

II. FISCAL IMPACT ANALYSIS

A. Five Year Summary of Fiscal Impact:

Fiscal Years	2024	2025	2026	2027	2028
Capital Expenditures	_____	_____	_____	_____	_____
Operating Costs	_____	_____	_____	_____	_____
External Revenues	<u>0</u>	_____	_____	_____	_____
Program Income (County)	_____	_____	_____	_____	_____
In-Kind Match (County)	_____	_____	_____	_____	_____
NET FISCAL IMPACT	<u>0</u>	_____	_____	_____	_____
# ADDITIONAL FTE POSITIONS (Cumulative)	_____	_____	_____	_____	_____

Is Item Included in Current Budget? Yes X No _____

Does this item include the use of federal funds? Yes _____ No X

Does this item include the use of state funds? Yes X No _____

Budget Account No.:

Fund 1227 Department 380 Unit 4008 Object 3401 Program LWL Monitoring
 Fund 1229 Department 380 Unit 3057 Object 3401 Program LWL Monitoring

B. Recommended Sources of Funds/Summary of Fiscal Impact:

There is no fiscal impact associated with this item; correction to State Match language.

C. Department Fiscal Review:

SPING

III. REVIEW COMMENTS

A. OFMB Fiscal and /or Contract Dev. and Control Comments:

Laura Matus 4/23/2024 Brenda Brachts 4/24/24
 OFMB PA 4/22 DA 4/22 Contract Development & Control
TR 4/26/24

B. Legal Sufficiency:

[Signature] 5/1/24
 Assistant County Attorney

C. Other Department Review:

 Department Director

**AMENDMENT NUMBER 1
TO CONTRACT BETWEEN PALM BEACH COUNTY AND
FLORIDA FISH AND WILDLIFE CONSERVATION COMMISSION FOR
FISHERIES MONITORING**

THIS FIRST AMENDMENT TO THE CONTRACT is made and entered into the _____ day of _____, 2024, by and between Palm Beach County, a Political Subdivision of the State of Florida, by and through its Board of Commissioners (“**County**”), and Florida Fish and Wildlife Conservation Commission, a State Agency, (“**Consultant**”), both being hereinafter referred to collectively as the “parties”.

WITNESSETH:

WHEREAS, the Consultant and the County entered into a contract (R2023-1793) on December 5, 2023 (“**Contract**”) for fisheries monitoring in the Lake Worth Lagoon; and

WHEREAS, the Consultant has requested, and the County agrees, to amend the Contract for the purpose of clarifying that the Consultant will be providing a “state match” instead of “in-kind services,” as well as other changes;

NOW, THEREFORE, in consideration of the promises and mutual covenants and conditions contained herein, the parties agree to modify the Contract as follows:

1. The foregoing recitals are true and correct and are incorporated herein by reference. Terms not defined herein shall have the same meaning and effect as in the Contract. Any reference to “Contract” contained herein shall include all amendments thereto.
2. Article 1, Services, of the Contract shall be amended to change the Consultant’s representative/liason as follows:

The CONSULTANT’s representative/liason during the performance of this Contract shall be Lanie Lainie Edie, Grant Administrator, telephone no. ~~850-617-9650~~ 727-502-4782.

3. Article 4, In-Kind Services, of the Contract shall be retitled as Article 4, State Match, and amended as follows:

ARTICLE 4 – IN-KIND SERVICES STATE MATCH

The consultant will provide ~~in-kind services~~ a state match of \$56,823,- €comprising of two staff; ~~including~~ field time, lab time, and analysis and report writing (\$43,351 total personnel costs), all nets (Equipment and supplies \$5,562), and travel costs (\$7,910) as more particularly described in Exhibit A.

4. Article 27, Notice, of the Contract shall be amended to change the Consultant’s notice contact as follows:

If sent to the CONSULTANT, notices shall be addressed to:

~~Lainie~~ Lainie Edie, Grant Administrator
Fish and Wildlife Research Institute
Florida Fish and Wildlife Conservation Commission
100 8th Avenue S. E.
St. Petersburg, Florida 33701

5. Exhibit A, Project Work Plan, of the Contract is hereby deleted in its entirety and replaced with Exhibit A, attached hereto and incorporated herein.
6. All other terms and conditions of the Contract shall remain the same.

IN WITNESS WHEREOF, the parties hereto have executed this First Amendment to the Contract on the day and year first written above.

**APPROVED AS TO FORM AND
LEGAL SUFFICIENCY**

By: /s/ Scott A. Stone
Scott A. Stone
Assistant County Attorney

**PALM BEACH COUNTY
BOARD OF COUNTY COMMISSIONERS**

By: 
Deborah Drum, Department Director
Environmental Resources Management

**FLORIDA FISH & WILDLIFE
CONSERVATION COMMISSION**

By:  Digitally signed by Leanne
Flewelling
Date: 2024.04.08 16:33:36 -04'00'
Signature

Name: Leanne Flewelling
(type or print)

Title: FWRI Deputy Director

WITNESS:

Lantana Digitally signed by
Lantana Edie
Date: 2024.04.09
08:18:38 -04'00'
Edie
Signature

Lainie Edie
Name (type or print)

SCOPE OF WORK

Lake Worth Lagoon Fisheries Monitoring Program
2024-2027**I. INTRODUCTION/BACKGROUND:**

Palm Beach County has done a remarkable job at identifying and creating habitat lost due to human development activities over the past century. In a county where seawalls associated with private residences and businesses have replaced approximately 70% of the Lagoon's shoreline (PBCERM 2021) and stormwater from three canals (C-17, C-51, and C-16) can discharge runoff directly into the Lagoon severely stressing the ecosystem of the associated estuary, concerns remain regarding the concomitant eutrophication and degradation of water quality in the system despite recent gains. To address these continuing concerns, Palm Beach County capped a historic 15-acre dredge hole (Tarpon Cove) that had accumulated fine-grained, organic-rich sediments with clean sand obtained from several nearby dredging projects. The entire project covers approximately 46-acres and will include several acres of mangrove-marsh and oyster reef, as well as over 30 acres of potential seagrass habitat. The created islands have already provided habitat for fisheries species and birds and through time will also support oysters, manatees, and sea turtles. The habitat has been designed to improve water quality by reducing the resuspension of the capped muck; dissipating wave energy; protecting coastal infrastructure; and reducing the ecological impacts from storms and stormwater discharges. The goal of the restoration projects has been and continues to be to provide long term improvement in water quality and wildlife habitat while improving resiliency of the lagoon.

The Fisheries-Independent Monitoring (FIM) program data are critical for assessing the health of systems that support inshore and reef fisheries that exist in Lake Worth Lagoon (LW), particularly for those species that utilize seagrass during their early life history (e.g., snappers). For example, in the first two years (2016-2017) of baseline FIM program stratified-random sampling (SRS) in the northern LW, a total of 10,976 animals were collected, which included 115 taxa of fishes and eight taxa of selected invertebrates, from 104 samples (Paperno 2019). Selected Taxa (i.e., taxa of direct economic importance; n=1,342 animals) composed 12.2% of the catch from the Northern LW samples. The most abundant Selected Taxa were Spot (*Leiostomus xanthurus*) followed by juvenile shrimp (*Farfantepenaeus* spp.), Sheepshead (*Archosargus probatocephalus*), White Mullet (*Mugil curema*), Lane Snapper (*Lutjanus synagris*), and Common Snook (*Centropomus undecimalis*). The continued presence of juvenile and adult sizes of several species (e.g., Gray Snapper, *Lutjanus griseus*, Mutton Snapper, *Lutjanus analis*, Atlantic Croaker, *Micropogonias undulatus* etc.) in the annual catch from this area highlight the importance of the system to many of these taxa (Paperno 2023). This project has been designed to continue Palm Beach County's assessment of fish species presence in Northern Lake Worth Lagoon and continue monitoring of existing restoration projects. The Central LW effort will continue to build upon the restoration data collected around Grassy Flats, Snook Islands, and Tarpon Cove. Sampling effort in Northern LW will continue to include Munyon Island, Munyon Cove and Singer Island area.

II. OBJECTIVES:

The collection of FIM data is useful in gauging the effects of natural and anthropogenic disturbances, restoration projects, protective management measures and changes in water quality

and hydrology on fish and macro-invertebrates. Palm Beach County's willingness to continue building on the existing baseline data collection of fish community data in the Northern Lagoon, an area under continued threat of modification or loss due to development by private landowners will allow the county to assess future issues as they arise. The goal of this program is to collect FIM data that address local management concerns and that can be utilized in the broader state assessment of fisheries resources. The continued sampling around Grassy Flats/Snook Islands (GF/SI) and Tarpon Cove (TC) restoration projects in Central Lake Worth Lagoon (CLW) satisfies the goal of collection and assessment of ecologically functional metrics associated with structural elements (habitats) that are supported through grant-funding.

Consultant's (FWC-FWRI) Objectives:

- 1) Continue monitoring fisheries resources, based on the methods of the long-term Florida Wildlife Research Institute (FWRI) FIM program (FWC-FWRI, 2022), to assess the fish diversity and habitat utilization in Northern Lake Worth Lagoon (NLW). The program has been designed such that it can be replicated and expanded in the Lagoon as resources become available in the future.
- 2) Conduct three years of monthly FIM sampling in the NLW, continue quarterly sampling near restoration sites (GF/SI, TC) in CLW.
- 3) Prepare a final report describing the fisheries resources in the NLW and near restoration sites in CLW (GF/SI, TC).

III. TASK IDENTIFICATION:

Task 1: Monthly field sampling. From January 1, 2024 through December 31, 2026, monthly stratified-random sampling shall be conducted to provide comprehensive abundance and distribution data on fishes that occur in the Northern Lagoon. All sampling will be conducted during daytime hours (one hour after sunrise to one hour before sunset). Monthly sampling shall consist of four randomly selected 21.3-m seine stations and three 183-m haul seines (Table 1).

Task 2: Quarterly field sampling. From January 1, 2024 through December 31, 2026, stratified-random sampling shall be conducted to provide comprehensive abundance and distribution data on fishes that occur near the GF/SI and TC restoration projects in the CLW. All sampling will be conducted during daytime hours (one hour after sunrise to one hour before sunset). Quarterly sampling shall consist of 8 randomly selected 21.3-m seine stations, 6 40-m seine stations (Table 1).

The 21.3-m seine is made of 1/8-inch #35 knotless nylon stiff material Delta mesh with #7 (or comparable) finish. The net is exactly 70 feet long and six (6) feet high with a 6-ft. x 6-ft. x 6-ft. bag placed in the center. The top and bottom lines are 1/8-inch 450-lb. test braided nylon. The sponge floats are SB4 (3" diameter by 1 1/2" long with a 1/2" hole) and spaced at 8" on center along the wings and front of bag. The float spacing along the sides and back of the bag are every 12 inches on center. The bottom line is leaded with #13, 1.3 oz. leads (1" long, 3/8" hole) spaced every 6" on center on the main net (wings) and front of the bag. The leads are spaced every 12 inches on center along the sides and back of the bag. The top and bottom braided nylon lines extend 2-3 feet beyond the net, so they can be tied to PVC poles for fishing (there should be a 12" gap between the mesh and the seine poles once the top and bottom lines are tied off).

The 40-m (130') seine is a long center-bag seine, 8' (2.4-m) deep, made of 1" stretch knotted nylon mesh (#9 twine), hung on the half. The floatline is made of a single 3/8-inch black twisted polypropylene rope with floats (SB4, 3" diameter x 1 1/2" width, with 1/2" hole) spaced every 12" (30.5 cm) on center. The leadline is made of two 1/4-inch black twisted polypropylene ropes with barrel leads (1.5 oz, ~42.5 g) spaced every 12" (30.5 cm) inches on center. The bag of the net is 8'

(2.4-m) deep by 8' (2.4-m) tall by 8' (2.4-m) wide and located in the center of the net (i.e., such that the corners of the bag are exactly 61' (18.6-m) from the ends of the seine). Both the lead and float lines continue onto the sides and back of the bag (leads and floats are the same at mouth of bag, along both sides, and along back of bag, per defined specs above). Both the lead and float lines (without the floats and leads attached) are extended an extra 3' (1-m) from each end of the seine meshing, to be used to attach the net to a pole, used to pull the net through the water. With the rope extensions on each end of the net, the float line and lead line are a total of 136' (41.5-m) and the mesh part of the net is 130' (39.6-m) long including the 8' (2.4-m) for the bag mouth.

The 183-m (600') haul seine is a long center-bag seine, 3-m (10') deep, made of 38-mm (1½") stretch nylon mesh. The float and lead line are made of ½" black twisted polypropylene rope. The float and lead line are a double rope with the lead and floats being attached to the outer rope (See Figure 1). The wings are made of double selvedge #9 nylon twine 38-mm (1½") stretch mesh. The barrel leads (2.0 ounce #8) will be placed every 15-cm (6") on center on the wing and every 30.5-cm (12") on center along the sides and back of the bag. The floats will be SB5 (3½" diameter x 1½" width, with ½" hole) and spaced every 30.5-cm (12") on center on the wings and along the sides and back of the bag. The bag will be 3-m x 3-m x 3-m, centered on the net and made of double selvedge #15 nylon twine 38-mm (1½") stretch mesh. The lead and float line (without the floats and leads attached) will be extended an extra 3-m from each end of the net to be used to pull the net through the water. With the extensions on each end of the net, the float line and lead line will be a total of 189-m (620') and the mesh part of the net will be 183-m (600') long including the 3-m (10') for the bag mouth.

One County staff will assist the Consultant in the field during the sampling events, if needed. Typically, each sampling event will require one to one and a half field days, however, additional days may be needed to complete the required 21 net hauls during months when monthly and quarterly sampling events coincide, or when unexpected conditions (i.e., weather, equipment failure) occur. County support includes participating in preparing equipment, setting and pulling in each net, recording data, and identifying/measuring the catch in each net. The Consultant will provide a state match of \$56,823, comprising of two additional staff (2 staff: includes field time, lab time, and analysis and report writing: \$43,351 total personnel costs), all nets (Equipment and supplies: \$5,562), and travel costs (\$7,910).

Quantitative seine sampling techniques will follow standardized FIM procedures. At each station, water temperature, (°C), salinity (ppt), pH, and dissolved oxygen (ppm) shall be recorded with a YSI multi-probe instrument. Comprehensive habitat information will also be recorded at each sampling station according to standardized FIM procedures.

Table 1. Sample effort per each sample area

Area	21.3-m seine	40-m haul seine	183-m haul seine	Total
Central Lake Worth Lagoon (quarterly sampling)				
Grassy Flats/Snook Islands	4 (2 onshore, 2 offshore)	3	0	7
Tarpon Cove restoration (quarterly sampling)				
Tarpon Cove	4 (2 onshore, 2 offshore)	3	0	7
Annual Total (quarterly sampling)	32	24	0	56
Northern Lake Worth Lagoon (monthly sampling)				
Munyon/Singer Islands	4 (2 onshore, 2 offshore)	0	3	7
Annual Total (monthly sampling)	48	0	36	84
Annual Grand Total (quarterly + monthly totals)	80	24	36	140

Task 3: Species identification and sample processing. All fish and macro-crustaceans shall be identified and enumerated. From each sample, 10 individuals of each species shall be randomly measured (standard length to nearest mm), with up to 40 fish of rare or economically important species measured (remaining individuals shall be counted by species). Representative samples shall be returned to the laboratory for quality control purposes; animals not identified to species in the field shall be returned to the laboratory for identification to the lowest possible taxonomic level.

Task 4 & 5: Analyses and report writing. Quarterly progress and Annual data summary reports will be provided to Palm Beach County. Additionally, data and results shall be shared with local and regional resource management agencies (e.g., U.S. Fish and Wildlife Service, Florida Department of Environmental Protection), and shall be disseminated in the form of presentations at scientific conferences and/or manuscripts for publication.

IV. TIMEFRAMES AND DELIVERABLES:

Progress Reports and invoices shall be submitted according to the schedule below and shall describe progress to date, any problems, and resolution of these problems or recommendations for resolving these problems (Table 2). Letter or e-mail format for progress reports shall be acceptable. These Progress Reports are not data reports. The 9th Progress Report shall include a proposed outline/format for the Final Report. The Annual and Final Reports shall be cumulative, i.e., the Annual Report shall cover all data, including that covered in the first three Progress Reports and the Final Report shall cover all data collected during the three-year study. The Annual and Final Reports should include, at a minimum, a description of objectives, methods, analyses, results in graphic or tabular format, discussion and interpretation of results, and recommendations for future work. The Final Report shall also include analysis and summaries of sampling datasets beginning in July 2015 through December 2026 that are part of prior monitoring contracts between the County and FWC, R2015-0926, R2016-1697, R2018-1785, and R2020-1820. Data tables can be included as appendices. Community descriptions can be done with parametric and non-parametric statistical analysis methods depending on what type of analysis is supported by the data. The Final Report, Appendices, and all data in a spreadsheet or database format shall be submitted as the final product.

Table 2. Timeline

2024												
Task	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1. Monthly field sampling	x	x	x	x	x	x	x	x	x	x	x	x
2. Quarterly field sampling		x			x			x			x	
3. Species id and sample processing	x	x	x	x	x	x	x	x	x	x	x	x
4. Analyses										x	x	x
5. Report writing			x	x		x	x		x	x		x

2025												
Task	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1. Monthly field sampling	x	x	x	x	x	x	x	x	x	x	x	x
2. Quarterly field sampling		x			x			x			x	
3. Species id and sample processing	x	x	x	x	x	x	x	x	x	x	x	x
4. Analyses										x	x	x
5. Report writing			x	x		x	x		x	x		x

2026												
Task	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1. Monthly field sampling	x	x	x	x	x	x	x	x	x	x	x	x
2. Quarterly field sampling		x			x			x			x	
3. Species id and sample processing	x	x	x	x	x	x	x	x	x	x	x	x
4. Analyses										x	x	x
5. Report writing	x	x	x	x		x	x		x	x		x

2027												
Task	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1. Monthly field sampling												
2. Quarterly field sampling												
3. Species id and sample processing	x	x	x	x								
4. Analyses	x	x	x	x	x							
5. Report writing	x	x	x	x	x	x						

Payments and Invoicing

Each invoice shall include the Commission Contract Number, Contractor’s Federal Employer Identification (FEID) Number, dates of services, and details of services being invoiced. Invoices may be submitted electronically to the PBC project manager. If submitting hard copies, an original and two (2) copies of the invoice, plus all supporting documentation, shall be submitted. Consultant acknowledges that the County, in its sole discretion, may reject invoices lacking documentation necessary to justify invoiced expenses. Multiple tasks may be combined on a single invoice. No more than thirteen (13) invoices may be submitted under this contract. The final invoice is due by **June 15, 2027**. If a task is not completed, the invoice will be reduced by the amount listed in section V for the associated incomplete task.

V. BUDGET* / COST SCHEDULE:

Product	Date Due	Invoice Amount
2024/2025 – Phase 1		
<i>1st Progress Report</i>	Apr 15, 2024	\$14,247.99
<i>2nd Progress Report</i>	Jul 15, 2024	\$14,247.99
<i>3rd Progress Report</i>	Oct15, 2024	\$14,247.99
<i>1st Annual Report</i>	Mar 15, 2025	\$17,684.07
2024/2025 Total		\$60,428.04
2025/2026 – Phase 2		
<i>4th Progress Report</i>	Apr 15, 2025	\$14,538.45
<i>5th Progress Report</i>	Jul 15, 2025	\$14,538.45
<i>6th Progress Report</i>	Oct 15, 2025	\$14,538.45
<i>2nd Annual Report</i>	Mar 15, 2026	\$18,021.91
2025/2026 Total		\$61,637.26
2026/2027 – Phase 3		
<i>7th Progress Report</i>	Apr 15, 2026	\$14,828.91
<i>8th Progress Report</i>	Jul 15, 2026	\$14,828.91
<i>9th Progress Report</i>	Oct 15, 2026	\$14,828.91
<i>Draft Final Report</i>	Mar15, 2027	\$8,083.44
<i>Final Report</i>	Jun 15, 2027	\$10,300.00
2026/2027 Total		\$62,870.17
Total		\$184,935.47

* includes 3% annual increase to cover increases in the cost of equipment, fuel, and salary.

References

- FWC-FWRI. 2022. Fisheries-Independent Monitoring Program Procedure Manual. Florida Fish and Wildlife Research Institute. St. Petersburg, Florida.
- Palm Beach County Department of Environmental Resources Management (PBCERM). 2010. Lake Worth Lagoon Initiative: Summary of Projects and Fiscal Year 2010-2011 Funding Requests.
- Paperno, R. 2019. Central Lake Worth Lagoon Fisheries Monitoring Program. Final Report Prepared for Palm Beach County- Department of Environmental Resources Management, Contract # R2016-1697, Florida Fish and Wildlife Conservation Commission, Fish and Wildlife Research Institute. St. Petersburg, Florida, 85pp.
- Paperno, R. 2023. Central Lake Worth Lagoon Fisheries Monitoring Program. Annual Report Prepared for Palm Beach County- Department of Environmental Resources Management, Contract # R2020-1820, Florida Fish and Wildlife Conservation Commission, Fish and Wildlife Research Institute. St. Petersburg, Florida, 71pp.
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**INTEROFFICE MEMORANDUM
Palm Beach County
Environmental Resources Management**

DATE: January 22, 2024

TO: Verdenia C. Baker
County Administrator

THROUGH: Patrick Rutter *PWR*
Deputy County Administrator

FROM: Deborah Drum, Director *DD 1-25-24*
Environmental Resources Management

SUBJECT: REQUEST FOR DELEGATION OF APPROVAL AUTHORITY:
A Contract for Consulting/Professional Services (Contract) with the Florida Fish and Wildlife Conservation Commission (FWC) to provide fisheries monitoring in the Lake Worth Lagoon (LWL) in an amount not to exceed \$184,935.47 commencing upon execution and expiring on September 30, 2027.

On December 5, 2023, agenda item 3L-4 (R2023-1793), the Board of County Commissioners approved the County Administrator, or designee, to sign all future time extensions, task assignments, certifications, and other forms associated with the Contract, and any necessary minor amendments that do not substantially change the scope of work, or terms and conditions of the Contract.

This memorandum is my request for delegation of signatory authority for the Director or Deputy Director of Environmental Resources Management (ERM), to sign all future time extensions, task assignments, certifications, and other forms associated with this Contract, and any necessary minor amendments that do not substantially change the scope of work, or terms and conditions of the Contract. If you agree, please sign below and return this memorandum. I am available to answer any questions you may have concerning this request. Thank you in advance for your consideration.

APPROVED: *VBaker* DATE: *1/31/24*
Verdenia C. Baker, County Administrator

DD:kf
Attachment