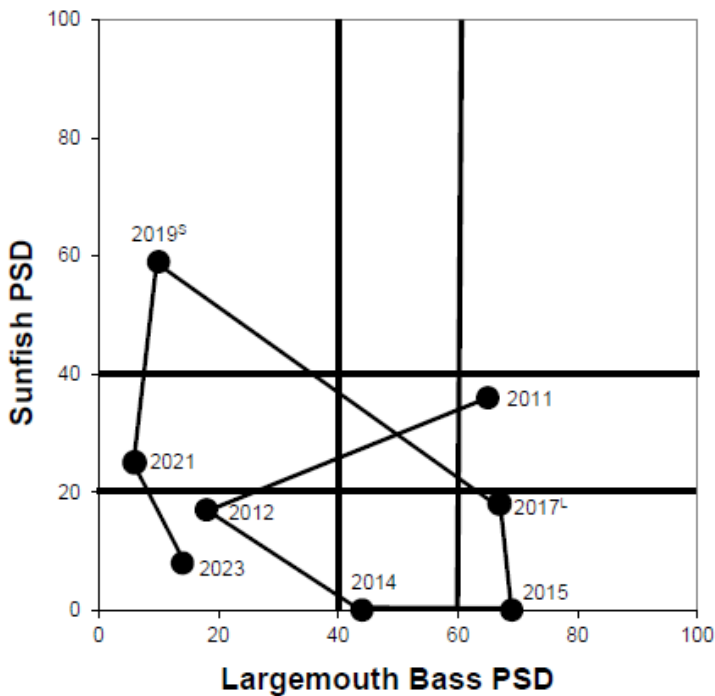


Figure 24. Proportional stock density (PSD) index for sunfish (weighted) and largemouth bass populations at Whitehall Park Lake from 2011-23. Superscripts denote occasions where sample size of either sunfish (^S) or largemouth bass (^L) was insufficient to estimate PSD with 90% confidence of being in one of three intervals (0-39, 40-60, 61-100).

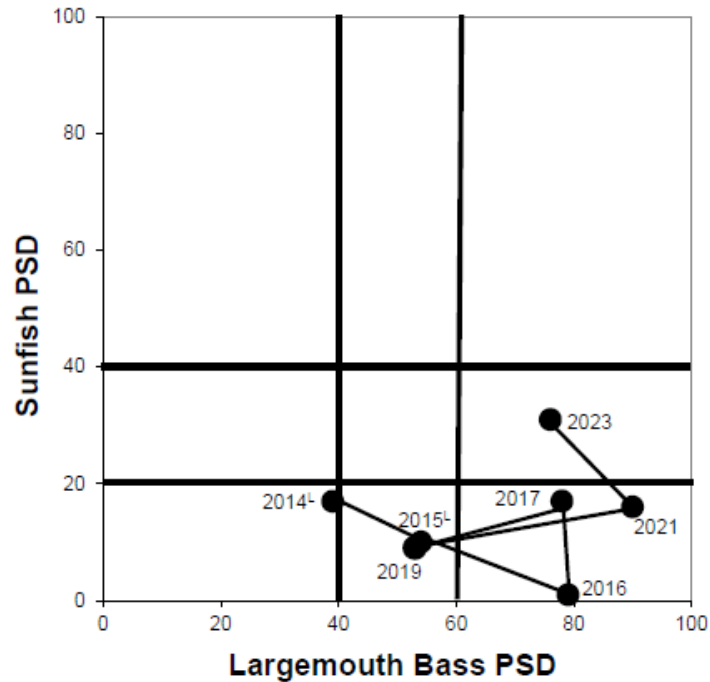


Figure 25. Proportional stock density (PSD) index for sunfish (weighted) and largemouth bass populations at Maysville-Mason County Recreation Park Lake from 2014-23. Superscripts denote occasions where sample size of either sunfish (^S) or largemouth bass (^L) was insufficient to estimate PSD with 90% confidence of being in one of three intervals (0-39, 40-60, 61-100).

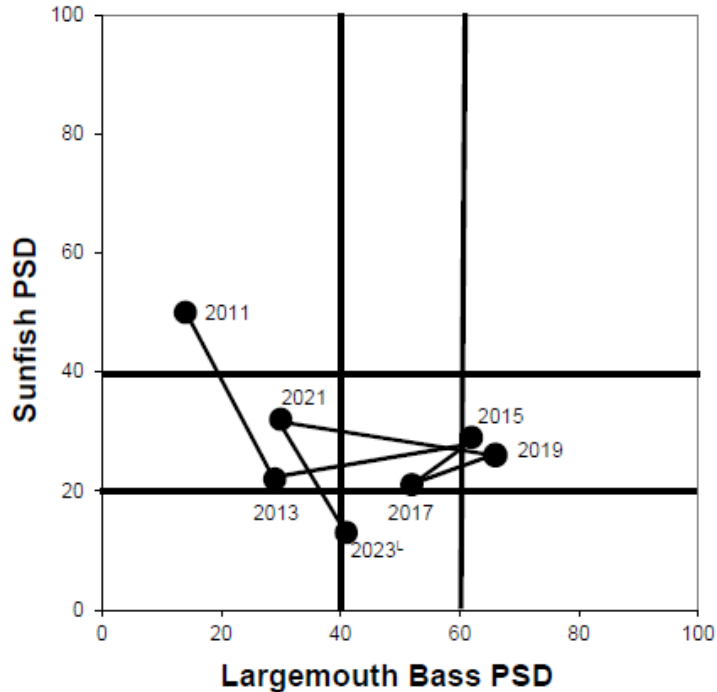


Figure 26. Proportional stock density (PSD) index for sunfish (weighted) and largemouth bass populations at Carlson Lake (Ft. Knox) from 2011-23. Superscripts denote occasions where sample size of either sunfish (^S) or largemouth bass (^L) was insufficient to estimate PSD with 90% confidence of being in one of three intervals (0-39, 40-60, 61-100).

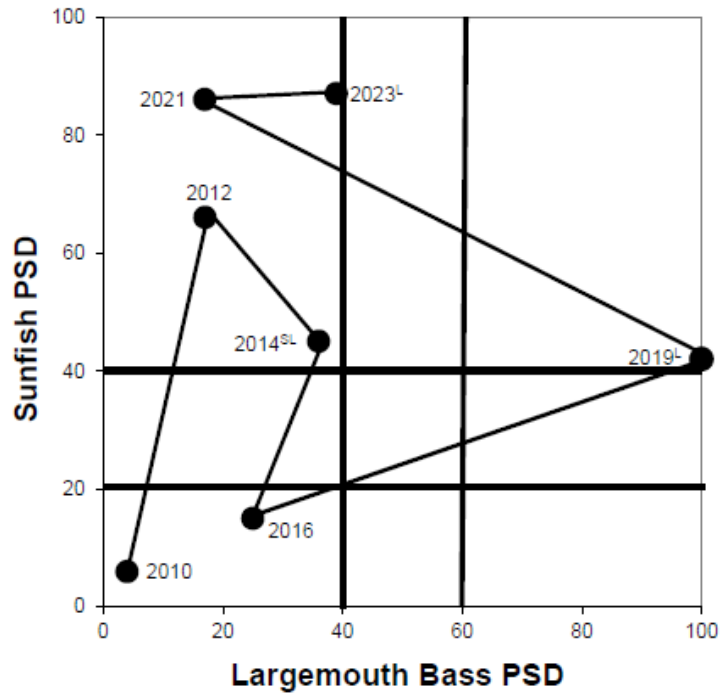


Figure 27. Proportional stock density (PSD) index for sunfish (weighted) and largemouth bass populations at Easy Walker Park Pond from 2010-23. Superscripts denote occasions where sample size of either sunfish (^S) or largemouth bass (^L) was insufficient to estimate PSD with 90% confidence of being in one of three intervals (0-39, 40-60, 61-100).

Project II: Evaluation of Angling Effort Using Remote Cameras

FINDINGS

The Fishing in Neighborhoods (FINs) program began in 2006 as a cooperative endeavor between Kentucky Department of Fish and Wildlife Resources (KDFWR) and local municipalities to provide access to quality fishing opportunities close to large populations of people. The FINs program currently includes 44 lakes in 28 counties across Kentucky. An angler attitude survey was conducted at 27 of the lakes in 2012. In addition, five creel surveys have been conducted at central Kentucky FINs lakes since 2010. However, little is known regarding angling effort at lakes where creel surveys have not been previously conducted. Fishing pressure was extremely high at creel surveyed lakes with total angler-hrs ranging from 11,000 – 66,000 hours per lake or 1,400 – 9,500 angler-hrs/acre. Angling effort is perceived to be high at most FINs lakes; however, quantifying effort using creel surveys is expensive and would be cost prohibitive to conduct at all FINs lakes. However, a new tool is available in the form of remote time-lapse cameras, which offer a cost-effective way to estimate angling effort. Using these remote, fixed position cameras it is possible to effectively monitor multiple lakes, capturing effort for a full 12-month period, while capturing daily and seasonal trends.

The FINs lakes are intensively stocked with large “keeper-sized” fish as a put-and-take fishery to sustain quality-fishing opportunities to a diverse group of anglers. To ensure anglers are utilizing these fish stockings, monitoring of angling effort is needed on a lake-by-lake basis as well as at a program scale. The additional knowledge of angling effort, in conjunction with exploitation studies and electrofishing and hoop net sampling, will assist in adaptively managing these fisheries. The angling effort data will aid in determining whether FINs lakes in other parts of the state are having similar angling pressure to previously surveyed FINs lakes in Central Kentucky. This data will also aid in assessing if current stocking strategies are adequate for the amount and timing of angling effort. If certain FINs lakes are not receiving the perceived pressure, then stocking rates could be reduced or other lake(s) substituted in the FINs program.

A total of 31 Reconyx Hyperfire HC500 cameras were purchased along with metal lock boxes. Cameras were purchased in January 2015 on price contract for \$435 each and lock boxes for \$45 each. Additionally, 62 4-GB SDHC cards were purchased for \$4 each for image storage and 540 rechargeable AA-batteries and 2 charging ports were purchased for \$823. Cameras require 12 AA-batteries to operate, and rechargeable batteries should be much more cost efficient over the long term.

Prior to installing cameras, a letter was sent to lake owners explaining the purpose of the study and seeking the owner's permission to use cameras within their park. Most of the lakes in the FINs program are not owned by KDFWR, but all have a memorandum of understanding in place. An additional waiver, consent and release form was drafted by the KDFWR attorney and signed by lake owners prior to implementation. Cameras were installed in September 2017, with counts beginning 1 October 2017 and running through 30 September 2018 in most instances. Jacobson Park Lake was surveyed 1 November 2018 through 31 October 2019 due to a delay in getting permission from the City Council to install cameras. Cameras were checked every 6-8 weeks to exchange memory cards and batteries. Both primary and secondary FINs lakes were surveyed to get a range of angling effort (primary lakes are stocked four times annually with catfish, whereas secondary lakes are only stocked twice annually with catfish). The second round of the study included 16 lakes that range in size from 1-46 acres. Data collection for this second round of lakes is complete with analysis still ongoing. Cameras were installed in September 2019, with counts beginning 1 October 2019 and running through 30 September 2020 at the final eight lakes to be surveyed.

Camera lock boxes were mounted to a tree or utility pole with lag bolts about 10-20 ft above the ground. The camera sits inside the lock box and is secured with a lock on the outside. This lock box and height of the cameras should deter vandals. All cameras were mounted to cover maximum bank access, especially anticipated high use areas. Many lakes required multiple cameras to get adequate coverage of the bank access areas. Care was taken during placement that there was no overlap of camera images on lakes that required multiple cameras. This prevented anglers from being counted twice during

analysis. In one instance at Leary Lake, no trees or utility poles were available to get the optimal view of the lake. In this case, the camera was placed inside the lock box, welded to a metal signpost, and placed out in the water. A wooden box was built around the camera and lock box to disguise it as a wood duck nesting box. There is no boating activity on this lake, so the cameras were only susceptible to vandalism during instances when the lake has ice cover. However, the metal poles were set at sufficient depths in the sediment that prevent someone from removing by hand.

The cameras did not cover 100% of the bank access at most lakes so a correction factor was employed to account for missed anglers and estimate total angler effort. Each survey lake was visited multiple times over the course of the study to do a visual count in-person at the same time as the remote cameras took a picture. A linear regression equation, $VC = a + b(CC)$, where the y-intercept was set to 0, was used to generate a correction factor. The dependent variable, Visual Count (VC), is the visual count taken in person at the same time the photo was recorded and the independent variable, Camera Count (CC), is the number of anglers observed on camera(s). Since the y-intercept (a) is equal to 0, the slope of the regression equation (b) is the correction factor. All correction factor linear regression equations were significant at $p < 0.001$ and had excellent coefficients of determination (r^2) in most cases (Table 1). Several lakes had insufficient visual counts to derive a correction factor. Collecting the in-person visual counts was especially challenging at lakes located out of the way and not near travel routes or workstations. Local park staff were contacted to assist with the visual counts in several instances. Even with ample explanation and follow up, the counts obtained by non-KDFWR staff were either lacking or suspect in some cases and thus excluded. Additional visual angler counts are needed in future camera surveys with the goal of a minimum of 30 counts and across the higher usage times to provide a more accurate correction factor.

Cameras were set up to take a picture every half-hour from daylight to dusk. Only images at the top of the hour were used for analysis; however, the half hour pictures helped postulate if someone was fishing as well as aided in the number of in-person visual counts that could be collected for the correction factor. Timelapse Image Analyzer was used to assist KDFWR personnel with image analysis. This free software designed by the University of Calgary speeds up image analysis and reduces errors, by automatically populating many of the fields needed for analysis and reduces data entry errors by placing the image and data entry on the same form. In a previous study, this software was found to cut image analysis time in half versus viewing images and entering data in separate spreadsheet. Cameras were collected after the 12-month period with one instance of vandalism at Logan Hubble Park Lake. The cameras and security box were missing upon retrieval in June 2018.