***Disclaimer:*** *This project statement is meant to be used as a training aid. While some of the information provided in the project statement is based upon factual data, the entire project statement is not meant to represent an actual project statement drafted by the state agency.*

**AL – Freshwater Public Waters Sport Fisheries Surveys and Monitoring**

**Alabama Department of Conservation and Natural Resources**

**1/1/2023 – 12/31/2023**

**GRANT PROPOSAL**

*[Additional grant information to include in TRACS: SAP/PO FBMS # if available, Recipient Grant ID if available, Grant Recipient Contact(s), Federal Grant Specialist Contact(s), Grant Programs(s)]*

**Public Description** *(sections from the need, purpose, expected results and benefits, and/or approach may be useful to include)*

The purpose of this project is to survey Alabama’s sport fish populations in public waters in order to document changes in fish populations and adjust management actions to promote sustainable fisheries.

There is a need for the Alabama Department of Conservation and Natural Resources (ADCNR) to collect fisheries population information in order to effectively manage and conserve its public waters sport fisheries. In 2021, data from the National Survey of Fishing, Hunting, and Wildlife-Associated Recreation indicated over 683,000 anglers fished (freshwater and saltwater) in Alabama for a total of 10.9 million angler-days. These anglers expended over $456 million per year in trip and equipment related expenditures.

The proposed fishery surveys are able to document changes in fish species in Alabama’s freshwater habitats, so that proactive management strategies may be implemented to mitigate potential declines in angler catch and harvest. Declines in sport fish populations can occur from a variety of reasons including poor year-class production, failed recruitment, lack of forage, introduction of non-native invasive species, loss of habitat, water-level fluctuations, intense angler harvest, and various forms of environmental perturbations. The ADCNR is the state agency with statutory responsibility to manage the state’s recreational freshwater sport fisheries for all types of anglers. Without annual surveying and monitoring, the ADCNR would not be able offset these declines, which would ultimately manifest in decreased viability of sport fish populations, reduced angler catch rates, lower angler harvest, and unacceptable angler satisfaction rates.

*Conflict of Interest Statement*: Not Applicable. (There are no known conflicts of interest)

*Single Audit Reporting Statement*: The State of Alabama was required to submit a Statewide Single Audit report for its most recently closed fiscal year and that report is available on the Federal Audit Clearinghouse Single Audit Database website. The report is filed under the State of Alabama’s EIN (99-9999999).

*Indirect Cost Statement*: We are (1) a U.S. state government entity receiving more than $35 million in direct Federal funding each year with an indirect cost rate of 16.00%. We submit our indirect cost rate proposals to our cognizant agency. A copy of our most recently approved rate agreement/certification is attached.

**PROJECT STATEMENT**

*[Additional project statement information to include in TRACS: Project Statement Title (if unique), does this include Marine Federal waters, Project Statement Single Point of Contact, Principal Investigator (research objectives only).]*

**Geographic Location**

This project will occur statewide. Please see Table 1 for a list of lakes, rivers, and reservoirs that will be sampled.

**Need**

*There is a need for the Alabama Department of Conservation and Natural Resources (ADCNR) to collect fisheries population information in order to effectively manage and conserve its public waters sport fisheries*. In 2021, data from the National Survey of Fishing, Hunting, and Wildlife-Associated Recreation indicated over 683,000 anglers fished (freshwater and saltwater) in Alabama for a total of 10.9 million angler-days. These anglers expended over $456 million per year in trip and equipment related expenditures.

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**Purpose**

The purpose of this project is to survey Alabama’s sport fish populations in public waters in order to document changes in fish populations and adjust management actions to promote sustainable fisheries.

**Objectives**

The objectives of this grant are to:

1. Conduct 240 investigations by December 31, 2023.
	* TRACS Strategy: Research, Survey, Data Collection and Analysis
		+ TRACS Objective: Conduct investigations
			- TRACS Activity Tag 1: Fish and wildlife species data acquisition and analysis (# of investigations)
				* Target Species: Black bass (largemouth, smallmouth, and spotted bass), Panfish (bluegill and redear sunfish), Crappie (white and black crappie combined), *Morone* (striped bass, white bass, and hybrid striped bass), *Sander* (walleye and sauger), Catfish (channel and blue catfish), Muskellunge
				* Principal Investigator (for Research Only): John Fisher
			- TRACS Activity Tag 1: Utilization data acquisition and analysis (# of investigations)
				* Target Species: Black bass (largemouth, smallmouth, and spotted bass), Panfish (bluegill and redear sunfish), Crappie (white and black crappie combined), *Morone* (striped bass, white bass, and hybrid striped bass), *Sander* (walleye and sauger), Catfish (channel and blue catfish), Muskellunge
				* Principal Investigator (for Research Only): John Fisher

**Approach**

The state of Alabama is comprised of four separate regional fisheries units (Northwest, Northeast, Southwest, and Southeast). Each regional fisheries office is charged with overseeing, surveying, monitoring, and managing the public waters sport fisheries that occur within its region. Each regional office is comprised of a regional fisheries biologist, assistant regional fisheries biologist, fisheries biologist, and a fisheries technician.

Sport fish populations in public waters will be surveyed and monitored annually at the locations listed in Table 1. The ADCNR has developed lake specific fisheries management plans that govern the agencies management strategies for each target sport fish species. Population metrics that will be calculated include, but are not limited to: (1) growth; (2) mortality; (3) recruitment; (4) abundance (i.e. CPUE); (5) weight-length relationships (i.e. Wr); (6) stock density relationships (i.e. PSD/RSD). All data will be analyzed using the appropriate statistical tests. Sport fish species will be sampled as follows:

Black bass (largemouth, smallmouth, and spotted bass) are sampled twice annually. During spring (water temperatures = 55-65oF), black bass are sampled using either daytime or nighttime shoreline boat electrofishing. Each shoreline electrofishing sample is comprised of a continuous 30-minute sample, during which only black bass are collected. All sizes of black bass are collected during each sample. Fish are held in large aerated livewells and fresh lake water is constantly pumped into the livewell during the entire 30 minute period. At completion of each sample, all fish are identified to species and measured for total length (TL, mm). All fish are then released, unless a subsample of fish is desired to be retained for age-and-growth analysis. The total number of electrofishing samples will be up to the biologist’s discretion and is based upon the size of waterbody. When conducting age-and-growth analysis, a total of ten fish per inch-class are retained and returned to the district office where otoliths (inner ear bones) are removed in order to determine age. During fall, (water temperatures = 60-75oF) black bass are sampled using daytime or nighttime shoreline electrofishing. Each shoreline electrofishing sample is comprised of a continuous 30-minute sample, during which only black bass are collected. All sizes of black bass are collected during each sample. At completion of each sample, all fish are identified to species and measured for TL (mm) and weighed (g). All fish are released following measurement. A total of 64 black bass surveys (investigations) are to be completed during the period of performance (Table 1).

Panfish (bluegill and redear sunfish) are sampled annually during the spring (water temperatures = 65-75oF) using daytime shoreline electrofishing. Each shoreline sample is comprised of a continuous 10-minute sample, during which only panfish are collected. All sizes of panfish are collected during each sample. Fish are held in large, aerated livewells and fresh lake water is constantly pumped into the livewell during the entire 10 minute period. At completion of each sample, all fish are identified to species and measured for TL (mm) and weighed (g). All fish are then released, unless a subsample of fish is desired to be retained and returned to the district office where otoliths are removed in order to determine age. A total of ten fish per inch-class are retained for age-and-growth analysis. Similar to black bass, the total number of electrofishing samples will be up to the biologist’s discretion. A total of 33 panfish surveys (investigations) are to be completed during the period of performance (Table 1).

Crappie (white and black crappie combined) are sampled annually during the fall (water temperatures = 50-65oF) using trapnets. The lead on each trapnet is 30 m long x 1.3 m deep. The mesh is ½” bar mesh. Trapnets are fished for 24-hrs consecutively before being checked for fish. Trapnets are fished perpendicular to the shoreline with the pot end resting in water no shallower than 6 feet. All sizes of crappie are collected during each sample and fish are held in large, aerated livewells. At the completion of each sample, all fish are identified to species and measured for TL (mm) and weighed (g). All fish are released, unless a subsample of fish is desired to be retained for age-and-growth analysis. The total number of trapnets fished will be up to the biologist’s discretion. When conducting age-and-growth analysis, a total of ten fish per inch-class are retained and returned to the district office where otoliths are removed in order to determine age. A total of 40 crappie surveys (investigations) are to be completed during the period of performance (Table 1).

*Morone* (striped bass, white bass, and hybrid striped bass) are sampled annually during the fall (water temperatures = 50-65oF) using gillnets. White bass and hybrid striped bass will be sampled using experimental 300-foot x 8-foot gillnets (each 50-foot panel; bar mesh size ½”, ¾”, 1”, 1-1/2”, 2”, and 2-1/2”). Striped bass will be sampled also using experimental 300-foot x 8-foot gillnets (each 50-foot panel; bar mesh size 1”, 1-1/2”, 2”, 2-1/2”, 3”, and 3-1/2”). Gillnets will be fished for 24-hrs consecutively before being checked for fish. Gillnets will be fished on flats adjacent to river channels. All sizes of *Morone* are collected during each sample. Fish are identified to species and measured for TL (mm) and weighed (g). All live fish are then released, unless a subsample of fish is desired to be retained for age-and-growth analysis. A total of ten fish per inch-class are retained for age-and-growth analysis. The total number of gillnets fished will be up to the biologist’s discretion. A total of 23 *Morone* surveys (investigations) are to be completed during the period of performance (Table 1).

*Sander* (walleye and sauger) are sampled annually during the fall (water temperatures = 45-60oF). *Sander* will be collected using either gillnet or nighttime electrofishing, depending upon the biologist’s discretion. Gillnets will be similar to those used to sample white bass and electrofishing will follow protocols similar to black bass. All sizes of *Sander* are collected during each sample. Fish are identified to species and measured for TL (mm) and weighed (g). All live fish are then released, unless a subsample of fish is desired to be retained for age-and-growth. A total of ten fish per inch-class are retained for age-and-growth analysis. The total number of gillnets/electrofishing will be up to the biologist’s discretion. A total of 10 *Sander* surveys (investigations) are to be completed during the period of performance (Table 1).

Catfish (channel and blue catfish) are sampled annually during summer/early fall (water temperatures = 70-80oF). Channel catfish will be collected using tandem hoopnets baited with commercially prepared cheese bait. Tandem hoopnets are a series of three hoopnets tied together in parallel. Hoopnets are fished for three consecutive days before fish are collected. Blue catfish will be collected using either low-pulse electrofishing or trot lines. All sizes of catfish are collected during each sample. Fish are identified to species and measured for TL (mm) and weighed (g). All live fish are then released, unless a subsample of fish is desired to be retained for age-and-growth. A total of ten fish per inch-class are retained for age-and-growth analysis. The total number of hoopnets, trot lines, or electrofishing will be up to the biologist’s discretion. A total of 50 catfish surveys (investigations) are to be completed during the period of performance (Table 1).

Muskellunge are sampled annually in the spring (water temperatures = 40-55oF) using daytime, shoreline electrofishing. Each shoreline sample is comprised of a continuous 30-minute sample, during which only muskellunge are collected. All sizes of muskellunge are collected during each sample. Fish are held in large, aerated livewells and fresh lake water is constantly pumped into the livewell during the entire 30-minute period. At the completion of each sample, all fish are identified to species and measured for TL (mm) and weighed (g). All fish are released, unless a subsample of fish is desired to be retained and returned to the district office where cleithrum (jaw bones) are removed in order to determine age. The total number of fish retained for age-and-growth analysis, as well as the total number of electrofishing samples will be up to the biologist’s discretion. A total of 11 muskellunge surveys (investigations) are to be completed during the period of performance (Table 1).

Creel surveys are also implemented annually in order to gather data concerning angler catch rates, satisfaction, harvest, and fishing pressure. The proposed creel surveys are roving type creel surveys and are implemented beginning in March through October. Two lakes from each region receive a creel survey annually. Each month, the creel clerk will work a total of 13 weekdays and 5 weekend-days. Anglers are interviewed on the water (incomplete trips) and at the boat ramp (completed trips). Each daily creel will last six hours. During interviews, the creel clerk will ask each angler a series of questions and obtain TL (mm) of all fish held in the angler’s creel. A total of 8 creel surveys (investigations) are to be completed during the period of performance (Table 1).

Additional activities that will be funded under this grant include:

* Attending public meetings/workshops in order to disseminate the results of funded sport fisheries surveys.
* Answer telephone/email requests from the public concerning survey data and management of public water sport fish populations.
* General administrative functions (timesheets, developing reports, employee evaluations, record retention).
* Acquisition and maintenance of survey equipment and gear.

**Results and Benefits Expected**

This grant will benefit the sport fishery resources of Alabama by providing fisheries staff with science-based, quantitative data to ensure sound and responsible management of its various sport fish populations.

This grant will also provide benefit to recreational anglers. Enhanced management of Alabama’s sport fish populations in public waters should result in catch rates that meet or exceed the public’s expectations. In addition, catch rates of quality and trophy sized species should also meet or exceed the public’s expectations.

This grant will also benefit local economies as anglers are willing to travel considerable distances to enjoy their passions. Local economies will derive benefits from increased sales of gasoline, food, supplies, lodging, and fishing equipment. Society will benefit from a healthy environment and increased outdoor recreation participation.

**Budget Narrative**

Funding for this project shall be provided by the **Sport Fish Restoration subprogram (9514)**.

Federal Share: **$825,000** (75%) – Sport Fish Restoration subprogram (9514)

State Share: **$275,000** (25%) – ADCNR restricted Fish and Game Fund

**Total Cost: $1,100,000**

[*NOTE: Applicants may provide the budget information using the SF 424A (Budget Information for Non-Construction Programs), SF 424C (Budget Information for Construction Programs), or using the applicant’s created budget displaying an equivalent or greater level of detail*.]

|  |  |
| --- | --- |
| Budget Class Category | Cost |
| Personnel (salaries) | $475,000 |
| Fringe Benefits | $257,500 |
| Travel | $35,000 |
| Equipment | $118,700 |
| Supplies | $46,600 |
| Contractual | $0 |
| Construction | $0 |
| Other | $50,000 |
| Total Direct Costs | $982,800 |
| Indirect Costs | $117,200 |
| **TOTAL** | **$1,100,000** |

Personnel - budget estimate comprised of staff (16-20) in the following classifications: (1) Regional Fisheries Biologist; (2) Assistant Regional Fisheries Biologist; (3) Fisheries Biologist; and (4) Fisheries Technician.

Fringe benefits - consists of the required employer contribution of Social Security, Medicare, unemployment tax, retirement, and employee health insurance, and is estimated at 54.21% of salaries.

Travel - staff will attend in-state meetings related to sport fish management issues/concerns. Staff may also attend regional/national meetings such as AFS and SDAFS (including the various committees and sections), as well as SEAFWA. Travel costs will include lodging, transportation, and per diem following state policies and procedures.

Supplies - budget estimate includes general office/lab supplies, field attire (raingear, overalls, rubber boots), sampling gear (gill nets, trap nets, hoop nets), nets, tubs, jars, vials, containers, tools, and electrical items.

Other: budget category estimates include bottled gas and motor fuels/lubricants.

Indirect Costs: The ADCNR’s approved NICRA is 16.00% charged to the base of salaries and fringe. A copy of the NICRA is on file in the Region 4 Office.

*In-Kind Match*: No in-kind match will be utilized for this grant.

*Pre-Award Costs*: No pre-award costs are requested for this grant.

*Program Income:* None anticipated.

**Equipment Narrative**

The following equipment is necessary and reasonable for the accomplishment of grant objectives.

* Northwest Fisheries Regional Office
* One Ford F-150 Supercab ¾ ton truck - $25,000.  Useful life = 6 years.
* One 150-HP Mercury Outboard engine - $6,500. Useful life = 5 years.
* Northeast Fisheries Regional Office
* One Ford F-150 Supercab ¾ ton truck - $25,000. Useful life = 6 years.
* One 90-HP Evinrude Outboard engine - $5,200. Useful life = 5 years.
* One Smithroot elecrofishing box - $6,000. Useful life = 10 years.
* Southwest Fisheries Regional Office
* One Smithroot electrofishing boat fully rigged - $17,000. Useful life = 10 years.
* Southeast Fisheries Regional Office
* One Ford F-150 Supercab ¾ ton truck - $25,000. Useful life = 6 years.
* One Crestliner (17 foot) creel boat fully rigged - $9,000. Useful life = 10 years.

**Useful Life**

No capital improvements over $10,000 will be made with this project proposal. Useful life information for equipment is listed in the equipment narrative.

**Multipurpose Grant**

Not applicable.

**Relationship with Other Grants**

Not applicable.

**Timeline**

*January 1, 2023 – March 31, 2023:*

* Acquire any needed sampling gear and supplies.
* Coordinate spring sampling schedules (locations, dates, crews).
* Survey public water “cool-water” (walleye, sauger, and musky) species.
* Analyze survey data (abundance, age/growth, recruitment, and mortality) and compile into fisheries management reports.

*April 1, 2023 – June 30, 2023*:

* Survey public water “warm-water” (black bass, panfish, crappie, catfish, white bass, hybrid striped bass, and striped bass) species.
* Analyze survey data (abundance, age/growth, recruitment, and mortality) and compile into fisheries management reports.
* Attend meetings concerning public water sport fisheries.

*July 1, 2023 – September 30, 2023*:

* Coordinate fall sampling schedules (locations, dates, crews).
* Survey public water “warm-water” (catfish) species.
* Analyze survey data (abundance, age/growth, recruitment, and mortality) and compile into fisheries management reports.

*October 1, 2023 – December 31, 2023*:

* Survey public water “warm-water” (black bass, crappie, catfish, white bass, hybrid striped bass, and striped bass) species.
* Survey public water “cool-water” (walleye, sauger, and musky) species.
* Analyze survey data (abundance, age/growth, recruitment, and mortality) and compile into fisheries management reports.
* Complete annual performance reports.

**General (this is not a field in TRACS)**

NOTE: 50 CFR 80.82 (c) requires that a project statement must include information pertaining to 13 data elements. Element 13 requires that information be included in the project statement that (a) shows that the proposed activities are eligible for funding and substantial in character and design and (b) enables the Service to comply with applicable requirements under NEPA, ESA, and NHPA, and other laws, regulations, and policies. If information is not provided in the project statement, please attach additional documentation regarding NEPA, ESA, and NHPA compliance.

*[Please note: Documents with PII (personally identifiable information) or compliance documents (such as NEPA, Section 7, NHPA) must NOT be uploaded into TRACS. These documents should be submitted with your project statement(s) as part of your formal grant application in GrantSolutions.]*

Table 1. Surface acreage of public water resources where sport fish populations will be sampled during January 1 – December 31, 2023. Species surveyed codes include (bb=black bass; pf=panfish; cr=crappie; m=Morone spp.; sa=Sander spp.; cf=catfish; ms=muskellunge). Asterisks indicate creel surveys.

Waterbody Acreage County Species Surveyed

***Northeast District***

Lake Guntersville\* 55,000 Pike, Harmon bb, cr, cf

Lake Guntersville Tailwater n/a Pike bb, m, sa, cf

Weiss Lake 21,000 Anderson bb, cr, m, sa, ms

Blyth Lake 120 Jefferson pf, cf

Logan Martin Lake 42,000 Jefferson, Crabtree bb, cr, m, sa, ms

Logan Martin Lake Tailwater n/a Jefferson bb, m, sa, cf

Froghead Lake 394 Lincoln bb, pf, cr

Bass Lake 3,050 Lincoln bb, cr, m, cf, ms

Rend Lake 2,225 Franklin bb, cr

Alabama Lake\* 1,900 Shelby bb, cr, m, cf

Kingfisher Lake 64 Shelby pf, cf

Lake Rhinestone 767 Carolyn bb, cr, cf

Mauzy Lake 81 Jefferson pf, cf

Big King Lake 889 Lake bb, pf, cr, cf

Little King Lake 425 Lyon bb, pf, cf

Rattlesnake Lake 1,367 Hargroove bb, cr

Timber Creek Lake 89 Timberline pf, cf

***Northwest District***

Wheeler Lake 45,000 Larue, Waverly bb, cr, m, sa, cf

Wheeler Lake Tailwater n/a Larue, Waverly bb, m, sa, cf

Lewis Smith Lake 36,000 Lauderdale bb, cr, m, cf

Lewis Smith Lake Tailwater n/a Lauderdale bb, m, sa, cf

Metcalfe Lake 267 Colbert pf, cf

Mill Creek Lake 394 Lawrence bb, pf, cr

Shanty Lake 1,468 Marion bb, cr, cf

Spurlington Lake 1,100 Lamar bb, cf

Mountain Lake 67 Fayatte pf

Lake Rayburn\* 5,897 Walker bb, cr, ms

Turtle Lake 2,365 Walker bb, cr, m

Clear Lake 47 Limestone pf, cf

Swampy Lake 23 Pickens pf, cf

Green Lake 4,875 Pickens bb, cr, m

Maysville Lake 81 Pickens pf

Wet Lake 95 Bubb pf

Lake Ringtown\* 3,472 Perry bb, cr, m, cf

Rebel Lake 3,222 Perry bb, cr, cf

Green Lion Lake 1,977 Cullman bb, cr

Lake Fish 897 Cullman bb, cr, cf

Table 1 (continued). Surface acreage of public water resources where sport fish populations will be sampled during January 1 – December 31, 2023. Species surveyed codes include (bb=black bass; pf=panfish; cr=crappie; m=Morone spp.; sa=Sander spp.; cf=catfish; ms=muskellunge). Asterisks indicate creel surveys.

Waterbody Acreage County Species Surveyed

***Southeast District***

Cedar Lake 973 Houston bb, cf

Panbowl Lake 695 Houston bb, pf

Cypress Lake 4,911 Henry bb, cr, cf

Lake Martin\* 37,541 Barbour bb, cr, m, ms

Lake Martin Tailwater n/a Barbour bb, m, cf

Chevy Lake 5,830 Lee bb, cr, m, cf

Linville Lake 361 Lee pf, cf

Possum Lake 625 Russell bb, pf, cf

Beaver Lake\* 14,777 Price bb, cr, m, sa, cf, ms

Big Town Lake 8,574 Dale bb, cr, m, ms

Cowpath Lake 179 Coffee bb, cf

Williamstown Lake 3,050 Bullock bb, cr, m

Doe Run Lake 67 Macon pf, cf

Goose Pond Lake 132 Macon bb, pf

Gravel Pit Lake 75 Macon pf, cf

Ghost Lake 317 Elmore bb, pf

Cumberland Lake 19,881 Elmore bb, cr, m, sa

Jacobson Lake 271 Butler bb, pf

Jericho Lake 194 Covington bb, pf, cf

Candycorn Lake 89 Covington pf

Catfish Pond 43 Montgomery pf

Eelgrass Lake 859 Montgomery bb, cf

***Southwest District***

Coosa River n/a Baldwin, Clarke bb

Alabama River n/a Wilcox, Dallas, Chilton bb, cf

Deep Creek Lake\* 2,497 Choctaw bb, cr, cf

Poster Lake 1,234 Choctaw bb, cr, m

Fishpond Lake 974 Hale bb, cr

Bigmouth Lake 6,137 Knight bb, cr, cf, ms

Martin County Reservoir 483 Knight bb, pf

Quicktrip Lake 297 Wilcox bb, pf, cf

Milo Lake 97 Escambia pf, cf

Snapping Turtle Lake 7,896 Escambia bb, cr, cf, ms

Pike Lake 6,948 Butler bb, cr, cf

Lawrenceburg City Lake 84 Chicken pf, cf

Buzzbait Lake 379 Chilton bb, cr, cf

Lake Lincoln\* 8,999 Chilton bb, cr, m, sa, ms

Bighorn Lake 679 Sumter bb, cf

Table 1 (continued). Surface acreage of public water resources where sport fish populations will be sampled during January 1 – December 31, 2023. Species surveyed codes include (bb=black bass; pf=panfish; cr=crappie; m=Morone spp.; sa=Sander spp.; cf=catfish; ms=muskellunge). Asterisks indicate creel surveys.

Waterbody Acreage County Species Surveyed

Little Horn Lake 221 Sumter bb, pf, cf

McNeely Lake 794 Sumter bb, pf, cr, cf

Abe Froman Lake 67 Perry pf, cf

Sympson Lake 694 Perry bb

Hurricane Lake 18,574 Bobb, Tuscaloosa bb, cr, m, ms

One Trip Lake 239 Covington bb, pf

Wilburn Lake 469 Connie cr

Bellaire Lake 881 Connie bb, cr, cf

Bufford Lake 974 Connie bb, cf