

# City of Jacksonville

1st Floor - Council Chamber  
117 W. Duval Street



## Agenda

**Wednesday, January 11, 2023**

**9:00 AM - 11:30 A.M.**

**Council Chambers 1st Floor, City Hall**

### **Jacksonville Waterways Commission**

*CM Nick Howland, Chair*

*CM Randy DeFoor, Vice Chair*

*CM LeAnna Cumber*

*CM Tyrone Clark-Murray, Alternate*

*Jon Michael Barker*

*Robert Birtalan*

*Lane Burnet*

*Representative Kiyan Michael*

*Mark Devereaux*

*Andrew Fraden*

*Marc Hardesty*

*Richard Hartley*

*Jill D. Haskell*

*Richard J. Redick*

*Marshall Adkison, Ex-Officio*

*Adam Hoyles, Ex-Officio*

*Barbara Ireland Hobson, Legislative Assistant*

*Susan Grandin, Asst. General Counsel*

*Dr. Gerard Pinto, Jacksonville University*

*Richard Distel, Research Assistant*

*Jim Suber, Waterways Coordinator*

**Meeting Convened:****Meeting Adjourned:****Call To Order****Roll Call****1. Approval of Minutes for 10/12/22 & 12/14/22 JWC Meetings****2. New Business**[2022-0820](#)**Contact:****Ed Lukacovic**

ORD Adopting a Small-Scale Amendmnt to the FLUM 2030 Comp Plan at 6131 Cedar Point Rd, btwn Nungezer Rd & Pumpkin Hill Rd - (R.E. # 159855-0500) (48.82± Acres) – AGR-III & AGR-IV to RR – Jeffrey Andring & Catherine Andring (Appl # L-5752-22C) (Dist. 2-Ferraro) (Hinton) (LUZ) (PD & PC Apv)

(Rezoning 2022-821)

11/9/22 CO Introduced: LUZ, JWC

11/15/22 LUZ Read 2nd & Rerefer

11/22/22 CO Read 2nd & Rerefer

12/13/22 CO PH Addnt'l 1/10/23

LUZ PH – 1/4/23, 1/18/23

Public Hearing Pursuant to Sec 163.3187, F.S. & Ch 650, Pt 4, Ord Code – 12/13/22 & 1/10/23

**3. Old Business****Approval of 2023 FIND Grant Project Recommendations**

Contact

Brian Burket

**Jacksonville University - Manatee Protection Plan Contract Renewal**

Contact:

Eric Hinton

**Ortega River Derelict Vessels - Anchoring Limitation Area - Signage**

**Contact: Brian Burket**

Contact:

Brian Burket

## **Old Business Continued**

### **St. Johns River Status Report on Water Quality & Manatees**

Contact:

Dr. Gerard Pinto, JU

### **Updating Oyster and Shellfish Harvesting**

Contact:

Marshall Adkinson

### **Artificial Reef Subcommittee Update:**

Contact:

Commissioner Jill Haskell

### **St. Johns River Shoaling Subcommittee Update**

Contact:

Dr. Jeremy Stalker, JU

## **4. Public Comment**

### **Adjournment**

**Pursuant to the American with Disabilities Act, accommodations for persons with disabilities are available upon request. Please allow 1-2 business days notification to process; last minute requests will be accepted; but may not be possible to fulfill. Please contact Disabled Services Division at: V 904-255-5466, TTY-904-255-5476, or email your request to KaraT@coj.net.**

# City of Jacksonville

*1st Floor - Council Chamber  
117 W. Duval Street*



## Meeting Minutes

**Wednesday, October 12, 2022**

**9:00 AM**

**Council Chambers 1st Floor, City Hall**

### **Jacksonville Waterways Commission**

*CM Nick Howland, Chair*

*CM Randy DeFoor, Vice Chair*

*CM LeAnna Cumber*

*CM Tyrona Clark-Murray, Alternate*

*Jon Michael Barker*

*Robert Birtalan*

*Lane Burnett*

*Senator Audrey Gibson*

*Mark Devereaux*

*Andrew Fraden*

*Marc Hardesty*

*Richard Hartley*

*Jill D. Haskell*

*Raymond S. Pringle, Jr.*

*Marshall Adkison, Ex-Officio*

*Adam Hoyles, Ex-Officio*

*Barbara Ireland Hobson, Legislative Assistant*

*Sharon Wyskiel, Asst. General Counsel*

*Dr. Gerard Pinto, Jacksonville University*

*Richard Distel, Research Assistant*

*Jim Suber, Waterways Coordinator*



**Start: 9:02 am****End: 10:27 am**

**Present**      12 - Commissioner Lane Burnett, Commissioner Mark Devereaux, Commissioner Marc Hardesty, Commissioner Jon Michael Barker, Chair Nick Howland, Commissioner LeAnna Cumber, Commissioner Robert Birtalan, Commissioner Jill Haskell, Ex-Officio Marshall Adkison, Ex-Officio Adam Hoyles, Commissioner Andrew Fraden, and Commissioner Richard Hartley

**Excused**      4 - Commissioner Raymond Pringle, Vice Chair Randy DeFoor, Commissioner Audrey Gibson , and Alternate Tyrona Clark-Murray

**2. Roll Call**

**2. Call To Order**

**3. St. Johns River Status Report on Water Quality - Dr. Gerard Pinto**

Dr. Pinto said there has been high levels of salinity and an increase in flood water. Dr. Pinto said that algae should be less of an issue than in the summer. Mr. Fraden asked when we can expect the flood waters to go down. Dr. Pinto said that it is difficult to say when the flood waters will go down.

**4. St. Johns River Status Report on Manatees - Dr. Gerard Pinto**

Dr. Pinto said there have been no more manatee deaths since the last meeting, leaving the total as of this year at 7 manatee deaths.

**5. ADA Waterways Status Report - Kara Tucker**

Kara Tucker, Chief of Disabled Services, gave a PowerPoint presentation. The presentation covered the ADA compliance work the division does which includes education and public awareness. Ms. Tucker went over scholarship opportunities and talked about the Mayor's Disability Council. Ms. Tucker then went over the list of accessible fishing docks in Jacksonville.

**6. Approval of Minutes**

Mr. Birtalan, Mr. Devereaux, CM Howland, CM Cumber, Mr. Fraden, Ms. Haskell, Mr. Barker, Mr. Burnett, and Mr. Hartley voted to approve the minutes with a vote of 9 to 0.

**7. New Business**

**8. Old Business**

**Discussion: Right Whale Speed Zone Resolution**

Chair Howland discussed the resolution and said that there has been an extension for public comment to October 31st.

**Discussion - Artificial Reef Subcommittee - Status Update**

The Artificial Reef Subcommittee will consist of Ms. Haskell as chair, Mr. Barker, Mr. Hartley, Mr. Hoyles and Mr. Adkison. The next meeting of the subcommittee will take place on Wednesday, October 19th at 9am.

**Discussion: St. Johns River Shoaling Subcommittee - Status Update**

The St. Johns River Shoaling Subcommittee will consist of Mr. Hardesty as chair, Mr. Devereaux, Ms. Haskell, Mr. Hoyles, and Mr. Hartley. Mr. Hardesty talked about the previous work the subcommittee has done on the issue of shoaling and the difficulty they had finding answers. Dr. Pinto said the shoal would need to be studied by a certified lab in order to be able to seen as legitimate.

**Florida Inland Navigation District (FIND) Subcommittee**

Brian Burket, Parks Department, explained the process of having a subcommittee meet to approve FIND projects. The members of the subcommittee are Mr. Barker as chair, Mr. Hoyles, Mr. Hartley, Mr. Birtalan and Mr. Fraden. They will have a November meeting to discuss the projects.

**9. Public Comment**

Carnell Olivier talked about a need for a resiliency plan.

Azi Yavari and Davis Bales talked about the need for a slow speed zone for the area that their rowing club practices.

John Nooney talked about artificial reefs and kayak launches.

**10. Adjournment**

Pursuant to the American with Disabilities Act, accommodations for persons with disabilities are available upon request. Please allow 1-2 business days notification to process; last minute requests will be accepted; but may not be possible to fulfill. Please contact Disabled Services Division at: V 904-255-5466, TTY-904-255-5476, or email your request to KaraT@coj.net.

Minutes: Richard Distel, Council Research

RDistel@coj.net 904.255.5140

Posted 10.14.2022 5:00 pm

# City of Jacksonville

*1st Floor - Council Chamber  
117 W. Duval Street*



## Meeting Minutes

**Wednesday, December 14, 2022**

**9:00 AM**

**Council Chambers 1st Floor, City Hall**

### **Jacksonville Waterways Commission**

*CM Nick Howland, Chair*

*CM Randy DeFoor, Vice Chair - Excused Absence*

*CM LeAnna Cumber - Excused Early Departure*

*CM Tyrona Clark-Murray, Alternate*

*Jon Michael Barker*

*Robert Birtalan*

*Lane Burnett - Excused Absence*

*Senator Audrey Gibson - Excused Absence*

*Mark Devereaux*

*Andrew Fraden*

*Marc Hardesty - Excused Absence*

*Richard Hartley*

*Jill D. Haskell - Excused Absence*

*Richard J. Redick*

*Marshall Adkison, Ex-Officio*

*Adam Hoyles, Ex-Officio*

*Barbara Ireland Hobson, Legislative Assistant*

*Sharon Wyskiel, Asst. General Counsel*

*Dr. Gerard Pinto, Jacksonville University*

*Richard Distel, Research Assistant*

*Jim Suber, Waterways Coordinator*

**Meeting Convened: 9:01 AM Meeting Adjourned: 10:59 AM**

**Attendance**

**Present**      9 -    Commissioner Mark Devereaux, Commissioner Jon Michael Barker, Chair  
Nick Howland, Commissioner LeAnna Cumber, Commissioner Robert  
Birtalan, Ex-Officio Marshall Adkison, Ex-Officio Adam Hoyles,  
Commissioner Andrew Fraden, and Commissioner Richard Hartley

**Excused**      5 -    Commissioner Lane Burnett, Commissioner Marc Hardesty, Vice Chair  
Randy DeFoor, Commissioner Audrey Gibson , and Commissioner Jill  
Haskell

**Visiting Council Member:**  
**CM Ferraro - 2022-820**

**1.      New Business**

**2022-0820**    ORD Adopting a Small-Scale Amendmnt to the FLUM 2030 Comp Plan at 6131  
Cedar Point Rd, btwn Nungezer Rd & Pumpkin Hill Rd - (R.E. # 159855-0500)  
(48.82± Acres) – AGR-III & AGR-IV to RR – Jeffrey Andring & Catherine  
Andring (Appl # L-5752-22C) (Dist. 2-Ferraro) (Hinton) (LUZ) (PD & PC Apv)  
(Rezoning 2022-821)  
11/9/22 CO Introduced: LUZ, JWC  
11/15/22 LUZ Read 2nd & Rerefer  
11/22/22 CO Read 2nd & Rerefer  
12/13/22 CO PH Addnt'l 1/10/23  
LUZ PH – 1/4/23  
Public Hearing Pursuant to Sec 163.3187, F.S. & Ch 650, Pt 4, Ord Code –  
12/13/22 & 1/10/23

**Ed Lukacovic, Planning Department, explained the legislation with a PowerPoint presentation. CM Ferraro said he is against the development. Paul Harden, representing the applicant, said this project will not impact the waterways and the property is not in the flood plain. Mr. Barker expressed his concerns with the project.**

**Sharlene Byrum, Jimmy Wood, Deborah Wood, Darlane Valentine, Danielle D'Amato, Pete Bis, Liss Rinaman and Allan Assaf spoke against the legislation and said it will impact the wetlands.**

**2022-0874**

ORD Auth the Borrowing & Approp From the City's Commercial Paper Facility in the Up To Max Amt of \$17,500,000, To Prov: (1) A \$12,500,000, 10-Yr Term, 3.5% Interest Loan; & (2) A \$5,000,000 Revolving Line of Credit; Prov for Funds Carryover to FY 25-26; Auth a \$10,000,000 Grant, Subj to Future Appropriation, in Each Case to the JAXPORT to Support the Raising of the Fulton Cut Crossing Electric Transmission Lines, to Increase the Number & Capacity of Vessels Able to call on JAXPORT Ports; Amend 2022-504-E, the FY 22-23 Budget Ord, to Replace the 2nd Revised Schedule B4 in Order to Auth the Borrowing &/or the Issuance of Debt For the "Raising of Powerlines" & "JPA Obligation – Fulton Cut Powerlines" Projs; Auth the City to Enter Into an Agrmt With the JAXPORT to Prov the Loan & Grant as Further Detailed Therein; Invoking Exception of 126.107 (G) (Exemptions), Ch 126 (Procurement Code), Ord Code, to Direct Contract With JAXPORT; Requesting That the Finance & Admin Dept Administer the Agrmt Authorized Herein (B.T. 23-027) (Sawyer) (Introduced by CP Freeman at Req of Mayor) (Co-Introduced by CVP Salem) (JWC Apv)

11/22/22 CO Introduced: NCSPHS, R, F, TEU, JWC

12/5/22 NCSPHS Read 2nd & Rerefer

12/5/22 R Read 2nd & Rerefer

12/6/22 F Read 2nd & Rerefer

12/6/22 TEU Read 2nd & Rerefer

12/13/22 CO PH Read 2nd & Rerefer

1/3/23 NCSPHS Approve 7-0

1/3/23 R Approve 7-0

1/4/23 F Approve 7-0

Public Hearing Pursuant to Ch 166, F.S. & CR 3.601 – 12/13/22

Contact:

John Sawyer

**Beth McCague, CFO JAXPORT, gave a presentation detailing the authorizing loan of borrowed funds which will go towards the operational improvements at JAXPORT. Ms. McCague talked about the project and the impact of raising the power lines. Ms. McCague said this will support trade and have a strong impact on business coming into Jacksonville. Mr. Birtalan voiced his support for the project. Mr. Devereaux asked about under water power lines. Ms. McCague said those were determined to be too expensive. It was determined that Mr. Birtalan might have a conflict and out of an abundance of caution he abstained from the vote.**

**John Nooney talked about public participation.**

**CM Howland, CM Cumber, Mr. Redick, Mr. Devereaux, Mr. Fraden, Mr. Barker and Mr. Hartley voted yes. Mr. Birtalan abstained from the vote. The vote was 7-0-1**

**New Business Continued**

**Ortega River Derelict Vessels**

**Mr. Barker talked about his concerns regarding specific derelict vessels on the Ortega River and the damage that has been caused by these vessels. Mr. Barker said that action needs to be taken on this impact in the river.**

Contact: Commissioner Barker

**3. St. Johns River Status Report on Water Quality & Manatees - Dr. Gerard Pinto**

**Dr. Pinto gave an update on water quality and said that water levels are running approximately one foot higher than normal. The water has been cooling and could have impacts on manatees. Dr. Pinto talked about the rehab program for manatees at the zoo. Mr. Hoyles asked about the experiment with clams. Mr. Adkison said he will give a presentation on this project at the next meeting.**

**4. Jacksonville University - Manatee Protection Plan Contract Renewal - Eric Hinton, Community Planning**

**Eric Hinton explained the changes to the plan and the actions within the plan. He confirmed that this is the last renewal on the contract.**

**5. Approval of Minutes****6. Old Business****FIND Subcommittee - Presentation - 2023 FIND Grant Project Recommendations**

**Brian Burket, Parks Department, went over the recommendations from the FIND subcommittee meeting. Since there was not a quorum, the vote was postponed until the next waterways committee meeting.**

Contact: Commissioner Barker & Brian Burket, Waterfront Project Manager

**St. Johns River Shoaling Subcommittee - 10/19/22 Meeting Update**

Contact: Commissioner Hardesty

**Artificial Reef Subcommittee - 10/19/22 Meeting Update**

Contact: Commissioner Haskell

**7. Public Comment**

**Davis Bales and Azi Yavari talked about the need for a speed restriction zone at the Cesery Bridge.**

**John Nooney talked about the Artificial Reef Trust Fund.**

## 8. Adjournment

**Pursuant to the American with Disabilities Act, accommodations for persons with disabilities are available upon request. Please allow 1-2 business days notification to process; last minute requests will be accepted; but may not be possible to fulfill. Please contact Disabled Services Division at: V 904-255-5466, TTY-904-255-5476, or email your request to KaraT@coj.net.**

Minutes: Richard Distel, Council Research

RDistel@coj.net 904.255.5140

Posted 1.4.2023 5:00 pm

1 Introduced by the Land Use and Zoning Committee:  
2  
3

4 **ORDINANCE 2022-820**

5 AN ORDINANCE ADOPTING A SMALL-SCALE AMENDMENT TO  
6 THE FUTURE LAND USE MAP SERIES OF THE *2030*  
7 *COMPREHENSIVE PLAN* BY CHANGING THE FUTURE LAND  
8 USE DESIGNATION FROM AGRICULTURE-III (AGR-III)  
9 AND AGRICULTURE-IV (AGR-IV) TO RURAL RESIDENTIAL  
10 (RR) ON APPROXIMATELY 48.82± ACRES LOCATED IN  
11 COUNCIL DISTRICT 2 AT 6131 CEDAR POINT ROAD,  
12 BETWEEN NUNGEZER ROAD AND PUMPKIN HILL ROAD (R.E.  
13 NO. 159855-0500), OWNED BY JEFFREY ANDRING AND  
14 CATHERINE ANDRING, AS MORE PARTICULARLY DESCRIBED  
15 HEREIN, PURSUANT TO APPLICATION NUMBER L-5752-  
16 22C; PROVIDING A DISCLAIMER THAT THE AMENDMENT  
17 GRANTED HEREIN SHALL NOT BE CONSTRUED AS AN  
18 EXEMPTION FROM ANY OTHER APPLICABLE LAWS;  
19 PROVIDING AN EFFECTIVE DATE.  
20

21 **WHEREAS**, pursuant to the provisions of Section 650.402(b),  
22 *Ordinance Code*, and Section 163.3187(1), *Florida Statutes*, an  
23 application for a proposed Small-Scale Amendment to the Future Land  
24 Use Map series (FLUMs) of the *2030 Comprehensive Plan* to change the  
25 Future Land Use designation from Agriculture-III (AGR-III) and  
26 Agriculture-IV (AGR-IV) to Rural Residential (RR) on approximately  
27 48.82± acres of certain real property in Council District 2 was filed  
28 by Paul Harden, Esq., on behalf of the owners, Jeffrey Andring and  
29 Catherine Andring; and

30 **WHEREAS**, the Planning and Development Department reviewed the  
31 proposed revision and application and has prepared a written report



1 and rendered an advisory recommendation to the City Council with  
2 respect to the proposed amendment; and

3 **WHEREAS**, the Planning Commission, acting as the Local Planning  
4 Agency (LPA), held a public hearing on this proposed amendment, with  
5 due public notice having been provided, reviewed and considered  
6 comments received during the public hearing and made its  
7 recommendation to the City Council; and

8 **WHEREAS**, the Land Use and Zoning (LUZ) Committee of the City  
9 Council held a public hearing on this proposed amendment to the *2030*  
10 *Comprehensive Plan*, pursuant to Chapter 650, Part 4, *Ordinance Code*,  
11 considered all written and oral comments received during the public  
12 hearing, and has made its recommendation to the City Council; and

13 **WHEREAS**, the City Council held a public hearing on this proposed  
14 amendment, with public notice having been provided, pursuant to  
15 Section 163.3187, *Florida Statutes* and Chapter 650, Part 4, *Ordinance*  
16 *Code*, and considered all oral and written comments received during  
17 public hearings, including the data and analysis portions of this  
18 proposed amendment to the *2030 Comprehensive Plan* and the  
19 recommendations of the Planning and Development Department, the  
20 Planning Commission and the LUZ Committee; and

21 **WHEREAS**, in the exercise of its authority, the City Council has  
22 determined it necessary and desirable to adopt this proposed amendment  
23 to the *2030 Comprehensive Plan* to preserve and enhance present  
24 advantages, encourage the most appropriate use of land, water, and  
25 resources consistent with the public interest, overcome present  
26 deficiencies, and deal effectively with future problems which may  
27 result from the use and development of land within the City of  
28 Jacksonville; now, therefore

29 **BE IT ORDAINED** by the Council of the City of Jacksonville:

30 **Section 1. Purpose and Intent.** This Ordinance is adopted  
31 to carry out the purpose and intent of, and exercise the authority

1 set out in, the Community Planning Act, Sections 163.3161 through  
2 163.3248, *Florida Statutes*, and Chapter 166, *Florida Statutes*, as  
3 amended.

4 **Section 2. Subject Property Location and Description.** The  
5 approximately 48.82± acres are located in Council District 2 at 6131  
6 Cedar Point Road, between Nungezer Road and Pumpkin Hill Road (R.E.  
7 No. 159855-0500), as more particularly described in **Exhibit 1**, dated  
8 July 6, 2022, and graphically depicted in **Exhibit 2**, both attached  
9 hereto and incorporated herein by this reference (the "Subject  
10 Property").

11 **Section 3. Owner and Applicant Description.** The Subject  
12 Property is owned by Jeffrey Andring and Catherine Andring. The  
13 applicant is Paul Harden, Esq., 1431 Riverplace Boulevard, Suite 901,  
14 Jacksonville, Florida 32207; (904) 396-5731.

15 **Section 4. Adoption of Small-Scale Land Use Amendment.** The  
16 City Council hereby adopts a proposed Small-Scale revision to the  
17 Future Land Use Map series of the *2030 Comprehensive Plan* by changing  
18 the Future Land Use Map designation of the Subject Property from  
19 Agriculture-III (AGR-III) and Agriculture-IV (AGR-IV) to Rural  
20 Residential (RR), pursuant to Application Number L-5752-22C.

21 **Section 5. Applicability, Effect and Legal Status.** The  
22 applicability and effect of the *2030 Comprehensive Plan*, as herein  
23 amended, shall be as provided in the Community Planning Act, Sections  
24 163.3161 through 163.3248, *Florida Statutes*, and this Ordinance. All  
25 development undertaken by, and all actions taken in regard to  
26 development orders by governmental agencies in regard to land which  
27 is subject to the *2030 Comprehensive Plan*, as herein amended, shall  
28 be consistent therewith as of the effective date of this amendment  
29 to the plan.

30 **Section 6. Effective Date of this Plan Amendment.**

31 (a) If the amendment meets the criteria of Section 163.3187,

1 *Florida Statutes*, as amended, and is not challenged, the effective  
2 date of this plan amendment shall be thirty-one (31) days after  
3 adoption.

4 (b) If challenged within thirty (30) days after adoption, the  
5 plan amendment shall not become effective until the state land  
6 planning agency or the Administration Commission, respectively,  
7 issues a final order determining the adopted Small-Scale Amendment  
8 to be in compliance.

9 **Section 7. Disclaimer.** The amendment granted herein shall  
10 **not** be construed as an exemption from any other applicable local,  
11 state, or federal laws, regulations, requirements, permits or  
12 approvals. All other applicable local, state or federal permits or  
13 approvals shall be obtained before commencement of the development  
14 or use, and issuance of this amendment is based upon acknowledgement,  
15 representation and confirmation made by the applicant(s), owner(s),  
16 developer(s) and/or any authorized agent(s) or designee(s) that the  
17 subject business, development and/or use will be operated in strict  
18 compliance with all laws. Issuance of this amendment does **not** approve,  
19 promote or condone any practice or act that is prohibited or  
20 restricted by any federal, state or local laws.

21 **Section 8. Effective Date.** This Ordinance shall become  
22 effective upon signature by the Mayor or upon becoming effective  
23 without the Mayor's signature.

24  
25 Form Approved:

26  
27           /s/ Mary E. Staffopoulos          

28 Office of General Counsel

29 Legislation Prepared By: Eric Hinton

30 GC-#1533097-v1-2022-820\_(L-5752-22C).docx  
31

# ORDINANCE 2022-820

## Legal Description

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A PORTION OF THE SOUTHEAST 1/4 OF SECTION 32, TOWNSHIP 1 NORTH, RANGE 28 EAST, DUVAL COUNTY, FLORIDA. BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

COMMENCE AT THE INTERSECTION OF THE EAST LINE OF SAID SECTION 32 WITH THE NORTHERLY RIGHT OF WAY LINE OF CEDAR POINT ROAD (A 60' RIGHT OF WAY), THENCE S77°38'49"W, ALONG SAID NORTHERLY RIGHT OF WAY LINE, A DISTANCE OF 444 FEET, MORE OR LESS TO THE CENTERLINE OF AN UN-NAMED CREEK AND THE POINT OF BEGINNING; THENCE S77°38'49"W, CONTINUING ALONG SAID NORTHERLY RIGHT OF WAY LINE, A DISTANCE OF 890 FEET, MORE OR LESS TO THE WEST LINE OF THE EAST 12 OF SAID SOUTHEAST 14; THENCE N01°25'02"W, ALONG SAID WEST LINE, A DISTANCE OF 1440.47 FEET TO THE SOUTHWEST CORNER OF THOSE LANDS DESCRIBED IN OFFICIAL RECORDS BOOK 9494, PAGE 267 OF THE CURRENT PUBLIC RECORDS OF SAID COUNTY; THENCE S89°16'17"E, ALONG THE SOUTH LINE OF LAST SAID LANDS, A DISTANCE OF 658.72 FEET TO THE SOUTHEAST CORNER OF LAST SAID LANDS; THENCE N01°19'04"W, ALONG THE EAST LINE OF LAST SAID LANDS, A DISTANCE OF 657.06 FEET TO THE NORTH LINE OF SAID SOUTHEAST 14; THENCE S89°34'21"E, ALONG LAST SAID NORTH LINE, A DISTANCE OF 660.52 FEET TO SAID EAST LINE OF SECTION 32; THENCE S01°06'30"E, ALONG SAID EAST LINE OF SECTION 32, A DISTANCE OF 711 FEET, MORE OR LESS TO THE CENTERLINE OF SAID UN-NAMED CREEK; THENCE SOUTHWESTERLY, DEPARTING SAID EAST LINE OF SECTION 32 AND ALONG THE CENTERLINE OF SAID CREEK, A DISTANCE OF 1422 FEET, MORE OR LESS TO SAID NORTHERLY RIGHT OF WAY LINE OF CEDAR POINT ROAD AND THE POINT OF BEGINNING.

BEING CUT OUT OF THE FOLLOWING PROPERTY:

PARCEL 1:

THAT PORTION OF THE SOUTHEAST ¼ OF THE SOUTHEAST ¼ OF SECTION 32, TOWNSHIP 1 NORTH, RANGE 28 EAST, JACKSONVILLE, DUVAL COUNTY, FLORIDA LYING NORTHERLY OF THE EXISTING RIGHT OF WAY OF CEDAR POINT ROAD,

LESS:

THE WESTERLY 630 FEET OF THE NORTHERLY 350 FEET OF THAT PORTION OF THE SOUTHEAST ¼ OF THE SOUTHEAST ¼ OF SECTION 32, TOWNSHIP 1 NORTH, RANGE 28 EAST, JACKSONVILLE, DUVAL COUNTY, FLORIDA.

PARCEL 2:

THE SOUTH ½ OF THE NORTHEAST ¼ OF THE SOUTHEAST ¼ OF SECTION 32, TOWNSHIP 1 NORTH RANGE 28 EAST, JACKSONVILLE, DUVAL COUNTY, FLORIDA.

PARCEL 3:

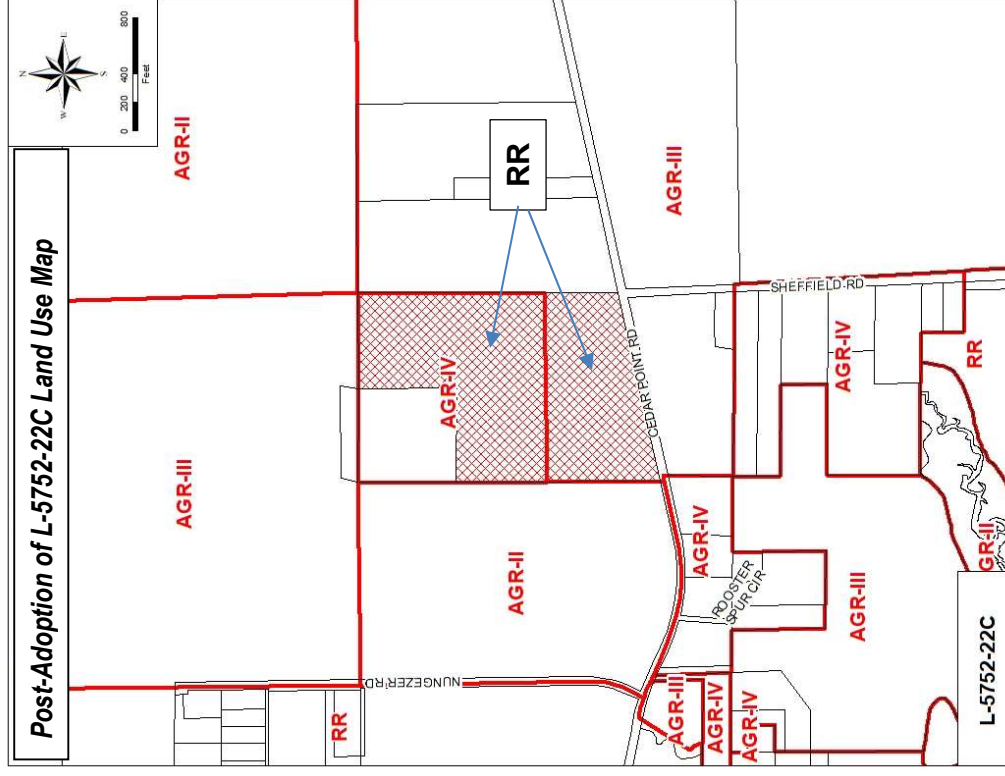
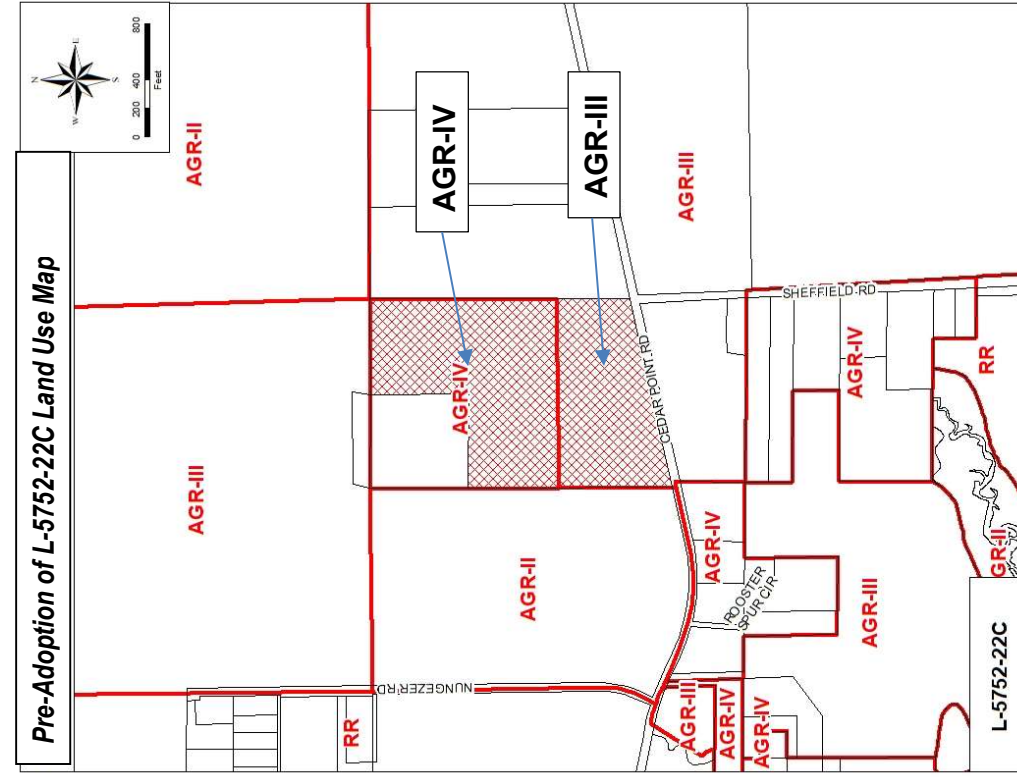
THE NORTHEAST ¼ OF THE NORTHEAST ¼ OF THE SOUTHEAST ¼ OF SECTION 32, TOWNSHIP 1 NORTH RANGE 28 EAST, JACKSONVILLE, DUVAL COUNTY, FLORIDA.

LESS:

THE WESTERLY 630 FEET OF THE NORTHERLY 350 FEET OF THAT PORTION OF THE SOUTHEAST ¼ OF THE SOUTHEAST ¼ OF SECTION 32, TOWNSHIP 1 NORTH, RANGE 28 EAST, JACKSONVILLE, DUVAL COUNTY, FLORIDA

PARCEL 4:

THE WESTERLY 630 FEET OF THE NORTHERLY 350 FEET OF THAT PORTION OF THE SOUTHEAST ¼ OF THE SOUTHEAST ¼ OF SECTION 32, TOWNSHIP 1 NORTH, RANGE 28 EAST, JACKSONVILLE, DUVAL COUNTY, FLORIDA. AND BEING BOUNDING BY BOOK 9494, PAGE 267; BOOK 7929, PAGE 445; AND CEDAR POINT ROAD



# Request for Small Scale Land Use Amendment to Future Land Use Map Series

The seal of the City of Jacksonville, Florida, is a circular emblem. It features a central illustration of a palmetto tree on the left and a ship on the right. The words "CITY OF JACKSONVILLE" are written in a circle around the top, and "FLORIDA" is written around the bottom. Two small stars separate the top and bottom text on the right side.

**From: Agriculture III and IV (AGR-III and AGR-IV)**

**To: Rural Residential (RR)**

## Planning District: 6

## Council District: 2

**Identification Number: L-5752-22C**

Exhibit 2 (Page 1 of 1)

# City of Jacksonville, Florida

*Lenny Curry, Mayor*

City Hall at St. James  
117 W. Duval St.  
Jacksonville, FL 32202  
(904) 630-CITY  
[www.coj.net](http://www.coj.net)

December 8, 2022

The Honorable Terrance Freeman, President  
The Honorable Kevin Carrico, LUZ Chair  
And Members of the City Council  
117 West Duval Street  
Jacksonville, Florida 32202

**RE: Planning Commission Advisory Report / Ordinance No. 2022-820/Application No. L-5752-22C**

Dear Honorable Council President Freeman, Honorable Council Member and LUZ Chairman Carrico and Honorable Members of the City Council:

Pursuant to the provisions of Section 650.405 *Planning Commission Advisory Recommendation and Public Hearing*, the Planning Commission **APPROVED** Ordinance 2022-820 on December 8, 2022.

P&DD Recommendation

APPROVE

PC Issues:

Fourteen citizens attended the meeting to express opposition to the amendment. The following issues were presented by the opposition:

- Proximity to Pumpkin Hill Creek Preserve State Park and controlled burns
- Water pollution
- Cedar Point Rd – Sawpit Zoning Overlay should not exclude the site
- School capacity
- Development increases flooding
- Same request denied in 2020
- Inconsistent and incompatible with area
- Limited reach of mailed public notices
- Negative impacts to property value
- Poor road conditions

The Commission discussion focused on the following issues:

- Waterways Commission should be first review
- Not appropriate for area
- Exemption from the zoning overlay does not support amendments
- Limited reach of mailed public notices
- Projected increase of 23 students

- Planning Department recommendation of approval
- Omission from zoning overlay with understanding that owner would file request for entitlements and overlay does not apply to site
- RR land use permits clustering of development at 2 du/ac
- Request is low intensity and reasonable for the area
- Recognition of landowner rights
- Balance land development and environmental protection
- Non-conforming lots on Black Hammock Island
- Site could be purchased for preservation
- Few areas near and surrounding are developable
- Portions of the property are high and dry for development
- Substantial investment in surrounding preservation lands
- Substantial amount of land already purchased for preservation

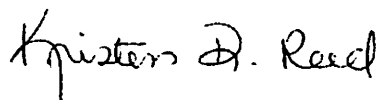
**PC Vote:**

**5-2 APPROVE**

Alexander Moldovan, Chair	Aye
Ian Brown, Vice-Chair	Nay
Jason Porter, Secretary	Aye
Marshall Adkison	Nay
Daniel Blanchard	Aye
Jordan Elsbury	Aye
Joshua Garrison	Aye
David Hacker	Absent

If you have any questions or concerns, please do not hesitate to contact me at your convenience.

Sincerely,



Kristen D. Reed, AICP  
Chief of Community Planning Division  
City of Jacksonville - Planning and Development Department  
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Jacksonville, FL 32202  
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**Report of the Jacksonville Planning and Development Department**

**Small-Scale Future Land Use Map Amendment – December 2, 2022**

**Ordinance/Application No.:** 2022-820 / L-5752-22C

**Property Location:** 6131 Cedar Point Road

**Real Estate Number(s):** 159855-0500

**Development Area:** Rural Development Area

**Property Acreage:** 48.82 acres

**Planning District:** District 6, North

**City Council District:** District 2

**Applicant:** Paul Harden, Esquire

**Current Land Use:** Agriculture III (AGR-III) (19.22 acres) and  
Agriculture IV (AGR-IV) (29.60 acres)

**Proposed Land Use:** Rural Residential (RR)

**Current Zoning:** Agriculture (AGR)

**Proposed Zoning:** Planned Unit Development (PUD)

***RECOMMENDATION:*** ***APPROVE***

**APPLICANT'S JUSTIFICATION FOR THE LAND USE MAP  
AMENDMENT**

The applicant would like to develop the property as single-family residential.

**BACKGROUND**

The subject property is located on the north side of Cedar Point Road, across from Sheffield Road, and abuts the Pumpkin Hill Creek Preserve State Park. Cedar Point Road is classified as a collector roadway. The applicant is proposing an amendment to Future Land Use Map series (FLUMs) from AGR-III and AGR-IV to Rural Residential (RR), with a companion Planned Unit Development (PUD) rezoning.

The subject site is currently being used as a single-family residence and for silviculture uses. The Pumpkin Hill Creek State Preserve is located to the north, south, and west of



the subject site. Undeveloped agriculturally-designated privately-owned land abuts the subject site to the east and to the northwest.

Ordinance 2020-002 was filed for this same property and the same land use request as a large-scale land use map amendment. The City Council denied the amendment on September 8, 2020. Subsequent to the denial of 2020-002, the City Council adopted the Cedar Point – Sawpit Zoning Overlay. The site is surrounded by properties that are included in the Cedar Point – Sawpit Zoning Overlay that was adopted by Ordinance 2021-534-E. The intent of the overlay is to protect the area from overdevelopment by limiting housing density to one dwelling unit per one net acre of land. However, the amendment site is specifically not included in the overlay and therefore not subject to the density limitation.

In the previous land use amendment application subject to Ordinance 2020-002, the applicant referred to two entitled developments in their application: Tidewater and Bradley Pond. Tidewater is located approximately  $\frac{3}{4}$  of a mile to the west of the subject site. The development has a designation of RR land use and PUD zoning. The rezoning for this site was adopted in 2003 and allows for a maximum of 398 single-family homes of varying lot widths (80 – 110 feet) and 50 acres of open space; the total acreage of the site is approximately 211.6 acres. Bradley Pond is located approximately 1.5 miles to the west of the subject site. The development is within the Low Density Residential (LDR) and RR land use categories with a recently adopted (August 2019) rezoning to PUD. This development is for a single-family residential project, with a maximum of 139 units of varying lot widths (50 – 70 feet). For both developments, public water and sewer has been/will be made available.

**The adjacent land use categories, zoning districts and property uses are as follows:**

**North:** Land Use: AGR-III and AGR-IV  
Zoning: AGR, Cedar Point-Sawpit Zoning Overlay  
Property Use: Residential/agricultural and State Park

**South:** Land Use: AGR-III  
Zoning: AGR, Cedar Point-Sawpit Zoning Overlay  
Property Use: State Park

**East:** Land Use: AGR-III  
Zoning: AGR, Cedar Point-Sawpit Zoning Overlay  
Property Use: Undeveloped

**West:** Land Use: AGR-II and AGR-IV  
Zoning: AGR, Cedar Point-Sawpit Zoning Overlay  
Property Use: Residential/agricultural and State Park

## **IMPACT ASSESSMENT**

Potential impacts of a proposed land use map amendment have been analyzed by comparing the Development Impact Standards for the subject site's existing vs. proposed land use categories unless maximum density/intensity is noted on the Annotated FLUM or is in a site specific policy. Development Impact Standards are detailed in FLUE Policy 1.2.16, *Development Standards for Impact Assessment*. These standards produce development potentials as shown in this section.

### **Land Use Amendment Impact Assessment - Application Number L-5752-22C**

Development Analysis		48.82 Acres – 2,126,599 sq. ft.	
Development Boundary		Rural Area	
Roadway Frontage Classification / State Road		Cedar Point Road - Collector	
Plans and/or Studies		North Vision Plan	
Site Utilization		Current: Residential and Silviculture	Proposed: Residential Development
Land Use / Zoning		Current: AGR-III and IV / AGR	Proposed: RR / PUD
Development Standards for Impact Assessment		Current: AGR-III – 1 DU/10 Acres AGR-IV – 1 DU/2.5 Acres	Proposed: 2 DU / Acre with JEA water and sewer
Development Potential		Current: 12 SF DU (1 + 11 DU / Acre)	Proposed: 97 SF DU
Net Increase or Decrease in Maximum Density		Increase of 85 DU	
Net Increase or Decrease in Potential Floor Area		N/A	
Population Potential		Current: 31 People	Proposed: 258 People
Special Designation Areas			
Aquatic Preserve		No	
Septic Tank Failure Area		No	
Evacuation Zone		Evacuation Zone A	
Airport Environment Zone		No	
Industrial Preservation Area		No	
Cultural Resources		No	
Archaeological Sensitivity		High, Medium, and Low	
Historic District		No	
Coastal High Hazard		No	
Adaptation Action Area		Yes	
Groundwater Aquifer Recharge Area		Discharge	
Wellhead Protection Zone		No	

<b>Development Analysis</b>		<b>48.82 Acres – 2,126,599 sq. ft.</b>
Boat Facility Siting Zone	No	
Brownfield	No	
<b>Public Facilities</b>		
Potential Roadway Impact	802 net new daily trips	
Potential Public-School Impact	23 additional students	
Water Provider	JEA	
Potential Water Impact	Increase of 22,610 gpd	
Sewer Provider	JEA	
Potential Sewer Impact	Increase of 16,957 gpd	
Potential Solid Waste Impact	Increase of 221 tons per year	
Drainage Basin/Sub-basin	Major: St. Johns River downstream of Trout River Sub-Basin: Clapboard Creek	
Recreation and Parks	Pumpkin Hill Creek Preserve State Park	
Mass Transit Access	None	
<b>Natural Features</b>		
Elevations	5' to 21'	
Land Cover	1180: Residential, rural – one unit on 2 or more acres 4110: Pine flatwoods 4340: Upland mixed coniferous/hardwood 5300: Reservoirs - pits, retention ponds, dams 6170: Mixed wetland hardwoods 6250: Hydric pine flatwoods 6300: Wetland forested mixed	
Soils	24: Hurricane and Ridgewood Soils, 0-5% slopes 32: Leon Find Sand, 0-2% slopes 58: Pottsburg Fine Sand, high, 0-3% slopes 62: Rutlege Mucky Find Sand, 0-2% slopes, frequently flooded	
Flood Zones	No	
Wetlands	Yes – Cat II and III	
Wildlife (applicable to sites greater than 50 acres)	N/A	

### Utility Capacity

The calculations to determine the water and sewer flows contained in this report and/or this spreadsheet have been established by the City of Jacksonville Planning and Development Department and have been adopted by JEA solely for the purpose of preparing this report and/or this spreadsheet. The method of calculating water and sewer flows to properly size infrastructure shall continue to be based on JEA's Water, Sewer and Reuse for New Development Projects document (latest edition).

A JEA letter of service availability has been provided and is on file with the Planning and Development Department. The letter, dated May 31, 2022, identifies an existing 12-inch water main and 8-inch sewer force main within the right-of-way of Cedar Point Road approximately 400 feet west of Boney Road (which is approximately 4,500 feet to the west of the subject site). The potable water connection point was not reviewed for site fire protection requirements. Private fire protection analysis will be required. Additionally, connection to the JEA-owned sewer system will require the design and construction of an onsite, JEA owned and maintained pump station, and a JEA dedicated force main (min. 4-inch diameter). The maximum gross density in the Suburban Area and Rural Area shall be 2 units/acre when both centralized potable water and wastewater are available to the site; and the maximum gross density shall be 1 unit/acre when served with on-site potable water and wastewater; and there shall be no minimum density.

#### Future Land Use Element

**Policy 1.2.9** Require new development and redevelopment in the Central Business District, Urban Priority Area, Urban Area, and Suburban Area to be served by centralized service is available to the site. New septic tanks in this area may be permitted only as interim facilities pursuant to the requirements of the Sanitary Sewer Sub-Element.

#### **Transportation**

The subject site is 48.82 acres and is accessible from Cedar Point Road, a collector facility. The proposed land use amendment is located within the Rural Development Area and Mobility Zone 3. The applicant proposes to change the existing land use from Agriculture-III/IV (AGR-III/IV) to Rural Residential (RR).

#### **Comprehensive Plan Consistency:**

The Trip Generation Analysis is consistent with most recent version of the Transportation Element (TE) of the City of Jacksonville Comprehensive Plan (TE Objective 2.4 and Policies 1.2.1 and 2.4.2).

**Objective 2.4** of the Transportation Element (TE) of the 2030 Comprehensive Plan requires that the City shall coordinate the mobility circulation system with the future land uses shown on the Future Land Use Map series in order to ensure that roads, road improvements and other mobility alternative improvements are provided as necessary to support development in an economically efficient and environmentally sound manner.

**Policy 1.2.1** of the TE of the 2030 Comprehensive Plan requires the City to use the Institute of Transportation Engineers *Trip Generation Manual*, latest edition, to determine the number of trips to be produced or attracted to a particular land use when assessing a traffic impact.

**Policy 2.4.2** of the TE of the 2030 Comprehensive Plan requires that the City shall amend the adopted Comprehensive Plan to incorporate the data and analysis generated by a

periodic regional transportation model and study and facilitate the implementation of the study recommendations.

These Comprehensive Plan policies ensure that the transportation impact related to land use amendments are captured in the Long Range Transportation Plan (LRTP) that is conducted every 5 years. This analysis includes the cumulative effect of all land use amendments that were approved within this time period. This plan identifies the future transportation needs and is used to create cost feasible roadway needs that can be funded by the City's Mobility Strategy Plan.

### **Trip Generation Estimation:**

Table A provides the daily trip generation comparison between the current and proposed comprehensive plan land uses and the potential transportation impacts on the roadway network. The current land use would result in 113 daily trips. If the land use is amended to allow for this proposed RR development, this will result in 915 daily trips.

### **Transportation Planning Division RECOMMENDS the following:**

The difference in daily trips for the proposed land use amendment will result in 802 net new daily trips when compared to the existing land use. The Transportation Planning Division recommends ongoing coordinating efforts with the City of Jacksonville Traffic Engineer to determine if a traffic operational analysis is needed.

**Table A**  
**Trip Generation Estimation Scenarios**

Current Land Use Scenario	ITE Land Use Code	Potential Number of Units	Estimation Method	Gross Trips	Less Pass-By Trips	Daily Trips
AGR-III/IV	210	12 SF DUs	T = 9.43 (X)	113	0	113
				Existing Scenario Total		113
Proposed Land Use Scenario	ITE Land Use Code	Potential Number of Units	Estimation Method	Gross Trips	Less Pass-By Trips	Daily Trips
RR	210	97 SF DUs	T = 9.43 (X)	915	0	915
				Proposed Scenario 1 Total		915
			Proposed Net New Daily Total			802

Source: Trip Generation Manual, 11th Edition, Institute of Engineers

### **School Capacity**

Based on the impact assessment standards detailed in FLUE Policy 1.2.16, the 48.82 acre proposed land use map amendment has a development potential of 97 dwelling units. The proposed development was analyzed in accordance with the adopted level of service standards (LOS) for school capacity as established in the Interlocal Agreement (ILA) and the Public Schools and Facilities Element. The ILA was entered into in coordination with the Duval County Public School System (DCPS) and the other municipalities within Duval County.

School concurrency LOS is the methodology used to analyze and to determine whether there is adequate school capacity for each school type (elementary, middle, and high school) to accommodate a proposed development. The LOS (105% of permanent capacity) is based on Concurrency Service Areas (CSAs), not the closest school in the area for elementary, middle and high schools, as well as on other standards set forth in the City of Jacksonville School Concurrency Ordinance.

Evaluation of the proposed residential development for school concurrency as shown in "Attachment A".

Potential school capacity impacts will be addressed through the Concurrency and Mobility Management System Office. The analysis does not reveal a deficiency in school capacity.

#### Public School Facilities Element

Policy 2.3.2      The City will coordinate with DCPS to establish plan review procedures to manage the timing of Future Land Use Map amendments and other land use decisions so that these decisions coordinate with adequate school capacity.

Policy 2.3.3      The City will take into consideration the DCPS comments and findings on the availability of adequate school capacity in the evaluation of comprehensive plan amendments, and other land use decisions as provided in Section 163.3177(6)(a), F.S. and development of regional impacts as provided in 1380.06, F.S

Objective 3.2      **Adopted Level of Service (LOS) Standards**  
Through the implementation of its concurrency management systems and in coordination with the DCPS, the City shall ensure that the capacity of schools is sufficient to support new residential developments at the adopted level of service (LOS) standards within the period covered in the five-year schedule of capital improvements and the long range planning period. These standards shall be consistent with the Interlocal Agreement agreed upon by the DCPS, the City and the other municipalities. Minor deviations to the LOS standards may occur, so long as they are limited, temporary and with scheduled capacity improvements, school capacity is maximized to the greatest extent feasible.

Policy 3.1.1      The LOS standards set forth herein shall be applied consistently for the purpose of implementing school concurrency, including determining whether sufficient school capacity exists to accommodate a particular development application, and determining the financial feasibility of DCPS Five-Year Capital Facilities Plan and the City's Capital Improvement Plan.

#### Supplemental School Information:

Attachment "B" shows additional information regarding the capacity of the assigned neighborhood schools was provided by the Duval County School Board. This is not based on criteria utilized by the City of Jacksonville School Concurrency Ordinance. Note that the percentage occupied may not appear correct due to ESE space requirements.

#### **Evacuation Zone**

The subject site is located within the Evacuation Zone A. The proposed properties in land use amendment L-5752-22C will be near Alta Drive and New Berlin Road, indicating sufficient access to I-95 (8.58 road miles) and I-295 (6.19 road miles), primary evacuation routes.

In consideration of the surrounding evacuation zone (Zone A), nearest evacuation routes, and the estimate of 802 additional daily trips, the development of the proposed property could create a localized impact to the traffic flow on I-295 and I-95 during an emergency evacuation scenario. The changes proposed through land use amendment application L-5752-22C would have a minimal impact on countywide evacuation clearance time within Duval County. Site design techniques that minimize disruption to existing traffic flow are encouraged. Any development should incorporate appropriate mitigation techniques to reduce flood vulnerability and minimize impacts to the floodplain.

#### **Adaptation Action Area (AAA)**

The City of Jacksonville implemented the 2015 Peril of Flood Act (Chapter 2015-69, Laws of Florida) by establishing an Adaptation Action Area (AAA). The AAA boundary is an area that experiences coastal flooding due to extreme high tides and storm surge. The area is vulnerable to the related impacts of rising sea levels for the purpose of prioritizing funding for infrastructure needs and adaptation planning. Ordinance 2021-732-E establishes the AAA boundaries as those areas within the projected limits of the Category 3 storm surge zone and those contiguous areas of the 100-year and 500-year Flood Zones.

A portion of the property is located within the AAA boundary. These areas generally follow the wetlands and the southern portion of the parcel. The companion PUD site plan appears to cluster a majority of development away from the AAA.

#### Conservation/Coastal Management Element

Policy 11.5.2 The City shall consider the implications of the AAA when reviewing changes to the use, intensity and density of land lying within the AAA.

#### Future Land Use Element

Policy 1.5.14 In accordance with the Conservation and Coastal Management Element, the City shall encourage environmentally sensitive areas to be placed in a Conservation land use category, Conservation zoning district, and/or conservation easement.

## **Archaeological Sensitivity**

According to the Duval County Archaeological Predictive Model, the subject property is located within an area of low, medium and high sensitivity for the presence of archaeological resources. Projects that move forward through the Site Review process may be required to perform a Professional Archaeological Reconnaissance Survey on the portion of the site that is in a high sensitivity area. If archaeological resources are found during future development/redevelopment of the site, Section 654.122 of the Code of Subdivision Regulations should be followed.

### Historic Preservation Element

Policy 1.2.6 The Planning and Development Department shall maintain and update for planning and permitting purposes, a U.S.G.S. series of topographic maps upon which recorded archaeological sites are shown.

## **Wetlands**

Review of information supplied by the applicant and City data indicates the potential existence of wetlands on the subject site and as such, based upon the city's geographic information data, the Planning and Development Department has determined the general location, type(s), size, quality and functional value of all wetlands located within the boundaries of the application site. Based on the information noted below, the proposed amendment is consistent with the Conservation/Coastal Management Element (CCME) wetlands policies.

Due to the presence of Category II wetlands, this amendment is scheduled for review by the Waterways Commission on December 14, 2022. The Waterways Commission reviewed the previous amendment (2020-002) on February 12, 2020, and recommended denial.

### Wetlands Characteristics:

Approximate Size: 14.5 Acres

General Location(s): An isolated pocket of Category III wetlands (0.5 of an acre) and a 3.3 acre lake is located in the southwest corner of the site, with the remainder, approximately 10.7 acres of Category II and III wetlands, running through the site from the northeast corner to the center of the southern property line, generally following Terrapin Creek.

Quality/Functional Value:

The Category II wetlands have a high functional value for water filtration attenuation and flood water capacity and has a direct impact on the City's waterways.



The Category III wetlands have a high functional value for water filtration attenuation and stormwater capacity. It is not located in a flood zone and has an indirect impact to the City's waterways.

Soil Types/  
Characteristics:

Category II Soils

(62) Rutlege mucky fine sand, 0 to 2% slopes, frequently flooded – The Rutlege series consists of nearly level, very poorly drained, sandy soils. They formed in thick sandy marine sediments. They are on flood plains. The soils are rapidly permeable. The high-water table generally is at or near the surface, and areas are subject to frequent flooding for brief periods.

Category III Soils

(35) Lynn Haven fine sand, 0 to 2% slopes – The Lynn Haven series consists of nearly level and gently sloping, very poorly drained soils. These soils formed in thick deposits of marine sediment and are located in seep areas on side slopes. The soils are moderately permeable and moderately rapidly permeable. Generally, the high-water table is at or near the surface.

(32) Leon fine sand, 0 to 2% slopes – The Leon series consists of nearly level, poorly drained and very poorly drained, sandy soils. These soils formed in thick beds of marine sand. They are in flatwoods and tidal marshes. The soils are slowly permeable to moderately rapidly permeable. In areas in flatwoods, the high water table generally is at a depth of 6 to 18 inches. In tidal areas, the high-water table is at or near the surface and the areas are flooded twice daily by fluctuating tides for very brief periods.

Wetland Category:

Category II and III

Consistency of  
Permitted Uses:

Residential uses are permitted in Category II and III wetlands, subject to limitations put forth in CCME Policies 4.1.5 and 4.1.6 (shown below).

Environmental Resource  
Permit (ERP):

Not provided by the applicant

Wetlands Impact:

The companion PUD site plan appears to cluster development outside of the wetlands.

Associated Impacts:           Adaptation Action Area

**CCME Policy 4.1.5**

The permitted uses within Category I and II wetlands shall be limited to the following land uses and associated standards, provided such use is consistent with the Future Land Use Map series (FLUMs):

(1) Conservation uses, provided the following standards are met:

(a) Dredge and fill

Dredging or filling of the Category I and II wetlands shall not exceed more than 5% of the wetlands on-site; and

(b) Vegetation

For Category I wetlands:

All native vegetation outside the development area is maintained in its natural state

For Category II wetlands:

No more than 10% of the arial extent of the vegetation outside the development area may be altered or removed; and

(2) Residential uses, provided the following standards are met:

(a) Density/Dredge and fill

Where lots, except for lots of record as defined in the Future Land Use Element, are located totally within the wetlands:

i density shall not exceed one (1) dwelling unit per five (5) acres; and

ii buildings shall be clustered together to the maximum extent practicable; and

iii dredging or filling shall not exceed 5% of the wetlands on-site; and

(b) Vegetation

For Category I wetlands:

All native vegetation outside the development area is maintained in its natural state

For Category II wetlands:

No more than 10% of the arial extent of the vegetation outside the development area may be altered or removed; and

(3) Water-dependent and water-related uses, provided the following standards are met:

(a) Vegetation

For Category I wetlands:

All native vegetation outside the development area is maintained in its natural state

For Category II wetlands:

No more than 10% of the arial extent of the vegetation outside the development area may be altered or removed; and

(b) Boat facilities siting and operation

Boat facilities are further subject to Objectives 10.1, 10.2, 10.3, 10.5 and 10.6 and their related policies of this element.

(4) Access to a permitted use, subject to the requirements of (a), (b), and (f) as noted in the performance standards outlined in Policy 4.1.3 above.

(5) Any use which can be shown to be clearly in the public interest, subject to the requirements of (a), (b), (d) and (f) as noted in the performance standards outlined in Policy 4.1.3 above.

(6) For Category II wetlands only, silvicultural uses are allowed, provided the following standards are met:

Best Management Practices: Silviculture

Such activities are conducted in compliance with the provisions of the "Silvicultural Best Management Practices Manual", as may be amended, published by the Florida Division of Forestry, Department of Agriculture and Consumer Services.

**CCME Policy 4.1.6**

The permitted uses within Category III wetlands shall be limited to the following land uses and associated standards, provided such use is consistent with the Future Land Use Map series (FLUMs)

(1) Any use not otherwise listed below, provided all of the basic requirements outlined in Policy 4.1.3 above are met:

(a) Silvicultural uses, provided the following standards are met:

Best Management Practices: Silviculture

Such activities are conducted in compliance with the provisions of the "Silvicultural Best Management Practices Manual", as may be amended, published by the Florida Division of Forestry, Department of Agriculture and Consumer Services.

(b) Agricultural uses, provided the following standards are met:

Best Management Practices: Agriculture

Such activities are to be in compliance with Chapter 40C-44, F.A.C.

- (2) Any use that can be shown to be clearly in the public interest, subject to the requirements of (a), (b), (d) and (f) as noted in the performance standards outlined in Policy 4.1.3 above.

## **Recreation and Parks**

The site of the proposed land use map amendment and companion rezoning is directly adjacent to the Pumpkin Hill Creek Preserve State Park (PHCPSP). The PHCPSP is owned by the Trustees of the Internal Improvement Trust Fund (i.e., State of Florida) and the St. Johns River Water Management District (SJRWMD) and is managed by the Florida Department of Environmental Protection. As such, the Department routed a copy of the proposed rezoning to the SJRWMD for review and they provided the following comments:

PHCPSP is actively managed with natural resource land management practices, including, but not limited to, prescribed fire, timber stand improvement, herbicide application for nuisance plant management and fuel reduction techniques which employ heavy equipment. These activities can change the appearance of the landscape, but all actions are taken using best management practices and based upon scientifically proven methods. Nearly all natural communities in Florida are susceptible to wildfire and the onus is on the individual property owner or subdivision to take steps to mitigate their risk of property damage due to a wildfire that may originate on an adjacent property. PHCPSP is open to the public for nature-based recreation and public recreational users may be in close proximity to the subdivision.

The SJRWMS recommends the city advise future owners and residents about this property and actions taken to manage it and encourages the city to consider incorporation of "Firewise" principals in the respective future development because of the property's proximity to the PHCPSP. Firewise information is available from the Florida Department of Agriculture and Consumer Services at <https://www.fdacs.gov/Forest-Wildfire/For-Communities/Firewise-USA/Become-a-Firewise-USA-Site>.

The Companion PUD rezoning can include provisions to address these concerns.

## **PROCEDURAL COMPLIANCE**

Upon site inspection by the Planning and Development Department on November 22, 2022, the required notices of public hearing signs were posted. Fourteen (14) notices were mailed out to adjoining property owners informing them of the proposed land use change and pertinent public hearing and meeting dates.

The Citizen Information Meeting was held on November 14, 2022. No members of the public were present.

## **CONSISTENCY EVALUATION**

### **Consistency with 2030 Comprehensive Plan Goals, Objectives and Policies**

#### **Future Land Use Element (FLUE)**

##### *Development Area*

*Rural Area (RA):* The RA consists of all lands outside of the Suburban Area (SA) and corresponds with predominantly undeveloped portions of the City with land uses such as Agriculture, Recreation, Conservation, or Public Buildings Facilities. Development should occur at very low densities which create little demand for new infrastructure and community serving supporting uses, unless development occurs under the Multi-Use Category, as a Rural Village or as a Master Planned Community as defined in this element. Development may occur within the Rural Area provided that it is consistent with the Operational Provisions and the Land Use category descriptions. Otherwise, development beyond such boundaries is considered urban sprawl and is to be discouraged.

- Policy 1.1.12      Promote the use of Planned Unit Developments (PUDs), cluster developments, and other innovative site planning and smart growth techniques in all commercial, industrial and residential plan categories, in order to allow for appropriate combinations of complementary land uses, and innovation in site planning and design, subject to the standards of this element and all applicable local, regional, State and federal regulations.
- Policy 1.1.16      Require mitigation of adverse land use impacts on adjacent uses during development and redevelopment through:
1. Creation of like uses;
  2. Creation of complementary uses;
  3. Enhancement of transportation connections;
  4. Use of noise, odor, vibration and visual/aesthetic controls; and/or
  5. Other appropriate mitigation measures such as requirements for buffer zones and landscaping between uses.
- Policy 1.1.20      Development uses and densities shall be determined by the Development Areas described in the Operational Provisions for the Central Business District (CBD); Urban Priority Area (UPA); the Urban Area (UA); the Suburban Area (SA); and the Rural Area (RA) as identified in the 2030 Comprehensive Plan, in order to prevent urban sprawl, protect agricultural lands, conserve natural open space, and to minimize the cost of public facilities and services.
- Goal 3              To achieve a well-balanced and organized combination of residential, non-residential, recreational and public uses served by a convenient and efficient transportation network, while protecting and preserving

the fabric and character of the City's neighborhoods and enhancing the viability of non-residential areas.

**Objective 3.1** Continue to maintain adequate land designated for residential uses which can accommodate the projected population and provide safe, decent, sanitary and affordable housing opportunities for the citizens. Protect single-family residential neighborhoods by requiring that any other land uses within single-family areas meet all applicable requirements described in the Development Areas and the Plan Category Descriptions of the Operative Provisions of the 2030 Comprehensive Plan and Land Development Regulations.

**Policy 3.1.6** The City shall provide for development of a wide variety of housing types by area, consistent with the housing needs characteristics and socioeconomic profiles of the City's households as described in the Housing Element.

#### Recreation and Open Space Element (ROSE)

**Policy 2.2.2** The City shall require the all-new single family and multifamily developments (residential developments) dedicate land for public parkland (active recreation parks) or provide monetary contribution to the appropriate department.

#### Property Rights Element (PRE)

**Goal 1** The City will recognize and respect judicially acknowledged and constitutionally protected private property rights in accordance with the Community Planning Act established in Chapter 163, Florida Statutes.

**Objective 1.1** Local decision making shall be implemented and applied with sensitivity for private property rights and shall not be unduly restrictive.

**Policy 1.1.1** The City will ensure that private property rights are considered in local decision making.

**Policy 1.1.2** The following rights shall be considered in local decision making:

1. The right of a property owner to physically possess and control his or her interests in the property, including easements, leases, or mineral rights.
2. The right of a property owner to use, maintain, develop, and improve his or her property for personal use or for the use of any other person, subject to state law and local ordinances.
3. The right of the property owner to privacy and to exclude others from the property to protect the owner's possessions and property.
4. The right of a property owner to dispose of his or her property through sale or gift.

According to the Category Descriptions within the Future Land Use Element (FLUE), the Agriculture land use category is intended to provide for agricultural uses and to preserve the existing rural character of outlying areas of the City. The Rural Residential (RR) land use category within the Rural Development Area is intended to provide rural estate residential opportunities. Plan amendment requests for new RR designations are preferred in locations which are supplied with full urban services.

The subject site is accessed by, and fronts, Cedar Point Road, which is classified as a collector roadway, and is located on the north side of the intersection with Sheffield Road, a local road. Properties currently designated as agricultural land use abut the subject site on all sides; the majority of these properties are state-owned preservation land. Approximately 1/3 of a mile to the west of the subject site, properties are designated as RR, and approximately 1/2 of a mile to the south of the subject site, along Sheffield Road, a parcel was amended from AGR-4 to RR in 2006 via Ordinance 2006-0519-E. Development along Cedar Point Road is a mix of rural estate lots and single-family subdivisions to undeveloped land and preservation land, particularly to the east approaching the Timucuan Preserve.

The proposed amendment is consistent with the intent of the Rural Development Area as it would allow for development at a very low density and would create little demand for new infrastructure or community-serving support uses. As such, the proposed amendment is also consistent with FLUE Policy 1.1.20.

The proposed amendment to RR would add residential opportunities on rural estate-sized lots, consistent with growth and land development trends in North Jacksonville. The companion rezoning is pending as a PUD that addresses site design and use regulations to allow for the appropriate combination of land uses. Given preservation land adjacent to the subject site, the PUD will require mitigation of any adverse land use impacts on adjacent uses during development and redevelopment consistent with FLUE Policy 1.1.16. The PUD will also allow for the opportunity to cluster development and provide innovative site planning techniques so that the proposed development will be responsive to the site's topography and environment, consistent with FLUE Policy 1.1.12.

Further, the subject site is served by a convenient transportation network and recreational and public uses. The applicant stated that the developer intends to connect to public water and sewer, available along Cedar Point Road. For these reasons, the proposed amendment is consistent with FLUE Goal 3, Objective 3.1, and Policies 1.1.12 and 3.1.6.

Additionally, residential development on the site will be subject to the requirements of ROSE Policy 2.2.2, as applicable, concerning the provision of recreation and open space.

The proposed amendment does not hinder the private property rights of the owner of record; has no impact on the right of the property owner to possess or control his or her interest in the property; maintains the owner's ability to use, maintain, develop and

improve the property; protects the owner's right to privacy and security; and maintains the ability of the property owner to dispose of the property at their discretion. Therefore, the amendment is consistent with PRE-Goal 1, Objective 1.1 and Policies 1.1.1 and 1.1.2.

### **Vision Plan**

The subject property is located within the boundaries of the North Jacksonville Vision Plan (September 2003). The Plan offers no specific recommendations for the subject site, but it recognizes this area as being a "gateway" from Jacksonville to the Timucuan "Eco-Center."

### **Strategic Regional Policy Plan**

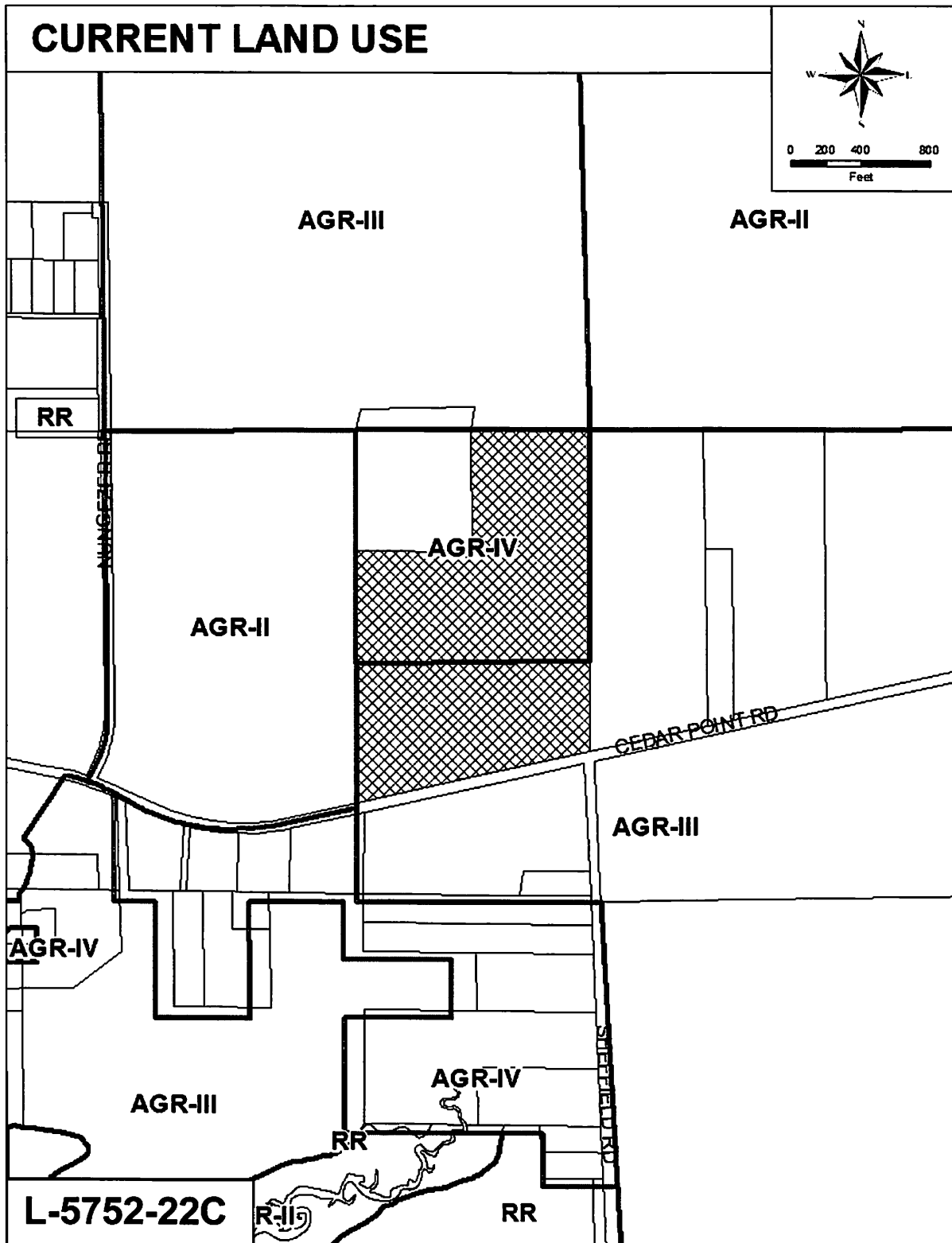
The proposed amendment is consistent with the following Goal of the Strategic Regional Policy Plan:

Goal: A safe, sanitary, efficient and resilient housing supply that provides lifestyle choice (agricultural, rural, suburban, and urban) and affordable options for all income, age and ability groups, equitably placed in vibrant, viable and accessible communities throughout the region.

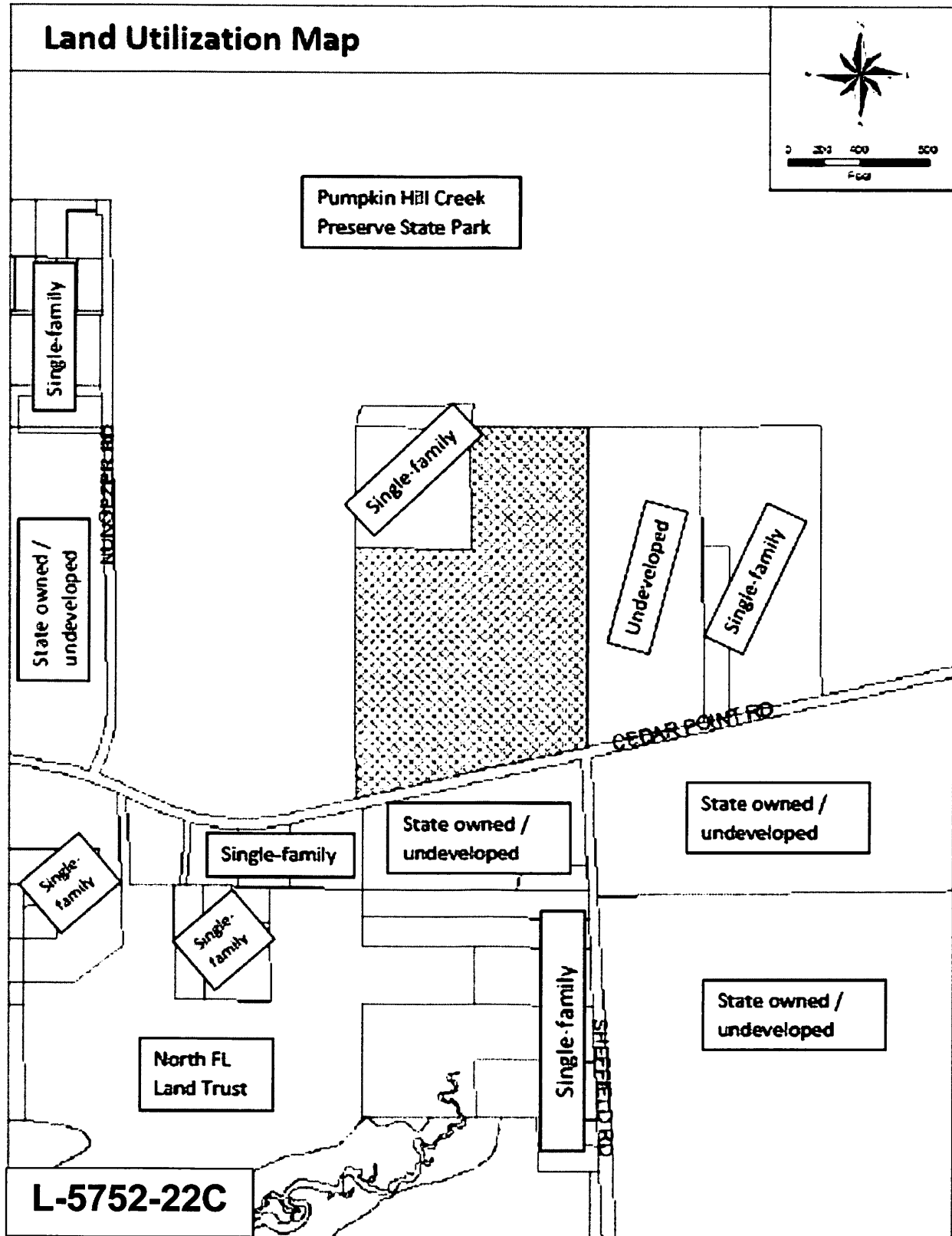
The proposed land use amendment would increase opportunities for residential development, providing a wider range of housing in the northeast Florida region and creating a location for the development of new housing stock for the area. Therefore, the proposed amendment is consistent with the Strategic Regional Policy Plan.



**LAND USE AMENDMENT SITE LOCATION AND**  
**CURRENT LAND USE MAP**



# LAND USE AMENDMENT SITE LAND UTILIZATION MAP



## Attachment A – School Impact Analysis

<b>Application Review Request:</b> COJ PDD: School Impact Analysis <b>Proposed Name:</b> L-5752-22C Cedar Point Road Pumpkin Hill <b>Requested By:</b> Ed "Luka" Lukacovic / Eric Hinton <b>Reviewed By:</b> Shalene B. Estes <b>Due:</b> 10/19/2022							
Analysis based on maximum dwelling units: <b>97</b>							
School Type	CSA <sup>1</sup>	2022-23 Enrollment/CSA	Current Utilization (%)	New Student/Development <sup>3</sup>	5-Year Utilization (%)	Available Seats - CSA <sup>2</sup>	Available Seats - Adjacent CSA 1&2 (MS 2&7)
Elementary	7	3,107	87%	12	70%	251	10,435
Middle	1	6,191	89%	4	86%	702	447
High	7	2,095	97%	7	73%	775	2,176
<b>Total New Students</b>				<b>23</b>			

### NOTES:

<sup>1</sup> Proposed Development's Concurrent Service Area (CSA)

<sup>2</sup> Available CSA seats include current reservations

<sup>3</sup> Student Distribution Rate

ES-175

MS-051

HS-074

0.250

The Student Distribution Rate is calculated for each school type by dividing the total number of public school students enrolled in that school type in Duval County (104,757) by the number of total permitted housing units (418,708) for the same year, generating a yield of 0.250.

<b>Application Review Request:</b> COJ PDD: Baseline Checklist Review <b>Proposed Name:</b> L-5752-22C Cedar Point Road Pumpkin Hill <b>Requested By:</b> Ed "Luke" Lukacovic / Eric Hinton <b>Reviewed By:</b> Shalene B. Estes <b>Due:</b> 10/19/2022  Analysis based on maximum dwelling units: <u>97</u>						
SCHOOL <sup>1</sup>	CSA	STUDENTS GENERATED (Rounded) <sup>3</sup>	SCHOOL CAPACITY <sup>2</sup> (Permanent/Portables)	CURRENT ENROLLMENT 20 Day Count (2022/23)	% OCCUPIED	4 YEAR PROJECTION
New Berlin ES #150	7	12	1296	1202	93%	105%
Oceanway MS #62	1	4	1009	930	92%	90%
First Coast HS #265	7	7	2207	2095	95%	89%
		23				

Attachment B

**NOTES:**<sup>1</sup> Attendance school may not be in proposed development's Concurrency Service Area (CSA)<sup>2</sup> Does not include ESE & room exclusions<sup>3</sup> Student Distribution Rate

ES-.125

MS-.051

HS-.074

0.250

The Student Distribution Rate is calculated for each school type by dividing the total number of public school students enrolled in that school type in Duval County (104,757) by the number of total permitted housing units (418,708) for the same year, generating a yield of 0.250.

# WETLANDS





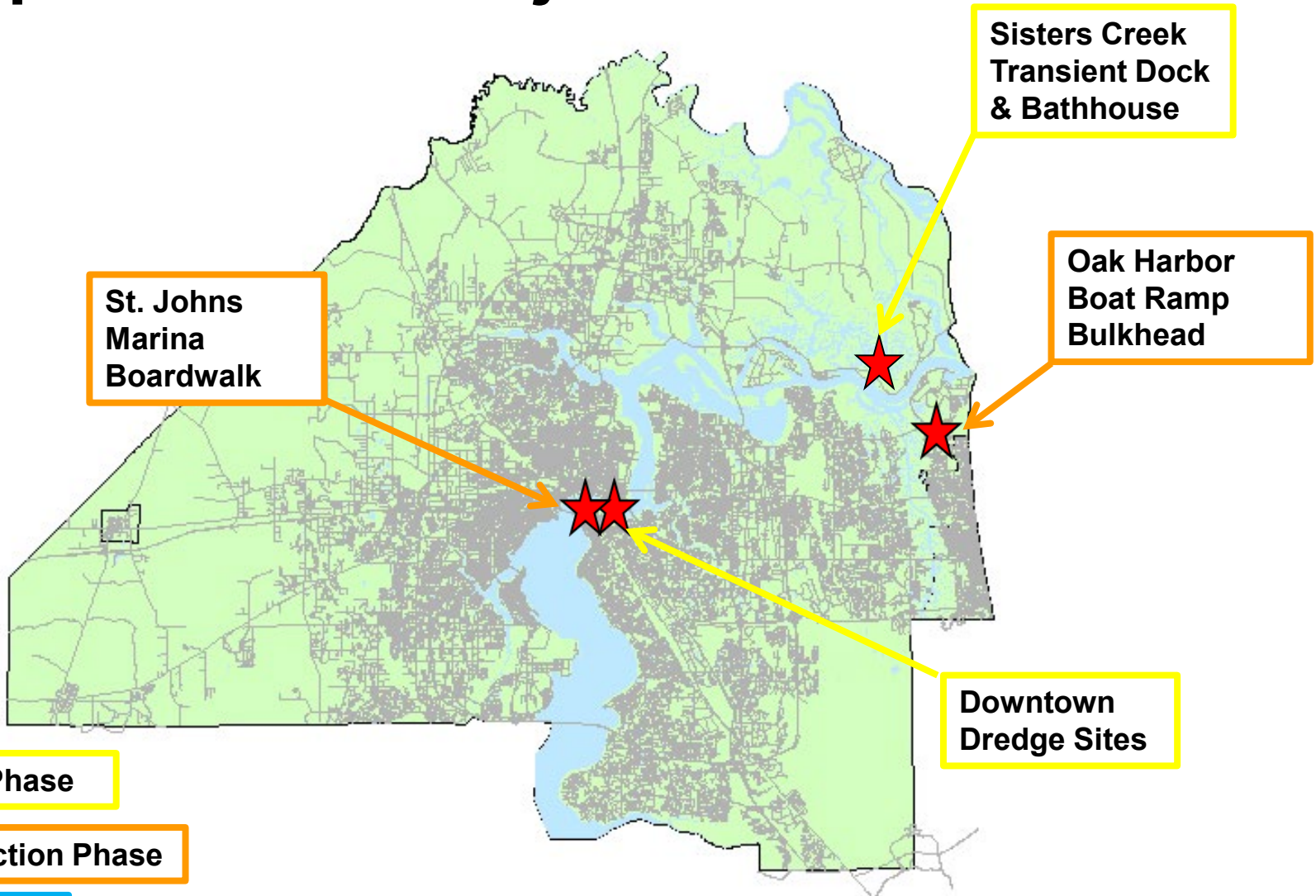


2023

# Florida Inland Navigation District Proposed Applications



# Location of 2023 Proposed FIND Projects



Design Phase

Construction Phase

Acquisition



# Oak Harbor Boat Ramp

**Council District:** 13

**Cost:** \$1,760,000

**Scope:**

Construct  
replacement of  
bulkhead  
(approx. 450 LF)



**Replace  
Bulkhead**



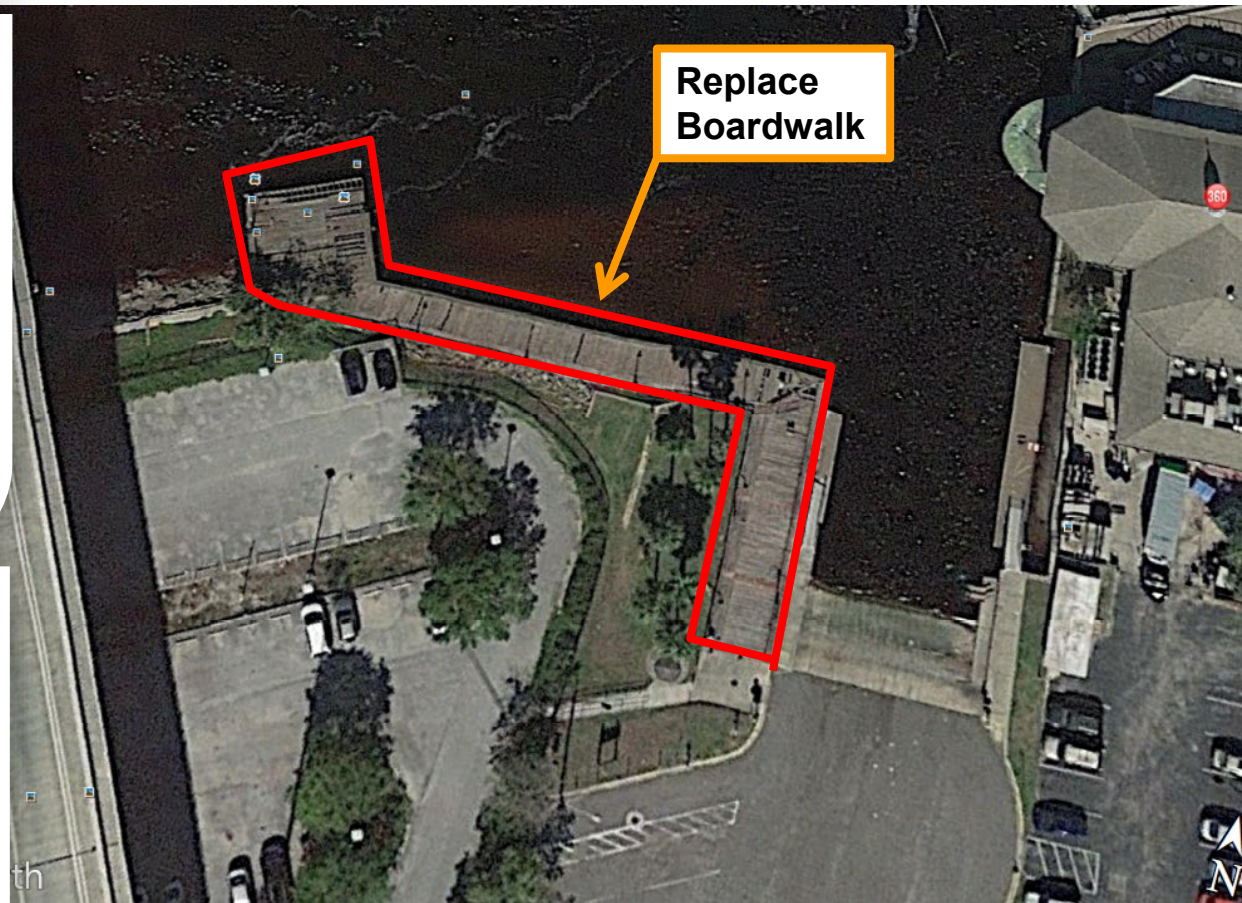
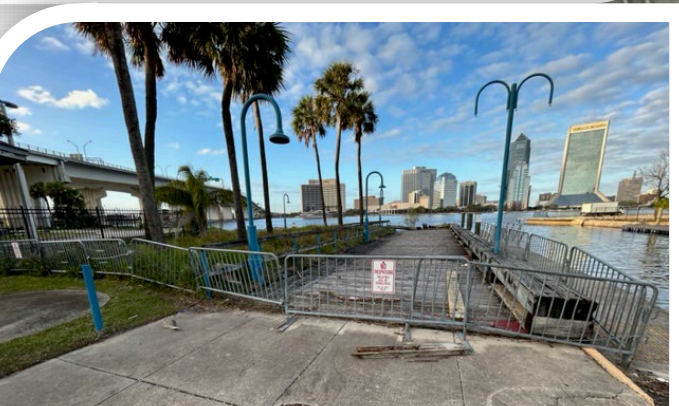
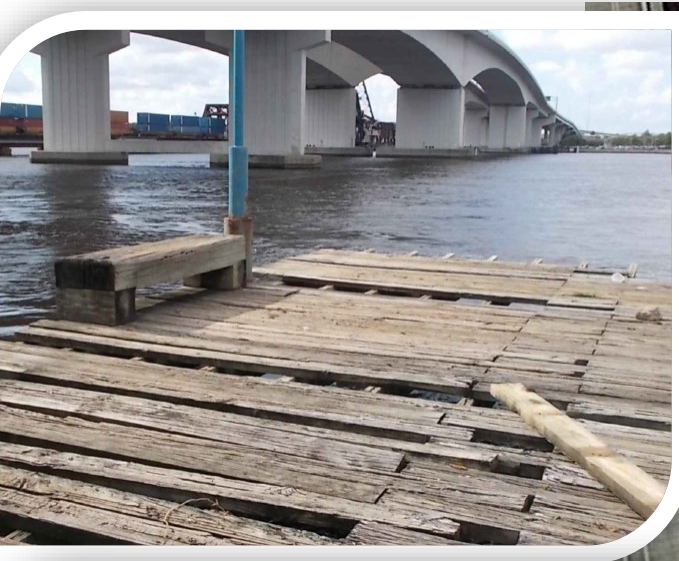


# St. Johns Marina Boardwalk

**Council District:** 5

**Cost:** \$1,320,000

**Scope:** Construct replacement of Hurricane Irma-damaged boardwalk next to boat ramp



# Jim King/Sisters Creek

**Council District:** 2

**Cost:** \$770,000

**Scope:** Design/permit approx. 500 LF of new transient docks plus bathhouse facility



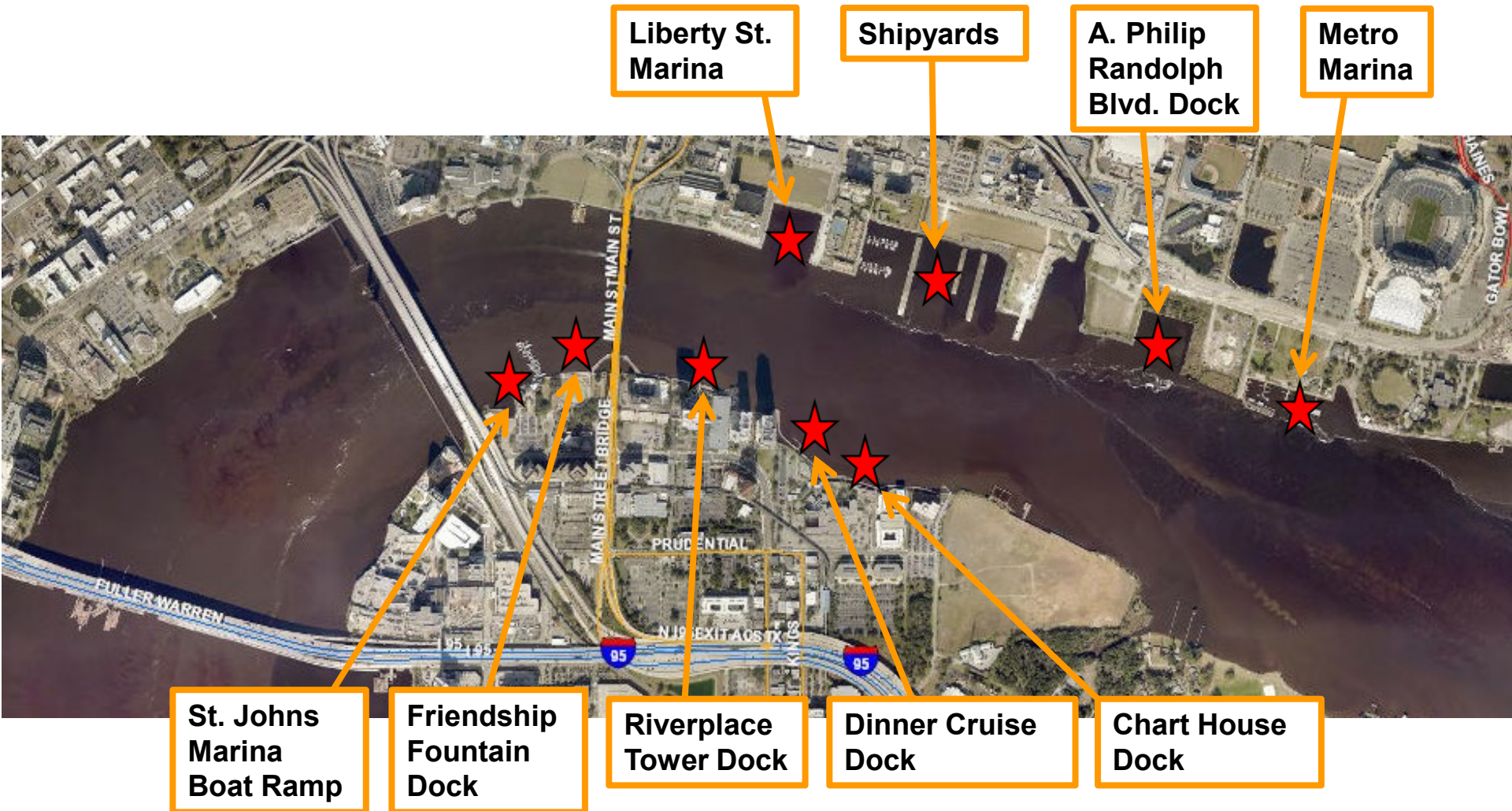


## Downtown Dredge Sites

## Council District: 5 & 7

**Cost: \$550,000**

**Scope:** Identify and design/permit a dredge project at necessary public docking and boat ramp sites in downtown area



## Proposed 2023 FIND Grant Projects - Recommended by Waterways Sub-Committee 11/4/22

Project	Council District	Suggested By	Project Type	Scope	FIND Cost	COJ Cost*	Total Estimated Cost
Oak Harbor Boat Ramp Bulkhead	13	Current Project	Construction	Construct replacement of bulkhead	\$800,000	\$960,000	\$1,760,000
St. Johns Marina Boardwalk	5	Staff	Construction	Construct replacement of Hurricane damaged boardwalk next to boat ramp	\$600,000	\$720,000	\$1,320,000
Sisters Creek Dock Extension & Bathhouse	2	Waterways Commission	Design	Design/permit an extension of the floating dock & bathhouse for transient boaters	\$350,000	\$420,000	\$770,000
Downtown Dredging	5 & 7	DIA	Design	Design/permit a dredge project at necessary public docking and boat ramp sites in downtown	\$250,000	\$300,000	\$550,000
<b>Totals</b>					<b>\$2,000,000</b>	<b>\$2,400,000</b>	<b>\$4,400,000</b>

Alternative Projects**							
Mandarin Park Boat Ramp Expansion	6	Maritime Mgt. Plan	Design	Design/permit widening of boat ramp and an expansion of the trailer parking	\$200,000	\$240,000	\$440,000
Joe Carlucci Boat Ramp Fishing Pier	2	Citizen	Design	Design/permit a new fishing pier	\$125,000	\$150,000	\$275,000
Trout River Fishing Bridge - North Pier	8	Maritime Mgt. Plan	Design	Design/permit a renovation of the north fishing pier	\$175,000	\$210,000	\$385,000
Wayne B. Stevens Boat Ramp Dock Improvements	14	Staff	Design/Build	Design/build a modification of the boater access docks	\$75,000	\$90,000	\$165,000

\* COJ costs includes 10% for PW internal management fees - FIND will not reimburse these costs.

\*\* Back-up project recommendations, in priority order, in case any projects are removed from the proposed list above.



DRAFT



# 2022 Manatee Protection Plan Implementation Report



City of Jacksonville  
Planning and Development Department  
November 2022

## Executive Summary

This is a Summary of the **2022** Manatee Protection Plan Implementation Report that reflects on the City of Jacksonville's efforts towards protecting manatees in Duval County. The third revision to the Duval County Manatee Protection Plan (MPP) was adopted by the Jacksonville City Council in 2014 and requires an annual report of the progress on implementation of the MPP. The MPP is a comprehensive planning document that addresses the long-term protection of the Florida manatee through law enforcement, education, boat facility siting, and habitat protection initiatives on a county-wide basis. The purpose of revising the MPP was to collect and evaluate updated information on manatee use and boat activity in the City of Jacksonville (COJ) and provide guidance targeted at reduction of human-related threats to manatees and manatee habitat. The MPP attempts to balance boater access to Jacksonville waterways with impact to manatees from boat traffic and is intended to increase the predictability of permitting outcomes for boat facility development.

The **2022** MPP Implementation Report is a compilation of the efforts of a wide variety of agencies that reflect the effort expended to protect manatees in Duval County waters. The report is divided into five (5) sections: Meeting Minutes, Law Enforcement Reports, Education, Awareness and Environmental Reports.

The Meeting Minutes subsection report is an assemblage of the appropriate minutes of the Jacksonville (Duval County) Waterways Committee. This section serves as a good review of the activities of the year and demonstrates the importance that manatee protection has within the City and JAXPORT.

The Law Enforcement Report subsection includes quarterly reports from Jacksonville Sheriff's Office Law Enforcement Task Force, Florida Fish and Wildlife Commission (FWC) Law Enforcement, and Multi-Agency Deployments. The City has improved communication and coordination between federal and state Law Enforcement agencies since the development of a L.E. Task Force in December of 2009 that has fostered improved efforts in manatee protection. The involvement of the City's Waterways Coordinator, a former JSO marine officer, has been very helpful in a variety of ways. His efforts have resulted in the buy-in of all law enforcement agencies and improved the coordinated multi agency deployment weekends.

The Manatee Education Report contains the extensive effort made on behalf of manatee protection within the City of Jacksonville. Included is the COJ's Park Naturalist Education Program, presentations made by Jacksonville University faculty on manatees, and the FWC Northeast Lab outreach programs. The City also completed a 30-second public service announcement broadcast in 2018/2019, but was not broadcast by local TV stations in 2020/21/22. **JU also participated in the Florida Fin Fest at Jacksonville Beach in September that involved from 25,000 people in attendance over two days.**

The Awareness subsection contains the Updated Boat Facility Inventory, a list of DEP Dock permits, Manatee Mortality Information, along with Aerial Sighting Maps. It should be noted that three (3) flights/year are funded by the City of Jacksonville.

In summary, the MPP Implementation Report offers an up-to-date review of manatee protection efforts in the City of Jacksonville (Duval County).

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Jacksonville Sheriff's Office	
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U.S. Coast Guard	
Multi-Agency Deployments	
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## Implementation Summary (Section 8.8 MPP)

MPP Policies and Tasks	Action Items	Progress in 2021-2022	Tasks for 2022-2023
The comprehensive plan will be amended to incorporate the revised MPP	Submit Comprehensive Plan amendment to Department of Economic Development and FWC	Comprehensive Plan changes approved by City Council. Requested <b>an additional 6 months extension</b> from DEO due to downtown DRI request.	Resolved downtown DRI marina request and send Comp changes to DEO <b>March 2018. COMPLETED</b>
COJ will incorporate the use of the revised MPP in their Planning and Development Department reviews for development	Distribution of revised MPP within COJ once approved	The Planning and Development Department has created a GIS boat facility layer for use by the zoning, land use and developmental services sections.	Continue to use the GIS layer.
Keep the Jacksonville Waterways Commission up to date on manatee related issues	COJ will attend monthly meetings and provide updates on manatee related issues	The City's consultant, JU has attended monthly meetings. See Waterways Commission meeting minutes	JU's 2022-2023 contract has this task identified
Report updated information, manatee mortality, and status of implementing the recommendations in the MPP	Draft and submit an annual MPP Implementation Report	Submitting 1st required report.	Continue to collect and summarize data for 2023 report
COJ will actively engage with the shipping/Port industry	Representatives of COJ will be members of JMTX and the Port Safety Committee, attend meetings and assist with implementing manatee awareness initiatives	City Waterways Coordinator attends quarterly meetings	Continue to attend Port meetings
COJ will actively engage USCG and Special Events Office	Representatives of COJ will monitor and track special events in the waterways and assist with implementing manatee awareness initiatives	City Waterways Coordinator has worked closely with USCG - they now attend the LE Task Force meetings.	Have Waterways Coordinator summarize and report on special events in Duval County.



MPP Policies and Tasks	Action Items	Progress in 2021-2022	Tasks for 2022-2023
COJ will create awareness within the County regarding manatee protection issues	COJ will inspect and replace manatee educational signs that are their responsibility, develop a maintenance plan and a database of locations	Sign database completed. Working with other agencies for sign and buoy replacement	Continue to report and work with other agencies for sign and buoy replacement
Manatee education Section	COJ will develop policies or incentives to increase educational signs at private marinas and multi-family docks where signs are not required by permit	New Comp plan policies will help address this issue.	Continue to develop incentives for educational signage
Manatee education Section	COJ will work with FWC-ISM, and FWRI to update the Boating and Angling Guide	Guide is completed and being handed out	Continue to distribute the guides
Manatee education Section	COJ will maintain and document manatee sightings reported through the COJ hotline	The City does not have a hotline. JU does. Info reported by JU	Continue to have JU document calls to the hotline
Manatee education Section	COJ will produce multimedia information such as PSAs, billboards, social media and on a website to promote information and awareness	PSA has been developed	PSA has been given to Public Information Office to promote manatee awareness
Manatee education Section	COJ or representatives will present manatee awareness programs to local schools, community groups, boating groups and clubs	Information collected from Park Naturalist. Waterways Coordinator also promotes awareness	Continue to provide manatee info through the Parks Department

MPP Policies and Tasks	Action Items	Progress in 2021-2022	Tasks for 2022-2023
Law enforcement section	COJ will coordinate with USCG when special manatee messages are needed in the “Notice to Mariners”	On-going	On-going
COJ will facilitate improved law enforcement participation in manatee protection, including improved coordination between multiple agencies	Implementation of the MPP Law Enforcement Plan and the action items within it	Plan has been implemented. Efforts are being documented	Continue to implement plan
Law enforcement Section	JSO commits to a minimum of 25 deployments for only manatee speed zone enforcement	JSO continues deployments to manatee speed zone enforcement	Continue to collect quarterly reports from JSO
Law enforcement section	A minimum of six coordinated, multi-agency weekend deployments from April to October specifically for manatee speed zone enforcement	Completed in 2015. Efforts reported in yearly implementation report	Six deployments have been scheduled for this year.
COJ will keep the MPP current, with the best available data and wildlife protection practices	Review the MPP periodically in conjunction with FWC and USFWS to determine whether revisions are needed; Requires COJ analysis and compilation of information from the annual reports	Continue to update manatee data through JU contract. Submit yearly implementation reports	Continue to update manatee data through JU contract.
Implementation section	Complete a Manatee Speed Zone Compliance Study	The City revised this study protocol suggestions provided by FWC. Study completed.	Work completed 2021-2022.
Implementation section	Develop a Boat Activity Study Protocol between Recreational and Shipping traffic, and complete the Study	The City will send to FWC for approval	Work to complete study when funded.

MPP Policies and Tasks	Action Items	Progress in 2021-2022	Tasks for 2022-2013
Implementation section	Marine Facility Inventory Update	Completed through JU contract	In JU contract for this year.
Implementation section	Maintain an up-to-date record of the location and status of foraging habitat, warm water discharges and freshwater sources	On-going	On-going

# Manatee Data Report

*Aerial Sightings:* **There was no Manatee State Synoptic Survey conducted in 2022 due to a warm winter and like 2021 because of COVID-19 restrictions. No survey was conducted in 2020 due to a warm winter. During warm winters manatees do not congregate at warm water sources and are more spread out, making them difficult to count effectively.** Surveys in 2020/21 coincided with a boating compliance study for 9 surveys from June 2020 to May 2021 (surveys were not feasible during three months –August and October of 2020, and February 2021. A synoptic survey of northeast Florida was conducted on February 28<sup>th</sup> (SJR) and 29<sup>th</sup> (ICW) 2019 and one animal was sighted around Pottsburg Creek near University Blvd. South. Subsequent surveys in 2018 occurred in May, and August. As in the past, synoptic surveys identified few animals in the area: On February 1<sup>st</sup> 2017 a synoptic survey reported 6 animals sighted in the area. Other surveys in 2017 occurred in May, and September. In 2016, a synoptic survey on February 12<sup>th</sup> reported no manatee sightings. Other surveys in 2016 took place in March, April, May, June, August and September. Similarly in 2015, a synoptic survey on February 16<sup>th</sup> reported no manatees sighted in the area with subsequent surveys occurring in April, June, August, October, and November.

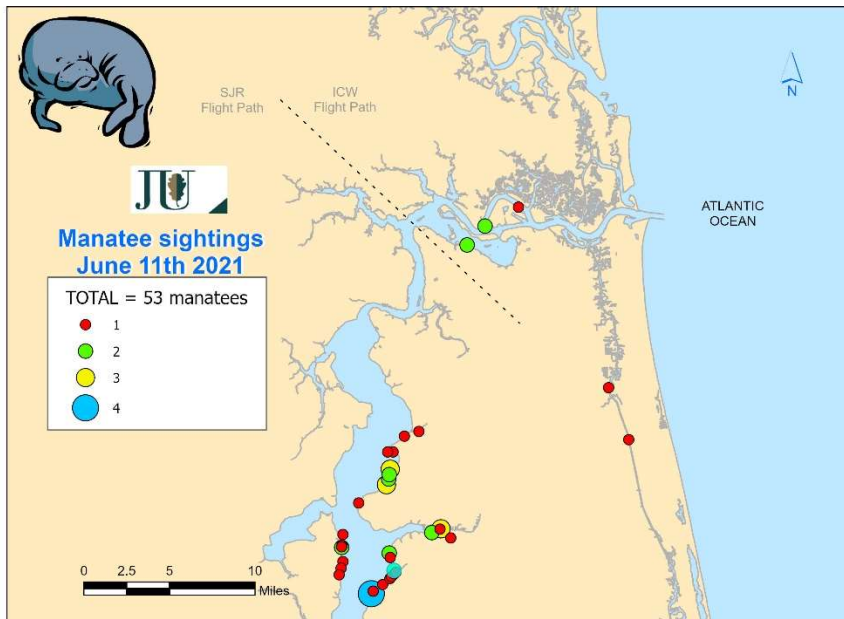
**The Single Highest Day Count (SHDC) of manatees represents the highest number of animals counted on a single survey day throughout the year. For the Lower St. Johns River (LSJR), the SHDC for 2022 was 76 animals per survey in June representing further increase since to previous year (53 animals per survey in June 2021, and 39 animals per survey in June 2020).** The SHDC for 2019 was 54 animals per survey (May), and 23 animals per survey in May 2018, which was the lowest number ever reported. These low numbers are partly due to animals arriving late into the area, but also not staying, because of a lack of food resources. Severe drought in early 2017 followed by storms and hurricanes later in the year and through 2019, negatively impacted the grass beds, likely causing manatees to travel more for food outside the study area. In contrast, the SHDC for 2017 was 90 animals per survey (May) – which was also lower than 2016 and again probably due to a severe drought earlier in the year. In 2016, the SHDC was 217 animals per survey (May) – the highest count on recorded. In 2015 the SHDC was 155 animals per survey this time in June, and in 2014 it was 176 (June); 2013 it was 143 (July), and in 2012 it was 177 (May).

**Since Hurricane Irma in 2017 the area has experienced anomalous weather conditions. Mean manatee numbers in 2022 recovered in June (74 animals/survey, 2 surveys) compared to 2021 (30 animals/survey, 4 surveys); 2020 (34 animals/survey, 2 surveys); May 2019 (28 animals/survey, 2 surveys), and 2018 (11 animals/survey, 3 surveys).** In 2017, the mean number of manatees was 33 manatee per survey (3 surveys), again lower than in previous years. Compare this to 2016, the mean number of manatees 102 (8 surveys) and in 2015 averaged 57 (6 surveys). It is important to note that beginning in 2012 there was a shift in the emphasis of data collection towards assisting the law enforcement effort to protect manatees and educate boaters. As a result, sampling frequency was significantly reduced and focuses on those months when manatee presence in the area is at its highest. To reflect the shift in sampling frequency and focus, manatee data in this report was separated into these two periods (1994-2012 and 2013-2022).

**In the Intracoastal Waterway (ICW) the mean number of manatees per survey in 2022 was 3, compared to 4 (2020/21); 6 (2019), and 2 (2017/18).** Slightly more manatees were observed in the past with 9 manatees per survey (May 2016), 5 manatees per survey (June 2015 and May 2014), 9 (April and July 2013). The period from 2013-2022 has a survey frequency (3 surveys/year; s.d.  $\pm 2$ ; range 2-7) and returned a general mean of 3 manatees per survey (s.d  $\pm 3$ ; range 2-9 animals).

Seasons were generally classified as follows with each map indicating the specific date when a particular aerial survey was conducted: Winter - December – February; spring – March – May; summer - June – August; fall - September – November.

### MAP SERIES A – Manatee aerial sightings, Duval Co., FL. (June 2021)

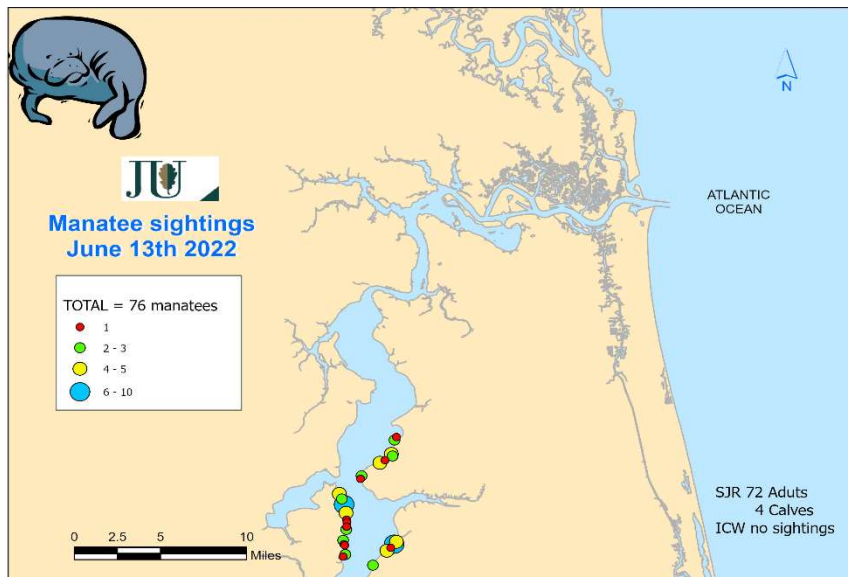


The information contained in this email and the manatee sighting maps are the results of aerial surveys conducted by Jacksonville University under an agreement with USCG AIRAUX. The manatee sightings represent the known minimum number of animals and their location at the time of the flight. The numbers may be higher and the animals change locations frequently. The information is an indication of the number and the location of manatees and subject to change daily.

### MAP SERIES A – Manatee aerial sightings, Duval Co., FL. (winter, 2021-2022)

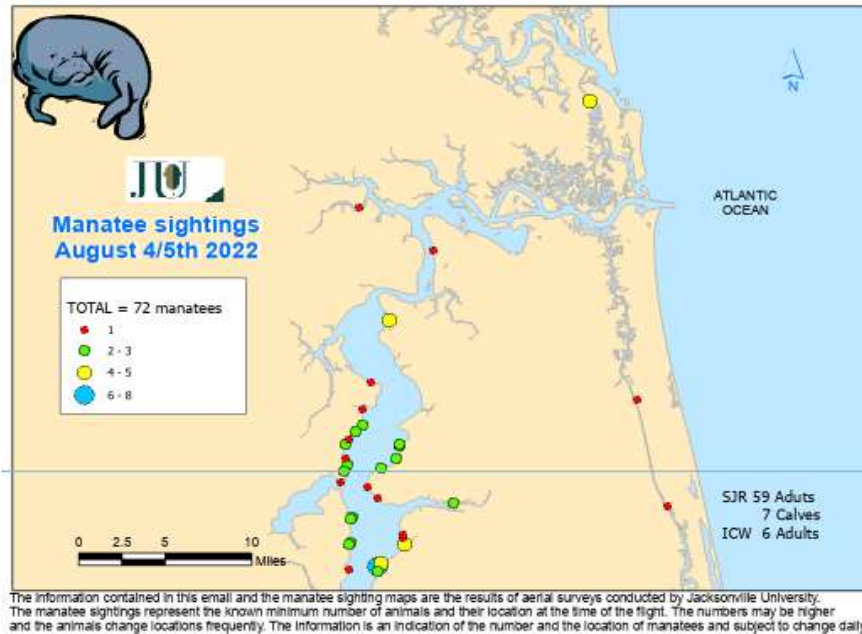
No Northeast Synoptic Survey.

### MAP SERIES A – Manatee aerial sightings, Duval Co., FL. (June 2022)



The information contained in this email and the manatee sighting maps are the results of aerial surveys conducted by Jacksonville University. The manatee sightings represent the known minimum number of animals and their location at the time of the flight. The numbers may be higher and the animals change locations frequently. The information is an indication of the number and the location of manatees and subject to change daily.

## MAP SERIES A – Manatee aerial sightings, Duval Co., FL. (August 2022)



**Habitat:** Line transect data from 2004-2011, and **2015-2022** indicated that there was a significant long-term decline in the grass bed total cover percentage at sites sampled in Duval County (SJRWMD 2022). There has been a limited recovery in 2022 of grass beds in some of the areas further to the south in the Lower St. Johns River Basin, but this continues to be below historic levels of the late 1990's. The recovery rate has been slower due to the physical damage from storms and predation pressure on young plants (Pers. Comm. Dan Kolterman (FWC) 2022). Additional observations made during aerial surveys in 2015 and 2016 indicated that SAV returned to some areas previously reported to be devoid of grasses. Manatee were observed feeding in those areas. However, recent observations indicate that there are many bare areas with no manatees. Furthermore, recent storms and the resulting turbidity has hindered the recovery of this habitat. In 2017, 71% of 17 sampling sites in Duval County had no grasses, and in 2018, 56% of 16 sampling sites had no grasses. **In 2019, there were 17 sites sampled, and 76% were devoid of grasses. From 2020, there was signs of recovery as the percentage of sites devoid of grasses declined slightly from 63% (16 sites sampled) to 59% in 2021 with 17 sites sampled.** In the past, aerial observation indicated that there had been a visible decline in the grass beds since 2005. Toxic algae blooms seen in the St. Johns River from 2013-**2022** do not seem to have harmed any manatees.

**JEA District # 2 Outfall and North Side Generating Station (NSGS):** No manatees were observed at the JEA District # 2 site during aerial surveys conducted by Jacksonville University from spring to fall of 2013 to **2022**. However, manatees continue to be seen in the vicinity of the JEA District # 2 wastewater treatment outfall's manatee exclusion barrier by JEA's contractor and others.

The lower frequency of aerial survey effort, especially during cold weather, was insufficient to document manatees at this site during the years 2009-2020. However, boat and land surveys by independent contractors indicated that manatees consistently make use of the site.

**NAS Mayport:** Mayport NAS initiated manatee awareness and reporting program in spring 2011. Signs were posted at intervals along Mayport basin, and a data log kept of sightings and actions. **No data was available in 2020/21/22.** As of September 2019, 30 animals were sighted (range 0-12/month). In 2018, 48 animals were sighted (range 0-19/month). In 2017, 59 animals were sighted (range 0-18/month). In 2016, 152 animals were sighted (range 0-48/month), and in 2015, 130 animals (range 0-44/month). Lower numbers were observed during 2013/14 with a mean of 65 (range 0-16), and during 2011/12 with a mean of 35 animals (0-13/month). **Typically, the highest counts were recorded in May and June.**

Duval Manatee Rescues:

**The Jacksonville Zoo and Gardens rescued two manatees in 2022, a male on 03/17/2022 was released the following day and a female on 08/26/2022.** In 2021, the JZG rescued a manatee on 03/14/21; however, it expired shortly after. There were no reported rescues in 2020. In 2019, a manatee was rescued because of acute watercraft impact likely from a large slow-moving vessel (July 3<sup>rd</sup>), however, the animal died during transport to the rehab facilities. A second animal was rescued at Mayport due to cold stress (November 21<sup>st</sup>, 2019) and later released in the Indian River (January 29<sup>th</sup> 2020), and a third cold stressed animal was rescued at Huguenot State Park (November 26<sup>th</sup>, 2019) but was nonresponsive and expired at the scene. In 2018, on March 18<sup>th</sup> a manatee (Vilanzo) was captured suffering from cold stress, rehabbed at Jacksonville Zoo, and successfully released on May 15<sup>th</sup> at Oak Harbor boat ramp (ICW). Also, on March 22<sup>nd</sup>, 2018, a male manatee was rescued from Miller Creek, it was stuck in the mud and cold stressed. In 2017, on February 7<sup>th</sup>, 2017, a male manatee was rescued from Ortega River. On March 31<sup>st</sup> a female manatee was rescued from Pablo Creek, both manatees exhibited symptoms of cold stress. Furthermore, three manatees were assisted and released on 1<sup>st</sup> June (Pablo Creek), 2<sup>nd</sup> July (intake canal JEA NSGS), and a calf on September 11<sup>th</sup> near Wayland Street opposite Talleyrand docks. On December 16<sup>th</sup> a female calf was rescued in the San Pablo River, she was beached by herself and cold stressed. In 2016, two manatee rescues were performed at JEA's NSGS. "Stokes" was rescued on Jan 27<sup>th</sup>, and another animal on March 7<sup>th</sup>, both animals were taken to Sea World of Florida due to cold stress related issues. On November 30<sup>th</sup> a female manatee was rescued from a storm drain near Davinci Ave. also transported to Sea World. There were no reported assists or rescues as of September 2015. In 2014, six manatee rescues occurred during cold weather from (JEA District #2 outfall, Green Field Creek, Mill Cove, San Carlos Creek, and Cut Creek).

# MANATEE MORTALITY

## Mortality Calendars

### 2013

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	TOTALS
Natural deaths	0	0	0	0	0	0	0	0	0	0	0	0	0
watercraft deaths	0	0	0	0	0	2	0	0	2	0	0	0	4
prenatal	0	0	0	0	2	1	0	0	0	0	0	0	3
other human	0	0	0	0	0	0	0	0	0	0	0	0	0
cold stress	3	1	1	0	0	0	0	0	0	0	0	1	7
undetermined	1	1	1	0	0	1	0	0	0	0	0	1	4
total deaths	4	2	2	0	2	4	0	0	2	0	0	2	18

### 2014

	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec	TOTALS
Natural deaths	0	0	0	0	0	0	0	0	0	0	0	0	0
watercraft deaths	0	0	0	0	0	0	0	0	0	0	0	0	0
prenatal	0	0	0	0	0	1	0	0	0	0	2	0	3
other human	0	0	0	0	0	0	0	0	0	0	0	0	0
cold stress	1	1	0	0	0	0	0	0	0	0	0	3	5
undetermined	0	0	1	1	0	0	2	0	0	0	0	0	4
total deaths	1	1	1	1	0	1	2	0	0	0	0	0	12

### 2015

	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec	TOTALS
Natural deaths	0	0	0	0	0	0	0	0	0	0	0	0	0
watercraft deaths	0	0	0	0	0	0	0	0	1	0	0	0	1
prenatal	0	0	0	1	1	0	0	1	0	0	0	0	3
other human	0	0	0	0	0	0	0	0	0	0	0	0	0
cold stress	2	0	0	0	0	0	0	0	0	0	0	0	2
undetermined	0	0	0	0	0	1	1	0	0	0	0	0	2
total deaths	2	0	0	1	1	1	1	1	1	0	0	0	8

### 2016

	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec	TOTALS
Natural deaths	0	0	0	0	0	0	1	1	0	0	0	0	2
watercraft deaths	1	0	0	0	0	0	0	0	0	0	0	0	1
prenatal	0	0	0	0	0	0	0	0	0	0	0	0	0
other human	0	0	0	0	0	0	1	0	0	0	0	0	1
cold stress	1	1	1	0	0	0	0	0	0	0	0	0	3
undetermined	0	0	2	0	0	2	1	0	0	0	0	0	5
total deaths	2	1	3	0	0	2	3	1	0	0	0	0	12

### 2017

	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec	TOTALS
Natural deaths	0	0	0	0	1	0	0	0	0	0	0	0	1
watercraft deaths	0	1	0	0	0	2	1	1	0	0	0	0	5
prenatal	0	0	0	0	1	1	1	1	1	0	0	0	5
other human	0	0	0	0	0	0	0	0	0	0	0	0	0
cold stress	1	0	0	0	0	0	0	0	0	0	0	2	3
undetermined	0	0	0	0	2	1	1	0	0	1	0	0	5
total deaths	1	1	0	0	4	4	3	2	1	1	0	2	19

FWC, FWRI 2021.



## Mortality Calendars cont.

**2018**

	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec	TOTALS
Natural deaths	0	0	0	0	0	0	0	0	0	0	0	0	0
watercraft deaths	0	0	0	0	0	0	0	0	0	0	0	0	0
prenatal	0	0	0	0	0	0	0	0	1	0	0	0	1
other human	0	0	0	0	0	0	0	0	1	0	0	0	1
cold stress	2	2	0	0	0	0	0	0	0	0	0	2	6
undetermined	0	0	0	1	1	0	0	0	0	1	0	0	3
total deaths	2	2	0	1	1	0	0	0	2	1	0	2	11

FWC, FWRI 2020.

**2019**

	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec	TOTALS
Natural deaths	0	0	0	0	0	0	0	0	0	0	0	0	0
watercraft deaths	0	0	0	1	0	2	1	0	0	0	0	0	4
prenatal	0	0	0	0	0	0	0	0	0	0	1	0	1
other human	0	0	0	0	0	0	0	0	0	0	0	0	0
cold stress	0	0	0	0	0	0	0	0	0	0	1	3	4
undetermined	0	0	0	0	1	0	0	0	0	0	0	1	2
total deaths	0	0	0	1	1	2	1	0	0	0	0	0	11

FWC, FWRI 2020.

**2020**

	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec	TOTALS
Natural deaths	0	0	0	0	0	0	0	0	0	0	0	0	0
watercraft deaths	0	0	0	0	0	0	0	0	0	0	0	0	0
prenatal	0	0	0	0	0	0	0	0	1	0	0	0	1
other human	0	0	0	0	0	1 Lock	1 Mono	0	0	0	0	0	2
cold stress	0	1	1	0	0	0	0	0	0	0	0	0	2
undetermined	0	1	0	1	0	0	0	1	0	0	0	1	4
total deaths	0	2	1	1	0	1	1	1	1	0	0	1	9

FWC, FWRI 2020 preliminary. Note: Lock = canal lock; Mono = monofilament fishing line

**2021**

	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec	TOTALS
Natural deaths	0	0	2	1	0	0	0	0	0	0	0	0	3
watercraft deaths	0	0	0	0	0	0	0	0	0	0	0	0	0
prenatal	0	0	0	1	0	0	0	0	0	0	0	0	1
other human	0	0	0	0	0	0	0	1	0	0	0	0	1
cold stress	0	1	0	0	0	0	0	0	0	0	0	0	1
undetermined	0	0	0	0	0	0	1	0	0	0	0	0	1
Not necropsied	1	2	5	1	1	1	1	0	0	0	0	0	12
total deaths	1	3	7	3	1	1	2	1	0	0	0	0	19

**2022**

	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec	TOTALS
Natural deaths	0	0	0	0	0	0	0	0	0	0	0		0
watercraft deaths	0	0	0	0	1	0	0	0	0	0	0		1
prenatal	0	0	1	0	0	0	0	0	2	0	0		3
other human	0	0	0	0	0	0	0	0	0	0	0		0
cold stress	0	0	1	0	0	0	0	0	0	0	0		1
undetermined	0	0	0	1	0	0	0	0	0	0	1		2
Not necropsied	0	0	0	0	0	0	0	0	1	0	0		1
total deaths	0	0	2	1	1	0	0	0	3	0	1		8

FWC, FWRI 2022.

## Manatee Mortality

Manatee Mortality: In Duval County, the five-year running average of watercraft mortalities showed a decreasing trend since 2012 (in contrast, that of the State continued to increase). Since 2014, the frequency of times that the watercraft death rate (watercraft percent of total mortalities) was higher than that of the State rate has decreased (with two exceptions 2017 and 2019).

### Manatee watercraft mortalities for Duval County and The State of Florida 2010-2021.

Year	Duval				Florida			
	WC 5 Yr. Ave.	WC	% WC	Total	WC 5 Yr. Ave.	WC	% WC	Total
2010	6	2	22	9	82	83	11	766
2011	6	6	40	15	81	88	19	453
2012	6	4	31	13	82	82	21	392
2013	5	4	22	18	84	73	9	830
2014	3	0	0	12	78	69	19	371
2015	3	1	13	8	79	86	21	405
2016	2	1	8	12	83	106	20	520
2017	2	5	26	19	88	111	21	538
2018	1	0	0	11	98	124	15	824
2019	2	4	36	11	112	137	22	606
2020	2	0	0	9	113	90	13	637
<b>2021</b>	<b>1.8</b>	<b>0</b>	<b>0</b>	<b>19</b>	<b>109</b>	<b>90</b>	<b>9</b>	<b>1003</b>
<b>2022*Nov.</b>	<b>1</b>	<b>1</b>	<b>0.1</b>	<b>8</b>	<b>102</b>	<b>70</b>	<b>9</b>	<b>745</b>

Source data: FWC, FWRI 2022.

Several large vessel caused deaths were reported over the past 5 years (2015-2019 see below). From 2009 to 2013, more watercraft deaths were documented towards the mouth of the river, rather than a more countywide spread as in prior years. Manatee deaths occurred in an area extending from Downtown to the mouth of the St. Johns River. Recently in the last few years, there have been some deaths south of downtown, particularly in the Ortega River area. From 2019 to 2022, the number of deaths was lower overall, but this may have been due to unusually less manatees in the area (Map Series B). As of September 2022, there was a single watercraft caused manatee mortality in the Ribault River (May-vessel size was undetermined).

### Manatee deaths from large vessels (MMPL Vessel Class IV) 2015-2019, Duval Co., FL.

Date	Manatee field ID	Mortality category	Location
9/7/2013	MNE1365	1-Watercraft Lg.	Bartram Island deep penetrating prop wounds
9/4/2015	MNE15033	1-Watercraft Lg.	Bartram Island
1/25/2016	MNE16003	1-Watercraft Lg.	Talleyrand
2/09/2017	MNE17007	1-Watercraft Lg.	S. of Talleyrand
6/28/2017	MNE17022	1-Watercraft Lg.	Bount Island
7/20/2017	MNE17028	1-Watercraft Lg.	E. of Metro Pk.
7/3/2019*	MNE19018	1-Watercraft Lg.	Heckscher Dr. crushed by slow moving heavy vessel

Source data: FWC, FWRI 2020.\*Preliminary data

MMPL Category IVa includes very large propellers found on ships and mega yachts.

MMPL Category IVb includes very large propellers found on tugs and workboats.

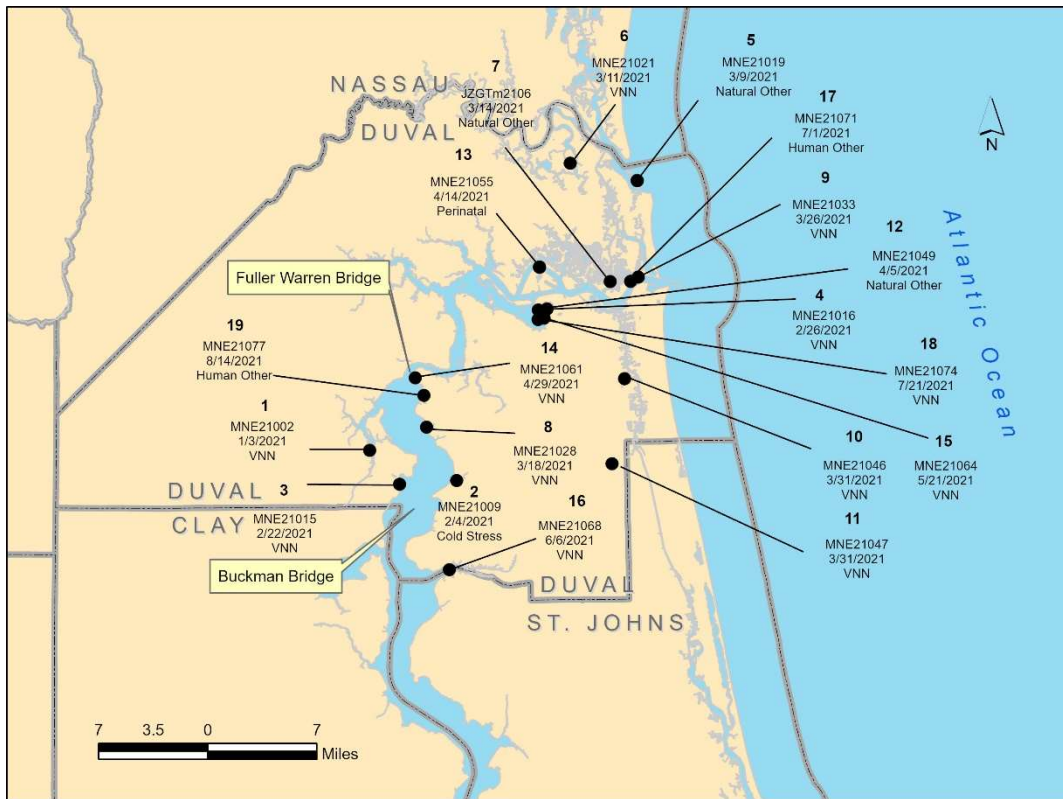
From: Rommel et al. 2007. Forensic methods for characterizing watercraft from watercraft-induced wounds on the Florida manatee (*Trichechus manatus latirostris*) Marine Mammal Science, 23(1): 110–132 (January 2007) © 2006 by the Society for Marine Mammalogy DOI: 10.1111/j.1748-7692.2006.00095.x

**Manatee deaths from all causes 2021, Duval Co., FL.**

<b>Count</b>	<b>Date</b>	<b>Manatee field ID</b>	<b>Sex</b>	<b>Total Length</b>	<b>Mortality category</b>
<b>1</b>	1/3/2021	MNE21002	<b>M</b>	236	<b>Verified/Not Necropsied</b>
<b>2</b>	2/4/2021	MNE21009	<b>M</b>	253	<b>Natural-Cold Stress</b>
<b>3</b>	2/22/2021	MNE21015	<b>M</b>	223	<b>Verified/Not Necropsied</b>
<b>4</b>	2/26/2021	MNE21016	<b>F</b>	232	<b>Verified/Not Necropsied</b>
<b>5</b>	3/9/2021	MNE21019	<b>M</b>	303	<b>Natural Other</b>
<b>6</b>	3/10/2021	MNE21021	<b>F</b>	230	<b>Verified/Not Necropsied</b>
<b>7</b>	3/14/2021	JZGTm2106	<b>F</b>	281	<b>Natural Other</b>
<b>8</b>	3/18/2021	MNE21028	<b>U</b>	310	<b>Verified/Not Necropsied</b>
<b>9</b>	3/26/2021	MNE21033	<b>M</b>	215	<b>Verified/Not Necropsied</b>
<b>10</b>	3/31/2021	MNE21046	<b>F</b>	340	<b>Verified/Not Necropsied</b>
<b>11</b>	3/31/2021	MNE21047	<b>M</b>	304	<b>Verified/Not Necropsied</b>
<b>12</b>	4/5/2021	MNE21049	<b>F</b>	292	<b>Natural Other</b>
<b>13</b>	4/14/2021	MNE21055	<b>M</b>	139	<b>Perinatal ( =&lt; 150 )</b>
<b>14</b>	4/29/2021	MNE21061	<b>M</b>	328	<b>Verified/Not Necropsied</b>
<b>15</b>	5/21/2021	MNE21064	<b>M</b>	283	<b>Verified/Not Necropsied</b>
<b>16</b>	6/6/2021	MNE21068	<b>U</b>	155	<b>Verified/Not Necropsied</b>
<b>17</b>	7/1/2021	MNE21071	<b>M</b>	295	<b>Human-Related/Other</b>
<b>18</b>	7/21/2021	MNE21074	<b>F</b>	292	<b>Verified/Not Necropsied</b>
<b>19</b>	8/14/2021	MNE21077	<b>M</b>	280	<b>Human-Related/Other</b>

**Source: FWC, FWRI 2022.**

## SERIES B – Manatee mortality, Duval Co., FL. (2021)



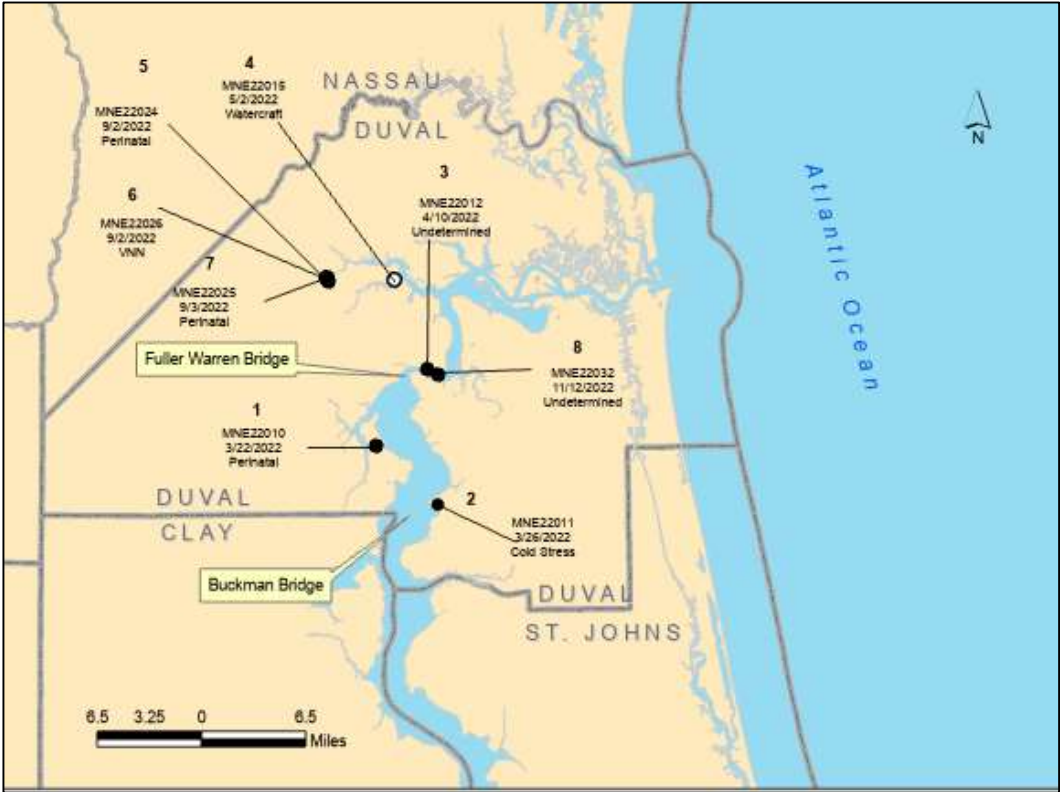
FWC, FWRI 2021.  
No watercraft mortalities.

## Manatee deaths from all causes 2022, Duval Co., FL. (As of November)

Count	Date	Manatee field ID	Sex	Total Length	Mortality category
1	3/22/2022	MNE22010	F	130	Perinatal ( =< 150 )
2	3/26/2022	MNE22011	M	156	5-Natural-Cold Stress
3	4/10/2022	MNE22012	M	330	8-Undetermined
4	5/2/2022	MNE22015	M	289	1-Watercraft
5	9/2/2022	MNE22024	F	118	Perinatal ( =< 150 )
6	9/2/2022	MNE22026	F	300	Verified/Not Necropsied
7	9/3/2022	MNE22025	M	116	Perinatal ( =< 150 )
8	11/12/2022	MNE22032	F	250	8-Undetermined

Source: FWC, FWRI 2022 Preliminary.

**SERIES B – Manatee mortality, Duval Co., FL. As of November 2022.**



FWC, FWRI 2022 Preliminary.

# Marine Facility Inventory Summary

## Boat Launch Facilities Signage Inventory:

An inventory of signage was completed and there were no changes to report since the previous year. A couple of vandalized signs were attended to including a manatee kiosk sign at Oak Harbor boat ramp that was cleaned, and a manatee informational sign at Goodby's Creek boat ramp that was removed and has not been replaced yet. The database of all local manatee, boating safety signage, and information kiosks at boat ramps in Duval County is current and up to date. Methods: Researchers visited all facilities to record and verify information.

## Marine Facilities Inventory:

This inventory includes ~**192** commercial and multi-family marinas and docks, which were checked over the boating season (June-September). Changes in the number of wet and dry slips from previous years are highlighted. There was an increase in the number of wet slips from 3,892 in 2015 to 4,040 in 2020 (change +148). Dry slips increased from 2,510 in 2015 to 2,716 in 2020 (change +200). There was a total of 70 ramps and 805 parking spaces from 2014 to 2020.

Methods: Researchers placed phone calls to individual facilities to obtain information about the occupancy and capacity changes if any. Subsequent to that, researchers visited a subsample of these facilities to verify information.

**In addition, 77 single-family home dock permits, plus 1 dock rebuild permit was issued in Duval County 2021/2022, compared to 76 dock permits ( plus 2 docks rebuilt) in 2020/21. There were 51 (2019/20), 25 (2018/19), 82 (2017/18), 64 (2016/17), 65 (2015/16), 59 (2015) and 71 (2014) (Source: SJRWMD 2022).**

Facility No.	FACILITY NAME	Wet slips 2020	Wet slips 2022	Dry slips 2020	Dry slips 2022	No. of Ramps	No. of Lanes	Paved	Parking Spaces
1	Clark's Fish Camp	10	6	0	0	0	0		0
2	The Marina at Julington Creek	91	91	226	226	0	0		0
3	Mandarin Holiday Marina & Fish Camp	160	160	0	0	1	1	YES	0
4	Beatrice A. Gamble Julington Pier #3	84	84	8	8	0	0		0
5	Bull Bay Pier/Wiley E. Andreu	78	78	25	25	0	0		0
6	<del>Old Bull Bay</del>	<del>6</del>		<del>0</del>		<del>0</del>	<del>0</del>		<del>0</del>
7	Tala Cay HOA	2	2	0	0	0	0		0
8	Plummers Cove HOA	12	12	0	0	0	0		0
9	Florida Tackle & Gun Club	32	32	12	12	1	2	YES	5
10	The Cove at St Johns	13	13	0	0	0	0		0
11	La Terraza	4	4	0	0	0	0		0
12	NFL Yacht Sales/Mandarin Marina/GC YC	5	5	208	208	1	1	YES	0
13	Epping Forest Yacht Club	52	52	17	17	0	0		0
14	<del>6006 of Jacksonville Inc</del>	<del>7</del>		<del>0</del>		<del>0</del>	<del>0</del>		<del>0</del>
15	Club Condominiums	8	8	0	0	0	0		0
16	The Rudder Club of Jacksonville	35	13	89	106	1	1	YES	0
17	NAS/Jax Marina	96	96	241	241	1	2	YES	0
18	Florida Yacht Club	152	152	248	248	1	1	YES	0
19	Venetian on the Ortega	94	47	61	0	0	0		0
20	Confederate Point Apts	43	43	0	0	0	0		0

C = Commercial; M = Marina; MF = Multifamily; OT= Other; R=Ramp; SBT=Ship/Barge/Tug; T=Transitory

Facility No.	FACILITY NAME	Wet slips 2020	Wet slips 2022	Dry slips 2020	Dry slips 2022	No. of Ramps	No. of Lanes	Paved	Parking Spaces
21	Preserve at Cedar Rvr/Cedar Cove Apts	18	18	0	0	1	1	YES	0
22	2509 Blanding Blvd LLC (retail)	24	4	0	0	0	0		0
23	Coastal Creek Condo fka Cedar Shores	4	24	0	0	0	0		0
24	Lighthouse Marine/Florcal Marina	24	24	0	0	0	0		0
25	<del>Cedar River Moorings/Club(HarborLts)</del>	<del>23</del>		<del>10</del>		<del>1</del>	<del>1</del>	<del>YES</del>	<del>12</del>
26	Cedar Creek Landing Condos	15	15	0	0	1	1	YES	0
27	Londontowne Apartments	8	8	0	0	0	0		0
28	<del>Klehm Estate (Chuck's Boat Yard)</del>	<del>10</del>		<del>0</del>		<del>0</del>	<del>0</del>		<del>0</del>
29	Lakeshore Dry Storage	23	0	208	210	0	0		0
30	Lambs Yacht Center	152	152	0	0	0	0		0
31	Cedar Point Marina					0	0		0
32	Huckins Yacht	36	36	0	0	0	0		0
33	Sadler Point Marina		SEE END			0	0		0
34	Ortega Yacht Club Marina	112	112	0	0	0	0		0
35	Lakeside Ortega Prtnshp/JOWens Marina	112	20	0	3	0	0		0
36	Ortega Landing Marina	24	SEE END	0	0	0	0		0
37	Commander Apt	192	192	0	0	0	0		0
38	Jerry Strozier Ferguson Estate	6	6	0	0	0	0		0
39	River City Brewing Co	60	60	0	0	0	0		0
40	Berkman Plaza and Marina	12	12	0	0	0	0		0
41	Shipyards	240	240	0	0	0	0		0
42	Metropolitan Park & Marina	78	78	0	0	0	0		0
43	Colonial Point Condos	14	14	0	0	0	0		0
44	Carlton At Oak Landing	11	11	0	0	0	0		0
45	Magnolia Shores Homeowners	7	7	0	0	0	0		0
46	River Hills Condo	21	21	0	0	0	0		0
47	Jones College (Riverton towers)	9	7	0	0	0	0		0
48	Arlington Marina/MoBro Marine Inc	28	30	178	180	0	0		0
49	St Johns Riverview Homes Condo Assoc	6	6	0	0	0	0		0
50	Arlington by the River Condo	6	6	0	0	0	0		0
51	JU Row Cntr and Marine Sci Dock	17	17	0	0	2	2		0
52	Pirates Point Yacht Club & Marina	8		0	0	0	0		0
53	William Dye Marina (DyynamicYachts)	14	14	0	0	0	0		0
54	Fire Station #38 (COJ)	44	44	0	0	0	0		0
55	Seafarers Marina	12	75	0	0	0	0		0
56	Edwards Marina (Fisherman's Marina)	75	16	0	0	0	0		0
57	Eleanor Garrison	23	23	0	0	0	0		0
58	Loretta Courson	8	8	0	0	1	1	YES	0
59	Trout River Drive Apts (Strong)	5	5	0	0	1	1	YES	0
60	Sibbald Road Trust	0	0	7	7	0	0		0
61	Dames Pt Marina (Shafnacker)	5	15	0	0	1	2	NO	0
62	Dames Pt Yacht Club(Nicholas Crk Dev)	11	11	20	20	0	0		0
63	Safe Harbor Haven (Boys Home)	6	6	0	0	1	1	YES	0

C = Commercial; M = Marina; MF = Multifamily; OT= Other; R=Ramp; SBT=Ship/Barge/Tug; T=Transitory

\*= Development Rights- Not Constructed

Facility No.	FACILITY NAME	Wet slips 2020	Wet slips 2022	Dry slips 2020	Dry slips 2022	No. of Ramps	No. of Lanes	Paved	Parking Spaces
64	Brown's Creek Fish Camp	0	0	25	25	1	1	YES	0
65	Clapboard Creek Marina	35	35	0	0	0	0		0
66	Clapboard Creek Fish Camp	0	0	30	30	1	2		10
67	Mariner Point Yacht Club	50	50	0	0	0	0		0
68	Harbour North Park Assoc	6	6	0	0	1	1	YES	0
69	Riverfront RV Park	0	0	0	0	1	1		0
70	Sandollar Marina					0	0		0
71	Fort George Harbor Yacht Club	14	14	150	150	0	0		0
72	Mayport Harbor OPS					1	1	YES	0
73	JPA/St Johns Bar Pilot Assoc	4	4	0	0	0	0		0
74	Morningstar Marinas	2	2	0	0	0	0		0
75	JPA/Mayport Tarvern	14	14	145	145	0	0		0
76	JPA/Mayport Yacht Basin	7	7	0	0	0	0		0
77	Spanish Point Civic Assoc	4	4	0	0	1	1	YES	0
78	Queens Harbour Yacht & Country Club	0	0	0	0	0	0		0
79	Harbortown f/k/a Pablo Creek Marina	56	56	0	0	0	0		0
80	Seven Pines Island Marina Assoc	150	150	0	0	0	0		0
81	Sunset Point Homeowners Assoc	20	6	0	0	0	0		0
82	Palm Cove Marina	5	165	0	426	1	1	YES	0
83	Beach Marine	375	375	438	438	0	0		0
84	Moorings Condo Assoc	325	325	350	350	0	0		0
85	Waterside fka Lighthouse Grille/Cove	81	34	0	0	0	0		0
86	Marina San Pablo	24	24	0	0	0	0		0
87	Hood Landing Boat Ramp	46	46	0	0	1	1	YES	12
88	Mandarin Park Boat Ramp	0	0	0	0	1	2	YES	15
89	Duval County Dock Park	0	0	0	0	1	1	YES	5
90	Goodby's Lake Boat Ramp	0	0	0	0	1	3	YES	43
91	Hooters(Jax has additional name)	0	7	0	0	0	0		0
92	Timuquana Country Club	8	8	0	0	0	0		0
93	Wayne B Stevens Boat Ramp	12	12	0	0	3	5	YES	49
94	Lighthouse Marine Boat Ramp COJ	0	0	0	0	2	2	YES	16
95	St Johns Marina at Riverwalk Park	0	0	0	0	1	2	YES	15
96	COJ - Friendship Fountain Dock	5	6	0	0	0	0		0
97	COJ-Jax Landing	1	1	0	0	0	0		0
98	COJ-Crowne Plaza	1	11	0	0	0	0		0
99	COJ - Liberty St	1	1	0	0	0	0		0
100	COJ-Wyndham	1	1	0	0	0	0		0
101	COJ - Metropolitan Park	1	1	0	0	0	0		0
102	Beach Blvd Boat Ramp(Pottsburg Crk)	1	1	0	0	1	1	YES	12
103	Arlington Road Boat Ramp	0	0	0	0	1	2	YES	13
104	Arlington Lions Club Park Boat Ramp	0	0	0	0	1	1	YES	61
105	Reddie Pointe Preserve	0	0	0	0	0	0		0
106	Lonnie Wurn Boat Ramp	6	6	0	0	1	1	YES	9

C = Commercial; M = Marina; MF = Multifamily; OT= Other; R=Ramp; SBT=Ship/Barge/Tug; T=Transitory



Facility No.	FACILITY NAME	Wet slips 2020	Wet slips 2022	Dry slips 2020	Dry slips 2022	No. of Ramps	No. of Lanes	Paved	Parking Spaces
107	Dunn Creek Bridge	0	0	0	0	1	1	NO	5
108	Drummond Point	0	0	0	0	1	1	NO	5
109	Jackies Restaurant (Seafood)	0	0	0	0	0	0		0
110	Bert Maxwell Boat Ramp	35	35	0	0	2	4	YES	45
111	T K Stokes Boatramp	0	0	0	0	1	1	YES	30
112	Harborview Boatramp	0	0	0	0	2	2	YES	7
113	Charles Reese Boatramp	0	0	0	0	1	1	YES	6
114	Dinsmore Boat Ramp	0	0	0	0	1	2	YES	16
115	Brown's Creek Bridge	0	0	0	0	1	1		10
116	St Johns Landing Estates	0	0	0	0	1	1	YES	0
117	St Johns Landing Homeowners Assco	0	0	0	0	1	1	YES	6
118	Palms Fish Camp/COJ	0	0	0	0	1	1	YES	20
119	Fulton Boat Ramp	0	0	0	0	1	1	YES	7
120	Ft Caroline National Memorial Dock	0	0	0	0	0	0		0
121	Gate Petroleum Co	3	3	0	0	1	1	NO	2
122	Pirates Cove Fish Camp	0	0	0	0	1	1	NO	10
123	Joe Carlucci-Sisters Creek Park	0	0	0	0	1	2	YES	47
124	Sisters Creek Marina	0	0	0	0	1	4	YES	94
125	Fort George Island Ferry (North port)	2	1	0	0	0	0		0
126	Singleton's Seafood Shack	2	2	0	0	0	0		0
127	Michael B Scanlan Boat Ramp	0	0	0	0	2	8		75
128	Alimacani Boat Ramp	0	0	0	0	1	1	NO	10
129	Ribault Club @ Ft George	0	0	0	0	1	1		6
130	Kingsley Plantation	3	3	0	0	0	0		0
131	Simpson Creek Park	0	0	0	0	1	1	NO	2
132	Big Talbot Island SP	0	0	0	0	1	1	YES	37
133	Half Moon Island Boat Ramp	0	0	0	0	1	1	YES	23
134	Oak Harbor Boat Ramp	0	0	0	0	1	1	YES	28
135	Intracoastal Waterways Boat Ramp	0	0	0	0	2	4	YES	37
136	Weeks Marine	3	3	0	0	1	1	YES	0
137	All Wet Sports/Suzanne Paul	0	0	8	8	0	0		0
138	River Cruises	2	2	0	0	0	0		0
139	RiverEdge / (old JEAS site)	2	125 prop.	0	0	0	0		0
140	Riverfront Dev Group	4	4	0	0	0	0		0
141	Commodore Point Prop/N FL Shipyard	7	7	0	0	0	0		0
142	Hill Street LLC	5	5	0	0	0	0		0
143	Hal Jones Contractor Inc	3	3	0	0	0	0		0
144	Cross State Towing Co	0	0	0	0	1	1	YES	0
145	1163 Tallyrand Inc/Crowley Liner Serv	5	5	0	0	0	0		0
146	JPA Talleyrand Marine Terminal	6	6	0	0	0	0		0
147	Center Point Terminal Co (Standard Oil Co Chevron	6	6	0	0	0	0		0
148	Trans Montaigne (fka Coastal Fuels Terminal)	1	1	0	0	0	0		0
149	JEK/Kennedy Generating Station	1	1	0	0	0	0		0

C = Commercial; M = Marina; MF = Multifamily; OT= Other; R=Ramp; SBT=Ship/Barge/Tug; T=Transitory

Facility No.	FACILITY NAME	Wet slips 2020	Wet slips 2022	Dry slips 2020	Dry slips 2022	No. of Ramps	No. of Lanes	Paved	Parking Spaces
150	Keystone Terminal	6	6	0	0	0	0		0
151	White Sprngs AgChem(GA Sthn/FL Rlway)	1	1	0	0	0	0		0
152	Support Terminal	2	2	0	0	0	0		0
153	NuStar Energy	1	0	0	0	0	0		0
154	US Gypsum Company	5	5	0	0	0	0		0
155	Southern Belle Frozen Foods	1	1	0	0	0	0		0
156	Trout River Pier 68 Marina	1	1	0	0	0	0		0
157	Gate Concrete Co	6	6	0	0	0	0		0
158	US Navy Fuel Depot	2	2	0	0	1	1	YES	0
159	BP Oil	1	1	0	0	0	0		0
160	Amerada Hess Fuel Oil Inc	1	1	0	0	0	0		0
161	One Dock Builders	1	1	0	0	0	0		0
162	JaxPort-Ed Austin Marine Terminal	8	8	0	0	0	0		0
163	TraPac Terminal	1	1	0	0	0	0		0
164	JaxPort Bulk Terminal	2	2	0	0	0	0		0
165	Jax Port Authority	7	7	0	0	0	0		0
166	JPA/Blount Island	4	4	0	0	0	0		0
167	B P B Acquisitions (Formerly Celotex)	8	8	0	0	0	0		0
168	ESI of Florida LLC	1	1	0	0	0	0		0
169	Terminal Services	11	11	0	0	0	0		0
170	Kenneth Vogelsong	4	4	0	0	0	0		0
171	JEA North Generating Station Dock	2	2	0	0	0	0		0
172	Jax Port Authority - 4916	1	1	0	0	0	0		0
173	Florida East Coast Shrimp Producers	2	2	0	0	3	0	YES	0
174	M & M Shrimp Dock Inc	9	9	6	6	0	0		0
175	U.S. Marine Corp	2	2	0	0	0	0		0
176	Atlantic Dry Dock Corp	3	3	0	0	0	0		0
177	St Johns Boat Co	10	10	6	6	0	0		0
178	Mayport Naval Station	6	6	0	0	0	0		0
179	JPA/Mayport Ferry Slip	34	1	0	0	0	0		0
180	JPA/Formerly LA Cruise	1	1	0	0	0	0		0
181	JPA/Roland Ice Co	1	1	0	0	0	0		0
182	JPA/Gilmer Pier	8	8	0	0	0	0		0
183	JPA/Hornblower Marine/Ferry Maint Yrd	7	0	0	0	0	0		0
184	JPA/Formerly Atlantic Seafood Co	1	1	0	0	0	0		0
185	JPA/Mat Roland Seafood	3	3	0	0	0	0		0
186	Miss Becky Seafood/Safe Harbor Mrkt	7	20	0	0	0	0		0
187	Rebecca Pack	20	7	0	0	0	0		0
188	U.S. Coast Guard - Mayport	4	4	0	0	0	0		0
189	Moody Land Co/Bellinger Shipyard	6	6	0	0	0	0		0
190	Windward Sadler Point Marina	-	165	0	0	0	0	YES	0
191	Post Street Dock	0	6	0	0	0	0		0
192	Jordan Street Dock	0	5	0	0	0	0		0
TOTAL		4,033	4,030	2,716	3,095	70	93	47Y	805

C = Commercial; M = Marina; MF = Multifamily; OT= Other; R=Ramp; SBT=Ship/Barge/Tug; T=Transitory

**Figure 63. Table of Marine Facilities in Jacksonville (Duval County) Florida 2022.**

Development slips specific to the downtown DRI:

The number of slips in downtown Jacksonville was increased by 175 slips from 789 to 964, and supporting justifications for these slips were provided by letters outlining the City's commitments, and the regulatory agencies authorizations for the slip increase (MPP Implementation Report 2017). This sub-inventory includes tracking of development slips specific to the downtown DRI area. Note that as of 2022, 124 slips have been constructed, and 840 have not been constructed.

**Approved Marina Slips Downtown (February 2022)**

<b>City of Jacksonville Ordinance Number</b>	<b>Number of Marina Slips Approved</b>	<b>Location within Downtown</b>	<b>Constructed / Not Constructed</b>
N/A	62	River City (Southbank)	<del>Constructed</del> Demolished
Ord. 94-409-314	70	Metropolitan Park (Northbank)	Constructed
Ord. 2001-298-E	54	Berkman Plaza (Northbank)	Constructed
Ord. 2001-839-E	150	Shipyards Project (Northbank)	Not Constructed
Ord. 2002-755-E	75	St. Johns Center/The Strand (Southbank)	Not Constructed
Ord. 2005-391-E	250	Shipyards Project (Northbank)	Not Constructed
<del>Ord. 2007-659-E</del>	<del>128</del>	<del>South Shore/Aetna Site (Southbank)</del>	<del>Not Constructed</del>
Ord. 2018-313-E	125	Elements (The District)	Not Constructed
<b>Unallocated</b>	<b>178</b>	<b>Northbank / Southbank</b>	<b>Not Constructed</b>
<b>Total</b>	<b>964 marina slips: 124 constructed / 840 not constructed</b>		

In addition to the sub inventory, Downtown public docks include:

- 30 slips - Northbank/Landing (pre-existed 1999 MMP and rebuilt in 2021)
- 2 slips - Southbank/Chart House (original dock pre-existed 1999 MMP; rebuilt with 2014 SBRW)
- 2 slips - Southbank/Dinner Cruise dock (original dock pre-existed 1999 MMP; rebuilt with 2014 SBRW)
- 2 slips - A. Philip Randolph Blvd. dock (originally built around 2007 and expanded in 2017; City owns submerged land; need to be allocated?)
- 10 slips - RAM dock
- 5 slips – Friendship Fountain Dock
- 10 slips – Riverplace Tower Dock
- 5 slips – Jackson Street Dock
- 3 slips – Baptist/Fuller-Warren Dock (currently in design)

## Waterways Commission Meeting Summaries

The Jacksonville Waterways Commission was established in 1984 to study and make recommendations to the City Council with respect to the improvement, development and protection of the St. Johns River and all tidal waters in Duval County. The Commission is charged to formulate an overall plan for dealing with any problems that exist the St. Johns River and Duval County tidal waters and devise methods of developing future uses of those waterways.

The Commission serves as the Duval County committee to review rules proposed by the Florida Fish and Wildlife Conservation Commission governing speed and operation of motorboats to protect manatees. And acts as a coordinating agency and specialized advisor for governmental units and for programs and activities affecting the improvement, development and protection of the St. Johns River and all tidal waters in Duval County.

DATE	DISCUSSION
<b>October 13, 2021</b>	Dr. White talked about the blue green algae in the water and it being due to the warmer water temperature. Dr. Pinto said that there has not been any more manatee deaths for the year leaving the total for Jacksonville at 19 deaths and approximately 960 for Florida.
<b>November 10, 2021</b>	Dr. White talked about the algae bloom and that the water temperatures have been going down from being in the 70s to now in the 60s. Dr. White also talked about substantial flooding. Dr. Pinto said that there have been 19 manatee deaths in Jacksonville this year. CM Boylan asked how many manatees are there in Florida. Dr. White said it is difficult to determine the exact amount of manatees.
<b>December 15, 2021</b>	Dr. White talked about the weather patterns that will lead to a drier and warmer winter. Dr. White talked about the salinity and said that the water temperatures have been holding in the mid-60s. Dr. Pinto said that for the year there have been 19 total manatee deaths in Jacksonville and there have been over 1,000 manatee deaths in Florida due to starvation.
<b>January 12, 2022</b>	Dr. Pinto said the current water temperatures are 64 degrees and there are currently four manatees in rehab at the Jacksonville Zoo. Approval of Implementation Report Dr. Pinto detailed the report for the commission. The implementation report was approved 7 to 0. Mr. Birtalan, Ms. Haskell, Mr. Barker, CM Boylan, Mr. Hardesty, Mr. Pringle and Mr. Devereaux voted yes. Hand Vote: 7-0
<b>February 9, 2022</b>	Dr. White said that it is currently a quiet time in terms of the waterways, the river runs 6 inches high and there have been colder water temperatures. There has been no algae bloom. Dr. Pinto said that there have been no new manatee deaths since the last meeting.

- March 9, 2022** Dr. White talked about the issues relating to draught and that there has been half the normal rainfall amount this year. Dr. White discussed the research being done in the Mayport area. Mr. Hardesty talked about black material that was found near the JEA coal docks and he went over pictures he took of the area. Dr. Pinto gave a manatee update and said the habitat needs a long-term rehab
- April 13, 2022** Dr. White said this month the city is 6 inches over normal rainfall, and there has been a drop in salinity. Dr. White talked about the upcoming warmer weather. Dr. Pinto said that 2 manatees have died since the last meeting.
- May 11, 2022** Dr. White said that currently there is a draught, but statistically it has not been a draught. Dr. White said that the salinity is going up and he talked about artificial reefs. Dr. Pinto said that there was the first watercraft death of a manatee in the Ribault River.
- June 15, 2022** Dr. White said it has been a hot and dry summer and there have been higher water temperatures than the average. Dr. Pinto said there have been no manatee deaths since the last report and then he went over a map which detailed manatee sightings in Jacksonville.
- August 10, 2022** Dr. White said there has been strange weather this year, but no hurricanes have hit Duval County. Dr. White talked about the algae blooms and their impact on the waterways. St. Johns River Status Report on Manatees - Dr. Gerard Pinto - 10 Minutes Dr. Pinto said that no manatee deaths have been recorded since the last meeting, and there has been one manatee death recorded this year. Boat Compliance Study Report - Dr. Gerard Pinto - 10 Minutes Dr. Pinto went over a Powerpoint that detailed the methodology of the study and went over the observations relative to this study and past studies. Dr. Pinto showed photos of the worst offenders. Mr. Adkison talked about the importance of boater education. CM DeFoor said it is important to find a standard that is easy to follow.
- September 14, 2022** Dr. White said there has been double the amount of rainfall as this time last year and that hurricane season might shift to late September and October. Dr. Pinto said there have been two manatee deaths which puts the official number of manatee deaths at 6 for the year. Dr. Pinto said at this time most of the manatees have left the area due to the water temperatures.
- October 12, 2022** Dr. Pinto said there has been high levels of salinity and an increase in flood water. Dr. Pinto said that algae should be less of an issue than in the summer. Mr. Fraden asked when we can expect the flood waters to go down. Dr. Pinto said that it is difficult to say when the flood waters will go down.

## Law Report Summary

Good coordination and communication with the law enforcement agencies responsible for enforcing manatee speed zones within the county is an essential element of manatee protection. Although the City has minimal data to compare to previous years, the continued tracking of law enforcement efforts will allow the City to provide better analysis in future implementation reports.

The L.E. Task Force is a valuable method for all law enforcement agencies to communicate and coordinate efforts. All federal, state, and local agencies are committed to assisting the City in boating compliance. The meetings are well attended and all agencies attend JSO Media Awareness Day. However, the event was suspended this year due to the COVID pandemic shut down.

### A. Jacksonville Sheriff's Office

In 2018, JSO spent 7,280 hours patrolling manatee zones. This represented an increase of 3,983 hrs. (+55%) from the previous year. In addition, JSO issued 23 citations (+91%, 21 more than in 2017), and 1,400 warnings (+62%, or 863 more than in 2017). The Marine Unity had 8 patrol officers on duty, (6 more than in 2017).

<b>FOCUS AREA</b>	<b># of patrols</b>	<b>Citations</b>	<b>Warnings</b>	<b>Manatee related Incidents</b>
Julington Creek	103	0	20	0
County Line - Buckman Bridge	115	0	8	0
Buckman Bridge - Fuller Warren Bridge	309	0	46	2
Goodbys Creek	76	0	18	0
Ortega River	220	1	69	3
Fuller Warrant Bridge - Main St Bridge	643	5	166	10
Main St Bridge - Hart Bridge	882	6	219	10
Hart Bridge - Matthews Bridge and Arlington River	968	3	199	4
Matthews Bridge - Reddie Point	1,160	2	122	3
Trout River	348	0	71	0
Reddie Point - Blount Island	640	0	105	0
Blount Island - ICW	515	1	57	3
ICW North	382	3	97	3
ICW South	467	2	85	13
ICW- Jetties	452	0	118	17
<b>TOTAL</b>	<b>7,280</b>	<b>23</b>	<b>1,400</b>	<b>68</b>

**JSO 2018.**

In 2019, JSO spent 7,245 hours patrolling manatee zones. This represented a decrease of 35 hrs. (-0.5%) from the previous year. In addition, JSO issued 25 citations (+8 %, 2 more than in 2018), and 986 warnings (-30 %, or 414 less than in 2018). The Marine Unity had 8 patrol officers on duty, (same as in 2018).

<b>FOCUS AREA</b>	<b># of patrols</b>	<b>Citations</b>	<b>Warnings</b>	<b>Manatee related Incidents</b>
Julington Creek	115	2	21	1
County Line - Buckman Bridge	157	0	4	0
Buckman Bridge - Fuller Warren Bridge	313	0	22	0
Goodbys Creek	75	0	4	0
Ortega River	219	0	41	0
Fuller Warrant Bridge - Main St Bridge	697	6	185	11
Main St Bridge - Hart Bridge	838	3	200	8
Hart Bridge - Matthews Bridge and Arlington River	906	2	100	0
Matthews Bridge - Reddie Point	1,082	2	67	2
Trout River	333	0	32	0
Reddie Point - Blount Island	618	0	41	1
Blount Island - ICW	501	0	36	1
ICW North	435	2	85	2
ICW South	551	8	130	0
ICW- Jetties	405	0	18	0
<b>TOTAL</b>	<b>7,245</b>	<b>25</b>	<b>986</b>	<b>26</b>

#### **JSO 2019.**

In 2019, patrol effort on the water decreased by about 0.5 % from 2018 (still 8 officers like in 2018) but remained relatively high compared to 2017 and prior years. In summary, from 2015 to 2019, JSO hours on the water patrolling manatee zones increased from 1,692 to 7,245 Hrs. (+328 % or +5,553 Hrs.); citations issued increased from 7 to 25 (+257 % or +18); and warnings increased from 16 to 986 (+6,063 % or 970 warnings). In addition, the number of available officers increased from 3 in 2015 to 8 in 2018 (+167 %). Moreover, specific manatee related incidents increased from one in 2015 to 26 in 2019 (+2,500%).

In 2020, JSO spent 6,972 hours patrolling manatee zones. This represented a decrease of -273 hrs. (-4 %) from the previous year over the same period. In addition, JSO issued 19 citations (-24 %, 6 less than in 2019), and 560 warnings (-43 %, or 426 less than in 2019). The Marine Unity had 8 patrol officers on duty.

<b>FOCUS AREA</b>	<b># of patrols</b>	<b>Citations</b>	<b>Warnings</b>	<b>Manatee related Incidents</b>
Julington Creek	107	0	7	1
County Line - Buckman Bridge	133	0	0	0
Buckman Bridge - Fuller Warren Bridge	281	0	10	1
Goodbys Creek	44	0	3	0
Ortega River	215	0	16	0
Fuller Warrant Bridge - Main St Bridge	627	0	81	14
Main St Bridge - Hart Bridge	851	1	174	10
Hart Bridge - Matthews Bridge and Arlington River	839	5	34	0
Matthews Bridge - Reddie Point	1,084	1	31	1
Trout River	245	2	2	0
Reddie Point - Blount Island	701	0	4	0
Blount Island - ICW	674	0	15	1
ICW North	363	4	48	0
ICW South	504	6	125	3
ICW- Jetties	304	0	10	0
<b>TOTAL</b>	<b>6,972</b>	<b>19</b>	<b>560</b>	<b>31</b>

**JSO 2020**



As of September 2021, JSO spent 5,516 hours patrolling manatee zones. This represented a decrease of 1456 hrs. (-26 %) from the previous year over the same period. In addition, JSO issued 6 citations (-217 %, 13 less than in 2020), and 783 warnings (+28 %, or 223 more than in 2020). The Marine Unity had 8 patrol officers on duty and manatee related incidents were lower in 2021 (6) compared to 2020 (31).

<b>Focus Area</b>	<b># of patrols</b>	<b>Citations</b>	<b>Warnings</b>	<b>Manatee related Incidents</b>
Julington Creek	73	1	4	0
County Line - Buckman Bridge	120	0	0	0
Buckman Bridge - Fuller Warren Bridge	241	0	2	0
Goodbys Creek	37	0	0	0
Ortega River	223	0	24	2
Fuller Warrant Bridge - Main St Bridge	523	1	104	0
Main St Bridge - Hart Bridge	682	1	214	0
Hart Bridge - Matthews Bridge and Arlington River	729	1	84	0
Matthews Bridge - Reddie Point	763	2	23	0
Trout River	190	0	3	0
Reddie Point - Blount Island	579	0	1	0
Blount Island - ICW	498	0	16	1
ICW North	279	0	86	2
ICW South	393	0	220	1
ICW- Jetties	186	0	2	0
<b>Totals:</b>	<b>5,516</b>	<b>6</b>	<b>783</b>	<b>6</b>

**JSO 2021**

As of September 2022, JSO spent 1,497 hours patrolling manatee zones. This represented a decrease of -2,625 hrs. (-175 %) from the previous year over the same period. In addition, JSO issued 4 citations (-25 %, 1 less than in 2021), and 200 warnings (-223 %, or 446 less than in 2021). The Marine Unity had 8 patrol officers on duty and there were no manatee related incidents in 2022, and six in 2021.

<b>Focus Area</b>	<b># of patrols</b>	<b>Citations</b>	<b>Warnings</b>	<b>Manatee related Incidents</b>
Julington Creek	21	0	5	0
County Line - Buckman Bridge	30	0	0	0
Buckman Bridge - Fuller Warren Bridge	56	0	0	0
Goodbys Creek	11	0	0	0
Ortega River	53	0	0	0
Fuller Warren Bridge - Main St Bridge	152	2	20	0
Main St Bridge - Hart Bridge	205	0	38	0
Hart Bridge - Matthews Bridge and Arlington River	225	0	35	0
Matthews Bridge - Reddie Point	218	0	13	0
Trout River	61	0	0	0
Reddie Point - Blount Island	141	0	1	0
Blount Island - ICW	123	0	4	0
ICW North	59	2	17	0
ICW South	98	0	67	0
ICW- Jetties	44	0	0	0
<b>Totals:</b>	<b>1,497</b>	<b>4</b>	<b>200</b>	<b>0</b>

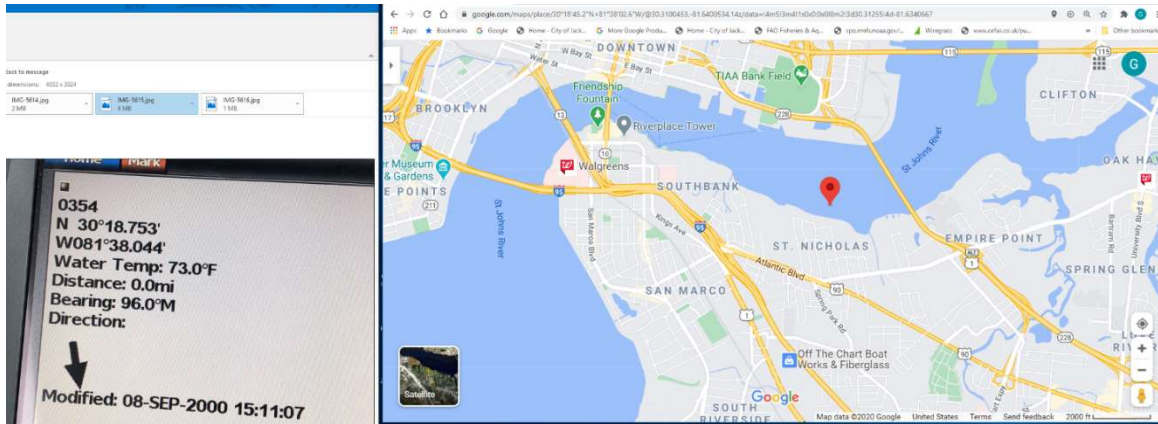
**JSO 2022 Sept.**

### **Summary of JSO law enforcement efforts 2014 - September 2022**

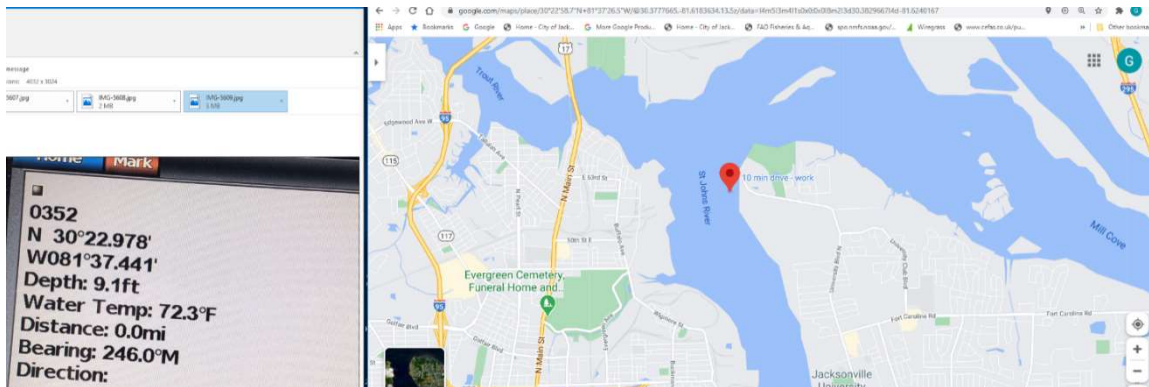
<b>YEAR</b>	<b># of patrols</b>	<b>Citations</b>	<b>Warnings</b>	<b>Manatee related Incidents</b>	<b>Officers</b>
2014	105	5	41	0	-
2015	1,692	7	16	1	-
2016	1,551	11	326	2	3
2017	3,297	2	537	5	2
2018	7,280	23	1,400	68	8
2019	7,245	25	986	26	8
2020	6,972	19	560	31	8
2021	5,516	6	783	6	8
2022 Sept.	1,497	4	200	0	8

Signage issues identified by JSO law enforcement (does not include all signage issues).

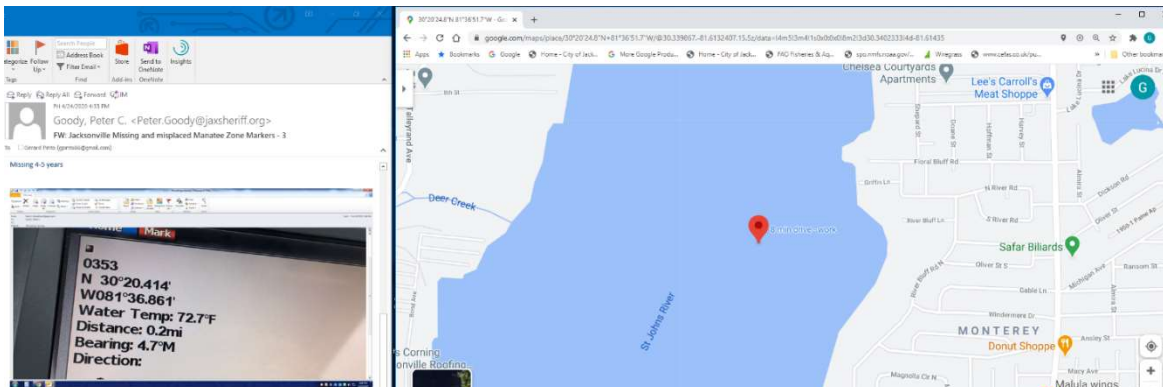
This speed zone marker is off station for more than 7 years now. This is a channel only 25mph zone and the marker is on the south bank several hundred yards outside the designated channel. This issue causes confusion as to where the actual zone is making it a hindrance to enforcement. The issue was reported to FWCs Boating and Waterways Section.



This area marks the location between Reddie Point and Blue Cypress Park where one manatee zone marker is missing and another is off station (1000ft Buffer zone and marker is more like 300ft). This issue has caused confusion as to where the actual zone is, making it a hindrance to enforcement for the last 7 years. The issue was reported to FWCs Boating and Waterways Section.



This area marks the location between Arlington Marina and Jacksonville University where a manatee zone marker is missing (1000ft Buffer zone on two pilings). This issue has caused confusion as to where the actual zone is making it a hindrance to enforcement for the last 4-7 years. The issue was reported to FWCs Boating and Waterways Section.



## B. Florida Fish and Wildlife Commission

The City of Jacksonville began to receive quarterly reports from FWC in November 2014. In the 2014-2015 year, FWC gave 161 citations for the Duval County area. FWC cited more boats in the ICW and the downtown area.

<b>FWC 2015</b>	<b># of times in area</b>	<b>Citations</b>	<b>Warnings</b>
<b>FOCUS AREA</b>			
Julington Creek		15	
County Line - Buckman Bridge			
Buckman Brg - Fuller Warren Bridge		2	
Goodbys Creek			
Ortega River		5	
Fuller Warren Brg - Main Street Bridge		22	
Main Street Bridge - Hart Bridge		7	
Hart Bridge - Matthews Bridge			
Arlington River		12	
Matthews Bridge - Reddie Pt		5	
Trout River			
Reddie Pt - Blount Island		1	
Blount Island - ICW			
ICW North		20	
ICW South		32	
ICW - Jetties		12	
In St. Johns River		23	
not marked location		5	
<b>TOTAL</b>		<b>161</b>	

**FDLE 2015.**

In the 2015-2016 year, FWC gave 68 citations for the Duval County area. FWC cited more boats in the ICW, downtown area, and Julington Creek. There were significantly less citations issued than the previous year, with 93 fewer citations issued as compared to 2015.

<b>FWC 2016</b>	<b># of times in area</b>	<b>Citations</b>	<b>Warnings</b>
<b>FOCUS AREA</b>			
Julington Creek		11	
County Line - Buckman Bridge			
Buckman Brg - Fuller Warren Bridge			
Goodbys Creek			
Ortega River		1	
Fuller Warren Bridge - Main Street Bridge		39	
Main Street Bridge - Hart Bridge			
Hart Bridge - Matthews Bridge Arlington River			
Matthews Bridge - Reddie Pt		2	
Trout River			
Reddie Pt - Blount Island			
Blount Island - ICW			
ICW North		7	
ICW South		6	
ICW - Jetties		2	
In St. Johns River			
not marked location			
<b>TOTAL</b>		<b>68</b>	

**FDLE 2016.**

In the 2016-2017 year, FWC gave 27 citations for the Duval County area. FWC cited more boats in the downtown area. There were significantly less citations issued than the previous year, with 41 fewer citations issued as compared to 2016.

<b>FWC 2017</b>	<b># of times in area</b>	<b>Citations</b>	<b>Warnings</b>
<b>FOCUS AREA</b>			
Julington Creek		1	
County Line - Buckman Bridge			
Buckman Bridge - Fuller Warren Bridge		1	
Goodbys Creek			
Ortega River		1	
Fuller Warren Bridge - Main Street Bridge		11	
Main Street Bridge - Hart Bridge		5+2	
Hart Bridge - Matthews Bridge		2	
Arlington River			
Matthews Bridge - Reddie Pt			
Trout River			
Reddie Pt - Blount Island			
Blount Island - ICW		1	
ICW North		2	
ICW South		1	
ICW - Jetties			
In St. Johns River			
not marked location			
<b>TOTAL</b>		<b>27</b>	

**FDLE 2017.**

From 2015 to 2017, citations issued by FWC decreased from 161 to 27 (-83%).

In the 2017-2018 year, FWC gave 5 citations for the Duval County area. There was significantly less than issued the previous year (and 22 fewer citations than in 2016).

<b>FWC 2018</b>	<b># of times in area</b>	<b>Citations</b>	<b>Warnings</b>
<b>FOCUS AREA</b>			
Julington Creek			
County Line - Buckman Bridge			
Buckman Bridge - Fuller Warren Bridge			
Goodbys Creek			
Ortega River		1	
Fuller Warren Bridge - Main Street Bridge			
Main Street Bridge - Hart Bridge		2	
Hart Bridge - Matthews Bridge Arlington River			
Matthews Bridge - Reddie Pt			
Trout River			
Reddie Pt - Blount Island			
Blount Island - ICW			
ICW North		2	
ICW South			
ICW - Jetties			
In St. Johns River			
not marked location			
<b>TOTAL</b>		<b>5</b>	

**FDLE 2018.**

No data were available for 2019, 2020, 2021, and 2022.

### C. US Coast Guard

The City of Jacksonville received 2 multi-agency reports from the USCG. The USCG has been willing and active in manatee protection efforts, but the problem is the constant turnover of personnel assigned to Sector Jacksonville. The USCG has been attending the L.E. Task Force meetings.

<b>FOCUS AREA</b>	<b># of times in area</b>	<b>Citations</b>	<b>Warnings</b>
Julington Creek			
County Line - Buckman Bridge			
Buckman Bridge - Fuller Warren Bridge			
Goodbys Creek			
Ortega River			
Fuller Warren Bridge - Main Street Bridge	6	1	
Main Street Bridge - Hart Bridge			
Hart Bridge - Matthews Bridge			
Arlington River			
Matthews Bridge - Reddie Pt			
Trout River			
Reddie Pt - Blount Island			
Blount Island - ICW			
ICW North	13		
ICW South	10		
ICW - Jetties	14	5	
<b>TOTAL</b>	<b>43</b>	<b>6</b>	

**USCG 2016.**



<b>FOCUS AREA</b>	<b># of times in area</b>	<b>Citations</b>	<b>Warnings</b>
Julington Creek	11		0
County Line - Buckman Bridge	20		0
Buckman Bridge - Fuller Warren Bridge	28		0
Goodbys Creek	0		0
Ortega River	12		0
Fuller Warren Bridge - Main Street Bridge	36		3
Main Street Bridge - Hart Bridge	36		0
Hart Bridge - Matthews Bridge Arlington River	38		0
Matthews Bridge - Reddie Pt	50		0
Trout River	17		0
Reddie Pt - Blount Island	50		0
Blount Island - ICW	77		0
ICW North	91		10
ICW South	88		9
ICW - Jetties*	88		19
<b>TOTAL</b>	<b>642</b>		<b>41</b>

**USCG 2017.**

\*zone still not enforceable due to lack of signage.  
This sign was replaced with a new one in 2020.

USCG significantly increased hours of operation in the area from 43 hrs. (2016) to 642 hrs. (2017). There was an increase in the warnings given from 6 (2016) to 41 (2017). The area of the ICW near the Jetties remains unenforceable due to a lack of signage. No report was available for 2018, 2019, 2020, and 2021.

#### D. Multi agency deployments

Six multi-agency deployments were held in 2015. A combined 259 hours of law enforcement presence was reported during the 6 deployment weekends. A total of 16 citations and 12 warnings were given.

##### **Multi agency USCG / JSO 2015**

<b>FOCUS AREA</b>	<b># of times in area</b>	<b>Citations</b>	<b>Warnings</b>
Julington Creek	7	4	2
County Line - Buckman Bridge	12		
Buckman Bridge - Fuller Warren Bridge	23		
Goodbys Creek	6		
Ortega River	6		
Fuller Warren Bridge - Main Street Bridge	24		2
Main Street Bridge - Hart Bridge	36		5
Hart Bridge - Matthews Bridge Arlington River	32		
Matthews Bridge - Reddie Pt	47	1	1
Trout River	8		
Reddie Pt - Blount Island	14		
Blount Island - ICW	14	1	
ICW North	4	2	
ICW South	16	8	1
ICW - Jetties	10		1
<b>TOTAL</b>	<b>259</b>	<b>16</b>	<b>12</b>

**USCG / JSO 2015.**

In 2016, six multi-agency deployments were held. A combined 244 hours of law enforcement presence was reported during the 6 deployment weekends. A total of 1 citations and 52 warnings were given.

**Multi agency USCJ / JSO 2016**

<b>FOCUS AREA</b>	<b># of times in area</b>	<b>Citations</b>	<b>Warnings</b>
Julington Creek	3	0	1
County Line - Buckman Bridge	7	0	0
Buckman Bridge - Fuller Warren Bridge	16	0	0
Goodbys Creek	1	0	0
Ortega River	1	0	0
Fuller Warren Bridge - Main Street Bridge	27	0	8
Main Street Bridge - Hart Bridge	36	0	9
Hart Bridge - Matthews Bridge Arlington River	34	0	6
Matthews Bridge - Reddie Pt	42	1	12
Trout River	9	0	0
Reddie Pt - Blount Island	17	0	1
Blount Island - ICW	16	0	3
ICW North	12	0	5
ICW South	12	0	7
ICW - Jetties	11	0	0
<b>TOTAL</b>	<b>244</b>	<b>1</b>	<b>52</b>

**USCJ / JSO 2016.**

In 2017, five multi-agency deployments were held. A combined 240 hours of law enforcement presence was reported during the 5 deployment weekends. A total of 3 citations and 112 warnings were given.

#### **Multi agency USCG / JSO 2017**

<b>FOCUS AREA</b>	<b># of times in area</b>	<b>Citations</b>	<b>Warnings</b>
Julington Creek	9	0	4
County Line - Buckman Bridge	10	0	0
Buckman Bridge - Fuller Warren Bridge	15	0	0
Goodbys Creek	6	0	0
Ortega River	2	0	2
Fuller Warren Bridge - Main Street Bridge	22	1	8
Main Street Bridge - Hart Bridge	33	0	66
Hart Bridge - Matthews Bridge Arlington River	34	1	5
Matthews Bridge - Reddie Pt	54	1	12
Trout River	9	0	0
Reddie Pt - Blount Island	16	0	2
Blount Island - ICW	15	0	0
ICW North	9	0	6
ICW South	8	0	4
ICW - Jetties	9	0	1
<b>TOTAL</b>	<b>240</b>	<b>3</b>	<b>112</b>

#### **USCG / JSO 2017.**

From 2015 to 2017, total hours on the water patrolling manatee zones have decreased from 259 to 240 (-7%); citations have decreased from 16 to 3 (-81%); however, warnings issued have increased from 12 to 112 (+89%). There was no report available for 2018, 2019, 2020, 2021, and 2022.

## EDUCATION SUMMARY

Manatee education for both students and adults continues to be an important objective of Duval County's Manatee Protection Program. Education and outreach include the development and distribution of the Boating and Angling Guides, community manatee educational talks, participation in community festivals and other events, and transmitting information to the public via the PSA on local T.V. **The stations that have the video for their PSA rotation include WJXT4, Fox30, CBS47, and CW17. The PSA is aired when there is available space/time determined by the T.V. stations. All outreach programs in 2020/21/22 were reduced due to COVID.**

### Florida Fish and Wildlife Commission - Public Outreach

**Over 1,172 people were involved in the FWC Community Outreach programs and events. The events ranged from virtual and in person School based education programs to Zoo, summer camps and festivals.**

### City of Jacksonville Parks Naturalist - Nature Walks and Talks

**No information was available for 2022 due to changes in personnel. From October 2020-September 2021, a total of 161 people attended 152 hrs. of walk and talks discussions (n=69) by the Parks Department Naturalist (October 2019-September 2020: 125 people, 206 hrs., n=54).**

### Jacksonville University - Public Outreach

**In 2022, ~1,931 people (excluding digital media, TV, Radio, and Times Union newspaper) attended JU manatee education talks for a variety of schools and community groups compared to 2021 (1,998), 2020 (3,106), 2019 (4,895), 2018 (3,389), and 2017/2016 (3,081 and 1,179, respectively).**

**In addition, about 5,500 people attended the Jacksonville Science Festival at Metro Park (2 weekdays, and 1 Saturday), and the attendance at Fin Fest at Jacksonville Beach was significantly larger than in prior years with 25,000 people in attendance over the weekend (2 days).**

### Public Service Announcement (PSA)

Clear Channel reported that The Manatee PSA was conducted as a digital PSA program. The program ran for April-June 2019 and has not run since. Clear Channel provided 23,174 eight-second digital spots:

<u>Impressions (# 8 sec. spots)</u>	<u>Value</u>
April: 92	\$ 3.68
May: 12,146	\$ 485.84
June: 10,936	\$ 437.44
Total: 23,174	\$ 926.96

2018: The message was displayed beginning in April, and through the boating season until September. The PSA was shown at 3 locations each month, and shared time with other not-for-profits. Following is a breakdown of "impressions" aired. Each impression is defined as the number of eight-second "spots".

<u>Impressions (# 8 sec. spots)</u>	<u>Value</u>
April: 11,095	\$ 475.50
May: 12,833	\$ 549.99
June: 7,002	\$ 300.09
July: 39,793	\$1,705.41
Aug: 8,660	\$ 371.14
Sept: 5,234	\$ 224.31
Total: 84,617	\$3,626.44

## AWARENESS SUMMARY

- **Created PSA was not aired in 2020/2021/2022.**
- **JSO held Media Day to stress safe boating and to be aware of manatees in the area.**
- **Dr. White does a monthly newspaper column with FTU and has discussed manatees.**
- **Dr. Pinto conducted 2 manatee aerial surveys (There was no State Synoptic Survey in 2022).**
- **In addition, 77 single-family homes dock permits, plus 1 dock rebuild permit, were issued in Duval County (2021/22), as compared to 76, +2 rebuilt (2020/21), 51 (2019/20), 25 (2018/19), 82 (2017/18), 64 (2016/17), 65 (2015/16), 59 (2015) and 71 (2014) (Source: SJRWMD 2021).**

A total of **two (2)**-manatee sighting flights were conducted over the county to determine movement patterns of manatees (there was no State Manatee Synoptic Survey conducted in 2022). The information is provided to stake holders including law enforcement (Federal, State and County). Stake holders include entities such as the Jacksonville Marine Transportation Exchange Network (JMTX), Jacksonville Port, P1 boat race that typically runs a race in June in the waters south of downtown, and the media (Florida Time Union, First Coast News and Others). In addition, local FWC Marine Mammal Recovery Unit personnel are notified about the latest manatee sightings report and map.

**In 2019/2020 and 2021, the number of manatee observations was lower than usual due to major storms/hurricanes developing from as far back as 2017 – having deleterious effects on the submerged vegetation food supply. In 2022, manatee population numbers in the area showed signs of recovery, however, the grass bed habitat remains significantly reduced.**

Just like in Lee County, Florida (**Semeyn, et al. 2011**) the manatee count and distribution information in the form of maps is disseminated to local, state, and federal law enforcement, maritime industry groups, the port, and the media so that efforts can be focused on raising public awareness through education.

## Table of Educational outreach by JU (2021-22).

Speaker	Date	Address	Time	Organization	POC	Number	Ages	Topic										
2022 JANUARY																		
2022 FEBRUARY																		
Dr. Pinto	2/24/2022	Duval	09:00-11:00	Water Policy Working Group	River Keeper Org	5	Adults	Manatees/St. Johns River										
2022 MARCH																		
Dr. Pinto	3/25/2022	Duval	09:00-10:00	Water Policy Working Group	River Keeper Org	5	Adults	Manatees/St. Johns River										
Dr. Pinto	3/26/2022	Duval	08:30-16:30	Jacksonville Science Festival - RAM	JSF Metreo Park	5,500	Various	River Science										
Dr. Pinto	3/31/2022	Duval	09:30-10:45	MSRI-Biology Class	Self JU	16	Adults	Manatees/St. Johns River										
2022 APRIL																		
Dr. Pinto	4/1/2022	Duval	09:00-11:00	UNF/FIE C.R.O.P Prmg	CONNECTED / Raines HS	15+3 Adlts	HS Students	Manatees/St. Johns River										
Dr. White	4/26/2022	Duval	13:00-15:00	Earth Day	SJR Tour with Jesse Ball Dupont Staff	9	Adults	Manatees/ Dolphins/ SJR Health										
2022 MAY																		
Dr. Pinto	5/12/2022	Duval	10:30-14:30	Guana State Pk.	Coastal Heritage Workshop	20	Adults	Manatees										
Dr. Pinto	5/13/2022	Duval	10:30-11:30	WILMAS	Self JU	16	4s plus 3 adul	Manatees										
Dr. Pinto	5/14/2022	Duval	13:30-14:30	JEA Connected Mention	WJCT / Melinda Simmons	Various	Adults	Environmental Science/Turtles/Manatees										
2022 JUNE																		
Dr. Pinto	6/13/2022	Duval	9-4pm	Manatee Flight	Self JU	2	High Scholer	Manatees/SJR Manatee videos and algae video										
Dr. Pinto	6/15/2022	Duval	9-4pm	Channel 4 News	WWM	Various	High Scholer	Manatees/SJR Manatee videos and algae video										
Dr. Pinto	6/16/2022	Duval	10-4:30	Kids Hope Alliance Camp	Self JU_TFA_Abasynia_KHA_Westside Boys and Girls Club	39+6	High Scholer	Manatees/SJR Manatee videos and algae video										
Dr. Pinto	6/17/2022	Duval	10-4:31	WWM_email	Self JU	Various	Commission	Sand Bar Pictures										
Dr. Pinto	6/22/2022	Duval	3-4:31	MSRI Camp 6/20-7/2	Self JU_Zoo JAX_FWC	33	High Scholer	Manatees/SJR Manatee @ Zoo JAX										
2022 JULY																		
Dr. Pinto	7/7/2022	Duval	10-1:30	email FWRI	Nadia Gordon/Holly Edwards/Chip Deutsch data request	3	Adult	Manatees Duval data										
Dr. Pinto	7/19/2022	Duval	08:00-15:30	Kids Hope Alliance Camp 7/18-7/21	Self JU	23+4	Mid Schooler	Manatees IRL Habitat Strategy										
Dr. Pinto	7/20/2022	Duval	08:00-15:30	Kids Hope Alliance Camp 7/18-7/22	Self JU	25+4	Mid/HS	Manatees IRL Habitat Strategy										
Dr. Pinto	7/21/2022	Duval	08:00-14:00	Kids Hope Alliance Camp 7/18-7/23	Self JU_Riverside Science Academy	36+6	Mid Schooler	Community River Report/Manatees										
Dr. Pinto	7/22/2022	Duval	12-2pm	SJRK Board	MSRI Virtual	11	SJR	Community River Report/Manatees										
2021 AUGUST																		
Dr. Pinto	8/9/2022	Duval	12:30	SJRK Board	MSRI Virtual	10		SJR manatees/SORR										
Dr. Pinto	8/15/2022	Duval	6pm	Water Policy Working Group	Aardwolf Brewery	25	SJR/manatees											
Dr. Pinto	8/18/2022	Duval	12:30	SJRK Board-Special meeting	Virtual	11		SJR Manatees various Biosoilds										
Dr. Pinto	8/23/2022	Duval	10:00-11:00	COJ: MPP Planning	Eric Hinton +1	2		Manatee PP										
Dr. Pinto	8/20/2022	Duval	9-10am	FWC PSA and Manatee Plan 5Yr revie	Conference Call about MPP Update pending 2023	3	Adults	MPP Update FWC										
2021 SEPTEMBER																		
Dr. White/Pinto/Students	9/17-18/2022	Duval	10:00-20:00	FinFest 2022	Niko Coats_Jacksonville Beach-Sea Walk Pavilion	25,000	Various	Manatee/Environmental Awareness										
Dr. Pinto	9/19/2022	Duval	12:30	SJRK Board	MSRI Virtual	8		SJR Manatees various										
Dr. Pinto	9/23/2022	Duval	9-1030	Water Policy Working Group	River Keeper org	10		sjrreport biosoilds, tributaries, kyaks and recreational use nurr										
Dr. Pinto	9/20/2022	Duval	9-10am	FWC/USFWS PSA and Manatee Plan	Conference Call about MPP Update pending 2023	3	Adults	MPP Update FWC										
2021 OCTOBER																		
Dr. White	10/2/2022	Duval	12:00-13:30	Southside Businessmen's Club	Tim Buchanan	40	Various	Manatee/SJRR										
Gerry Pinto	10/6/2022	Duval	12-2pm	SJRK Board	MSRI Virtual	10		SJR manatees/SORR										
Gerry Pinto	10/14/2022	Duval	10am	Press Release JU/UNF	Laura Phelps	various		sjr report and online event										
Dr. Pinto plus team	10/14/2022	Duval	8am-4pm	Environmental Symposium	UNF - James Richardson COJ EPB	300?	Adults	St. Johns River Report/Manatees										
Dr. Pinto	10/16/2022	Duval		SJR Report	FTU Steve Paterson article mention; Mark Woods Clean Water Act 50yr	various		SJR and manatees										
Dr. Pinto/Gretchen Bielmy	10/17/2022	Duval	9:45	First Coast Connect WJCT	Melissa Ross show	various	Adults	Fisheries/Aquaculture/Aquaponics										
Dr. Pinto plus team	10/18/2022	Duval	4-630pm	SJR Report Technical Overview	WJCT - James Richardson COJ EPB	150	Adults	Online: St. Johns River Report/Manatees										
Dr. Pinto	10/19/2022	Duval	6pm	River Rising	Ras Taula Brewery	14	Adults	St. Johns River Report/Manatees										
Dr. Pinto	10/21/2022	Duval	10-Sep	Water Policy Group	MSRI -RK	8	Adults	St. Johns River Report/Manatees										
Dr. Pinto	10/22/2022	Duval	4pm	Grad student Interview Uni. Miami	MSRI	1	Adults	St. Johns River Report/Manatees										
Dr. Pinto	10/23/2022	Duval	9-3pm	Camp Chowenwa	RK - Ashley Boise	250	Varoius	St. Johns River Report/Manatees										
Dr. Pinto	10/23/2022	Duval	2pm	Grad student Interview Uni. Miami	RK - Ashley Boise -Camp Chowenwa	2	Varoius	St. Johns River Report/Manatees										
Dr. Pinto	10/25/2022	Duval	9-12pm	OLLI Talk and Tour/Boat Trip	RK - Karen Estella Smith	20	Adults	St. Johns River Report/Manatees										
Dr. Pinto	10/29/2022	Duval	9-11am	Moncrief Creek Clean Up	RK - Self and Students, White Harvestr Farm	10	Adults	SJR/Manatee										
2021 NOVEMBER																		
Dr. Pinto	11/1/2022	Duval	6-8:30pm	JSF Kick off event	Maro Trendel, Tia Unthank													
Dr. Pinto	11/4/2022	Duval	6-8:30pm	Zoo Jax Social Event	Zoo special invite/plan	10-500	Adults	Expansion of manatee critical care center										
Dr. Pinto	11/3/2022	Duval	1-3pm	Zoo Jax w/BIO280 Field Methods	Diana Dodge, Ashley manatee ex. and Kellie Sting Ray Bay ex.	6	Adults	Manatees and SJR/Sting Rays WQ										
Dr. Pinto	11/3/2022	Duval	6-8:30pm	ADAPT WJCT Panel w RK and CRO	Brendan Rivers/James Richardson	88-148	Adults	SORR Manatees and SJR Climate change										
Dr. Pinto	11/4/2022	Duval	1-3pm	Zoo Jax w/BIO100L Ecology	Diana Dodge, Robin manatee ex. and Ariel Sting Ray Bay ex.	16	Adults	SORR Manatees and SJR Climate change										
Dr. Pinto	11/8/2022	Duval	10:30	LSJRB Water Quality TAC meeting	Tiffany Busby	15	Adults	SORR Manatees and SJR Climate change										
Dr. Pinto/Dr. White/others	11/8/2022	Duval	12-1:30pm	Citizen Science Discussion	Kathryn Carver DEP	6	Adults	Various data sets SJR/Manatees others										
Dr. Pinto	11/10/2022	Duval	3pm	Interview	Lauren Fox UNF Journalism Student	1	Adults/Grads	Manatees and SJR, SORR										
Dr. Pinto	11/12/2022	Duval	3pm	Ground Works JAX-Advisory Board	Dylan Ford	1	Adults/Grads	Manatees and SJR, SORR										
Dr. Pinto	11/14/2022	Duval	9-12pm	RK/Larkin boat trip	Jamie Lynn Lankenau	10	Adults/Grads	Manatees and SJR										
Dr. Closmann	11/14/2022	Duval	9am	First Coast Connect WJCT	Melissa Ross show	various		SORR Social Justice										
Dr. Pinto	11/16/2022	Duval	6-8pm	Wine and Wisdom boat tour talk	River Taxi SJRK	14	Adults	St. Johns River Report/Manatees/Grasses/SORR/ Dredging										
Dr. Pinto	11/18/2022	Duval	9:45	First Coast Connect WJCT	Melissa Ross show	various	Adults	Algae, nutrients, manatees, SORR										
Dr. Pinto	11/18/2022	Duval	9-10am	Water Policy Group	MSRI -RK	8	Adults	St. Johns River Report/Manatees										
Dr. Pinto	11/28/2022	Duval	10:30am	COJ Park Specialist at MSRI	Jolie Friedrich SORR Brochures/Manatee discussion	1	Adult	Manatees and SORR										
2021 DECEMBER																		
Dr. Pinto	12/5/2022	Duval	3:45-5pm	MLKJ ES Talk	RK - Ashley Boise/Karen Estella Smith	22+4 adults	5th graders	Manatee ecology, behavior, federal protections, SJR										
Dr. Pinto	11/6/2022	Duval	10-Sep	Water Policy Group	MSRI -RK	15	Adults	SJR/Manatees										
Dr. Pinto/Dr. White/others	11/6/2022	Duval	2-3pm	Citizen Science Discussion	Kathryn Carver DEP	6	Adults	Various data sets SJR/Manatees others										

**FOURTH AMENDMENT TO AGREEMENT  
BETWEEN  
THE CITY OF JACKSONVILLE  
AND  
JACKSONVILLE UNIVERSITY  
FOR  
CONTINUING MANATEE PROTECTION STUDIES**

**THIS FOURTH AMENDMENT** (“Fourth Amendment”) to the Agreement is made and entered into in duplicate on this \_\_\_\_\_ day of \_\_\_\_\_, 2022, by and between the **CITY OF JACKSONVILLE**, a Florida municipal corporation (the “CITY”) and **JACKSONVILLE UNIVERSITY**, a Florida non-profit corporation with a business address at 2800 University Boulevard North, Jacksonville, Florida 32211 (the “CONSULTANT”).

**RECITALS**

**WHEREAS**, pursuant to the appropriation set forth in **Ordinance 2018-540-E**, the CITY and CONSULTANT entered into that Continuing Manatee Protection Studies Agreement, **City Contract No. 5687-30**, dated October 4, 2018 (the “Agreement”); and

**WHEREAS**, pursuant to Paragraph 3.2 of the Agreement, the term may be renewed, in the sole discretion of the CITY, for up to four (4) additional one (1) year periods, upon terms and conditions mutually acceptable to the parties; and

**WHEREAS**, pursuant to Paragraph 1.2 of the Agreement, services, functions, or responsibilities not specifically described in the Agreement that are necessary for the proper performance of the Agreement are deemed to be implied by and included within the Agreement’s Scope of Services; and

**WHEREAS**, the CITY, through **Ordinance 2019-645-E**, authorized the Mayor and the Corporation Secretary to execute a first amendment of the Agreement to: (1) renew the Agreement for an additional one (1) year of Services (\$90,000.00); and (2) conduct the Boater Speed Zone



Compliance Study, as described in Task 8 (the “Study”) (\$90,000.00), thus bringing the maximum indebtedness of the CITY on the Agreement which began in 2018 to **\$270,000.00**; and

**WHEREAS**, the CITY, through **Ordinance 2020-588-E**, authorized the Mayor and the Corporation Secretary to execute a second amendment of the Agreement to: (1) renew the Agreement for an additional one (1) year of Services (\$90,000.00); and (2) continue the Study, thus bringing the maximum indebtedness of the CITY on the Agreement which began in 2018 to **\$360,000.00**; and

**WHEREAS**, the initiation of the Study was delayed due to continued discussions with the Florida Fish and Wildlife Conservation Commission regarding the scope of work, and was further delayed due to COVID-19, thus the Study was initiated, but not completed in FY 2020/2021; and

**WHEREAS**, the CITY, through **Ordinance 2021-718-E**, authorized the Mayor and the Corporation Secretary to execute a third amendment of the Agreement to: (1) renew the Agreement for an additional one (1) year of Services (\$90,000.00); and (2) continue the Study, thus bringing the maximum indebtedness of the CITY on the Agreement which began in 2018 to **\$450,000.00**; and

**WHEREAS**, the CITY desires to amend the Agreement for the fourth time, in order to: (1) renew the Agreement pursuant to Paragraph 3.2 of the Agreement for Fiscal Year 2022/2023 to continue Services of the CONSULTANT and (2) increase the CITY’s maximum indebtedness to cover an additional year of services; and

**WHEREAS**, the CITY and CONSULTANT have negotiated mutually satisfactory terms for the execution of this Fourth Amendment; and

**WHEREAS**, this Fourth Amendment is necessary and appropriate to effectuate the tasks identified in the Ordinance and provided for in the Agreement.

**NOW, THEREFORE**, in consideration of the premises and mutual covenants and agreements hereinafter contained, the parties agree as follows:

1. The above-stated recitals are accurate, true, and correct and are incorporated herein and made a part hereof by this reference.

2. Capitalized terms used but not defined herein shall have the meanings given them in the Agreement.

3. Section 1.1 of the Agreement is amended to reflect that **Exhibit “A”** has been revised for a fourth time, and shall now read as follows:

1.1 CITY hereby engages CONSULTANT and CONSULTANT hereby accepts said engagement for the purpose of providing to CITY professional services for continuing manatee protection studies, as described in and according to the provisions of: “PROPOSAL: Manatee Protection Project Continuation, City of Jacksonville, Duval County, Florida, October 1, 2022 – September 30, 2023,” attached hereto as **Fourth Revised Exhibit “A”** (the “Services”) and, by this reference, made a part hereof.

4. Pursuant to Section 3.2 of the Agreement, the Services are hereby extended an additional year to September 30, 2023, with no renewal options remaining.

5. Section 7.1.2 of the Agreement is amended to increase the maximum indebtedness under the Agreement; and, as amended, shall read as follows:

7.1.2 The maximum of indebtedness of the CITY for all fees, reimbursable items, or other costs for Services provided by CONSULTANT pursuant to this Agreement shall not exceed the sum of NINETY THOUSAND AND 00/100 DOLLARS (\$90,000.00) for Services for Fiscal Year 2018-2019; NINETY THOUSAND AND 00/100 DOLLARS (\$90,000.00) for Services for Fiscal Year 2019-2020; NINETY THOUSAND AND 00/100 DOLLARS (\$90,000.00) for the Boater Speed Zone Compliance Study for Fiscal Year 2019-2020, carried over to Fiscal Years 2020-2021 and 2021-2022; NINETY THOUSAND AND 00/100 DOLLARS (\$90,000.00) for Services for Fiscal Year 2020-2021; NINETY THOUSAND AND 00/100 DOLLARS (\$90,000.00) for Fiscal Year 2021-2022; and NINETY THOUSAND AND 00/100 DOLLARS (\$90,000.00) for Fiscal Year 2022-2023, for a combined CITY indebtedness

of not more than FIVE HUNDRED FORTY THOUSAND AND 00/100 DOLLARS (\$540,000.00) for the term of this Agreement.

6. The **Third Revised Exhibit “A”** (Scope of Services) to the Agreement is deleted in its entirety and replaced with the attached **Fourth Revised Exhibit “A”** (Scope of Services); and all references in the Agreement to **Exhibit “A”** shall mean and refer to the **Fourth Revised Exhibit “A”**, as attached hereto to this Fourth Amendment and made a part hereof.

7. All actions of the parties from the Effective Date through the date of execution of this Fourth Amendment are hereby ratified and confirmed in all respects, to the extent such actions are consistent with the terms of the Agreement.

8. All other terms of the Agreement except those expressly amended in this Fourth Amendment shall remain unchanged and shall continue in full force and effect; and the Agreement, as amended herein, is hereby ratified and confirmed by the parties and is in full force and effect as of the date of this Fourth Amendment.

9. This Fourth Amendment may be executed electronically and in counterparts, the counterparts of which, when taken together, shall constitute but one entire and original Fourth Amendment.

[Signature page follows.]

IN WITNESS WHEREOF, the parties have executed this Fourth Amendment the day and year first written above.

ATTEST

CITY OF JACKSONVILLE,  
a consolidated municipal corporation and  
political subdivision existing under the laws  
of the State of Florida

By: \_\_\_\_\_  
James R. McCain, Jr.  
Corporation Secretary

By: \_\_\_\_\_  
Lenny Curry  
Mayor

WITNESS

JACKSONVILLE UNIVERSITY

By: \_\_\_\_\_  
Name: \_\_\_\_\_  
Title: \_\_\_\_\_

By: \_\_\_\_\_  
Name: \_\_\_\_\_  
Title: \_\_\_\_\_

Encumbrance and funding information for internal City use:

**Total Maximum Indebtedness: \$540,000.00**

The above stated amount is the maximum fixed monetary amount of the foregoing contract. It shall not be encumbered by the foregoing contract. It shall be encumbered by one (1) or more subsequently issued purchase orders that must reference the foregoing contract. All financial examinations and funds control checking will be made at the time such purchase orders are issued.

In accordance with Section 24.103(e), Jacksonville Ordinance Code, I do hereby certify that there is an unexpended, unencumbered, and unimpounded balance in the appropriation sufficient to cover the foregoing contract; provided, however, this certification is not, nor shall it be interpreted as, an encumbrance of funding under the contract. Actual encumbrances shall be made by subsequent purchase orders as specified in the contract.

\_\_\_\_\_  
Director of Finance  
City Contract #5687-30, Amendment #4

Form Approved:

\_\_\_\_\_  
Office of General Counsel

# **Fourth Revised Exhibit “A”**

## **PROPOSAL**

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**Manatee Protection Project**

**Continuation**

**City of Jacksonville**

**Duval County, Florida**

**October 1, 2022 - September 30, 2023**

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Prepared by:

Gerard Pinto, Ph.D.

Jacksonville University  
Jacksonville, FL 32211

## **I. General Information.**

Request for Proposal from: City of Jacksonville, Florida Waterways Commission

Subject: Maintaining a Comprehensive Database for a Manatee Management Protection Plan and Manatee Awareness Program; Consultant to Waterways Commission on Water related matters

Location: Duval County, Florida

## **II. A. Background and General Information.**

This proposal is to continue the contract to maintain the comprehensive database for the Duval County Manatee Protection Plan that was approved by the State of Florida. This proposal is for the period of October 1, 2022, to September 30, 2023.

The City of Jacksonville has embarked on a focused vision to activate the St. Johns River with extensive effort to promote development and increase boating activity on the St. Johns River. The Florida Manatee (Trichechus manatus) is Florida's state marine mammal and is a significant concern to the people of Duval County, as well as the entire state. Throughout Florida, the manatee, which is protected under state and federal law, has suffered increasing mortality with the majority of the deaths repeatedly related to boating activities. Northeast Florida, including Duval County, has shown a general decline in manatee deaths over the past several years.

The St. Johns River provides habitat for the manatee along with supporting tremendous recreational and industrial use. Boat traffic in the river is very diverse. It includes port facilities for large industrial and commercial shippers, commercial fishing, sport fishing and recreational activity. More than 200 large commercial boats/ships per month enter and exit the mouth of the St. Johns River in Duval County with the number expected to increase over the next decade with the possible deepening of the port channel. These vessels represent a significant economic factor

for Duval County and the entire First Coast. In addition, there are almost 30,000 recreational boats registered in Duval County.

A wide range of manatee usage of the St. Johns River has been observed. Manatees are most often seen traveling or moving from one location to another. Manatees were also observed feeding, cavorting/mating, and resting. Distribution varies throughout the year with sightings of manatees during the late winter season being uncommon. Manatee abundance in Duval County waters increased during the spring and peaked during the late summer (Valade 1991, White 2002). Jacksonville University has conducted additional studies to build a significant database to be used to develop a Manatee Management Plan.

The large amount of boating activity on the St. Johns River and the number of manatees that has -been documented using the river make it critical that a comprehensive management plan for the waters of Duval County be enacted to protect both manatee and human activity. We have been accumulating information on the manatee usage of the St. Johns River in an effort to provide a complete database and foundation for a comprehensive management plan. Several areas of research are necessary to continue to document the habitat, manatee usage and human usage of the St. Johns River.

Jacksonville University has been gathering existing information concerning manatee behavior and natural history, including studies performed by various state, county, and city agencies, along with universities and consultants. Studies on boaters including industrial, commercial sport and commercial fishing and recreation have also been included in the database.

Although a diverse amount of information exists concerning the manatee, very little information exists on the effects of boating on the manatee population. This proposal will expand the Manatee Awareness Program and examine boating activity on manatee behavior.

## **II. B. Description of Project.**

This proposal outlines a “Scope of Services” for the continuation of the Manatee Protection Plan. The study/project is to continue to assemble and analyze an information database in order to update the management plan so that it continues to provide adequate protection for all concerned. In addition, public support of the plan can be enhanced through education and input from concerned citizens and industries.

In addition, this proposal includes environmental consulting services to the Waterways Commission on water-related issues concerning the St. Johns River, its tributaries and near-shore waters of the Atlantic Ocean. Any additional scope of services can be negotiated on a per-need cost basis.

## **III. Scope of Work.**

### **JU Manatee Contract Deliverables – 2022-2023**

#### **TASK 1: Support Jacksonville Waterways Commission – Monthly**

Provide monthly updates on manatee research, artificial reefs, and relevant water-related issues in Duval County. At the end of the year, provide summary of discussion topics.

#### **TASK 2: Continuation of Manatee Sighting – 3 times per year**

Conduct manatee sighting flights for the county by aerial surveillance to determine movement patterns and number of manatees. This information will be collected using surveys conducted approximately three times a year, with additional flights when possible.

#### **TASK 3: Waterways/ Manatee Signage**

Jacksonville University will continue to monitor and report signage issues that need to be maintained and/or corrected to FWC and maintain a database, including location, condition, and type, of all COJ manatee information signs and kiosks, which will include all commercial and multi-family marinas and docks.

#### **TASK 4: Community Education Efforts**

JU will report to COJ a summary of educational efforts quarterly.

- A. JU will report summaries of educational efforts to the City quarterly.
- B. When requested, JU will work with the COJ, JSO, FWC, and FWS LE to develop up-to-date pamphlets to be distributed via boat facilities and/or mail outs. Pamphlets will



include boating safety and manatee protection zones. JU is not responsible for printing and mailing of pamphlets.

- C. Explore and develop new education and awareness programs when requested.
- D. Maintain JU website, [ju.edu/MARCO](http://ju.edu/MARCO).
- E. Track number of calls to JU Manatee Hot Line and related contacts via email and social media.
- F. Maintain and update, as necessary, PowerPoint presentation for educational programming.

#### **TASK 5: Port Education/Awareness Reporting – Report quarterly**

Upon reconstitution of the Jacksonville Marine Transportation Exchange (JMTX), or the establishment of a similar association of commercial and governmental organizations, as described in the Duval County Manatee Protection Plan, 4th edition, JU shall:

- A. Work with port entities to track level of shipping activity, determine which of the manatee efforts are working, and assist in making manatee programs effective.
- B. Educate commercial ship operators about manatee safe-docking procedures.
- C. Work to decrease incidents of large ships displacing or destroying waterway signage.
- D. Attend meetings as necessary.

#### **TASK 6: Law Enforcement Efforts – Report quarterly**

- A. Attend COJ Law Enforcement Task Force meetings.
- B. Through the Law Enforcement Task Force, work with JSO to provide information requested by USFWS.
- C. Track law enforcement efforts and direct JSO to target certain areas for the most efficient and effective use of resources.

At the end of the year, summarize law enforcement activities and make recommendations for better coordination and communication.

#### **TASK 7: Marine Facility Inventory**

Provide COJ with updated marine facility inventory database of all facilities with five more slips in Duval County, indicating any significant changes in 2021-2022. Database will include:

- A. List of all marinas – wet and dry storage, public and private, and multi-family.
- B. Number of slips and percentage of occupancy.
- C. List of all boat ramps and number of parking spaces and launch lanes.
- D. List of all commercial facilities and number of slips.
- E. Provide database to the City.

#### **TASK 8: 5-Yr MPP Review**

Work with FWC and USFWS to develop expectations and a timeline for the update.

#### **TASK 9: MPP Implementation Report – Provide report at end of the year**

Compile and write yearly implementation summary report due to FWC. Analyze and summarize all MPP data collected and compare protection and education efforts to past years. Report will include but is not limited to the following tasks:

- A. All manatee education presentations provided by COJ, JU, and JSO. Documented items will include:
  - 1. The number and types of presentations.
  - 2. Type of group: public or private.
  - 3. The intensity of use of various educational materials.
  - 4. Gauge of public reception.
  - 5. Any other information that will help evaluate manatee awareness program effectiveness.
- B. Manatee Mortality Data – Provide to COJ end of the year report/maps.
- C. Manatee Habitat Resource Map – Provide to COJ updated GIS map.
- D. Summarize JSO law enforcement efforts based on JSO reports and input.
- E. Make recommendations on all MPP implementation tasks.

#### **IV. Budgetary Schedule.**

Funding of this project is a fixed fee of \$90,000. Both JU benefits costs and flight costs have increase for the next year. The budget includes all specific objectives, all consultant's fees, direct labor, benefits (30%), travel, materials, aerial survey, and overhead (10%). Any additional services will be negotiated on an as-needed basis.

#### **V. Insurance Requirements.**

Jacksonville University shall procure and maintain during the entire life of this agreement insurance of the types and in the minimum amounts as required by the City of Jacksonville.

#### **VI. Fee Submittal.**

Invoices will be submitted monthly and are payable upon receipt by the City of Jacksonville.

## JU MANATEE STUDY - INSURANCE REQUIREMENTS

Without limiting its liability under the Agreement, Consultant shall at all times during the term of the Agreement procure prior to commencement of work and maintain at its sole expense during the life of the Agreement (and shall require its, subcontractors, laborers, materialmen, and suppliers to provide, as applicable), insurance of the types and limits not less than amounts stated below:

### Insurance Coverages

<i>Schedule</i>	<i>Limits</i>	
<b>Workers Compensation</b>	Florida Statutory Coverage	
<b>Employer's Liability</b>	\$100,000	Each Accident
(including appropriate Federal Acts)	\$100,000	Disease Policy Limit
	\$100,000	Each Employee/Disease

This insurance shall cover the Consultant (and, to the extent they are not otherwise insured, its subcontractors) for those sources of liability which would be covered by the latest edition of the standard Workers' Compensation policy, as filed for use in the State of Florida by the National Council on Compensation Insurance (NCCI), without any restrictive endorsements other than the Florida Employers Liability Coverage Endorsement (NCCI Form WC 09 03), those which are required by the State of Florida, or any restrictive NCCI endorsements which, under an NCCI filing, must be attached to the policy (*i.e.*, mandatory endorsements). In addition to coverage for the Florida Workers' Compensation Act, where appropriate, coverage is to be included for the Federal Employers' Liability Act, USL&H and Jones, and any other applicable federal or state law.

<b>Commercial General Liability</b>	\$2,000,000	General Aggregate
	\$2,000,000	Products & Comp/ Ops. Agg.
	\$1,000,000	Personal/Advertising Injury
	\$1,000,000	Each Occurrence
	\$50,000	Fire Damage
	\$5,000	Medical Expenses

Such insurance shall be no more restrictive than that provided by the most recent version of the standard Commercial General Liability Form (ISO Form CG 00 01) as filed for use in the State of Florida without any restrictive endorsements other than those reasonably required by the City's Office of Insurance and Risk Management. An Excess Liability policy or Umbrella policy can be used to satisfy the above limits.

<b>Automobile Liability</b>	\$1,000,000	Combined Single Limit
(Coverage for all automobiles, owned, hired, or non-owned used in performance of the Services)		

Such insurance shall be no more restrictive than that provided by the most recent version of the standard Business Auto Coverage Form (ISO Form CA0001) as filed for use in the State of Florida without any restrictive endorsements other than those which are required by the State of Florida, or equivalent manuscript form, must be attached to the policy equivalent endorsement as filed with ISO (*i.e.*, mandatory endorsement).

**Professional Liability** \$1,000,000 Per Claim and Aggregate  
(Including Medical Malpractice when applicable)

Any entity performing or hired to perform professional services as a part of this Agreement shall maintain professional liability coverage on an Occurrence Form or a Claims Made Form with a retroactive date to at least the first date of this Agreement and with a three-year reporting option beyond the annual expiration date of the policy.

**Watercraft Liability** \$1,000,000 Per Claim

To the extent watercraft are utilized in the work, the Consultant shall purchase and maintain, or cause its contractors and subcontractors to purchase and maintain, insurance with amounts not less than the limits of \$1,000,000 per occurrence, and which shall, at a minimum, cover the Consultant and contractor/subcontractor for injuries or damage arising out of the use of all owned, non-owned and hired watercraft. The City, the City's members, officials, employees, and agents, the engineer, and the Program Management Firm(s) (when program management services are provided) shall be named in the Commercial Watercraft Liability policy as "an additional insured."

### **Additional Insurance Provisions**

A. **Certificates of Insurance.** Consultant shall deliver to the City Certificates of Insurance that show the corresponding City Contract or Bid Number in the Description, Additional Insureds, Waivers of Subrogation and Primary & Non-Contributory statement as provided below. The certificates of insurance shall be mailed to the City of Jacksonville (Attention: Chief of Risk Management), 117 W. Duval Street, Suite 335, Jacksonville, Florida 32202.

B. **Additional Insured.** All insurance except Worker's Compensation and Professional Liability shall be endorsed to name the City of Jacksonville and City's members, officials, officers, employees, and agents as Additional Insured. Additional Insured for General Liability shall be in a form no more restrictive than CG2010 and CG2037, Automobile Liability CA2048.

C. **Waiver of Subrogation.** All required insurance policies shall be endorsed to provide for a waiver of underwriter's rights of subrogation in favor of the City of Jacksonville and its members, officials, officers, employees, and agents.

D. **Carrier Qualifications.** The above insurance shall be written by an insurer holding a current certificate of authority pursuant to Chapter 624, Florida Statutes, or a company that is declared as an approved Surplus Lines carrier under Chapter 626, Florida Statutes. Such Insurance shall be written by an insurer with an A.M. Best Rating of A- VII or better.

E. Consultant's Insurance Primary. The insurance provided by the Consultant shall apply on a primary basis to, and shall not require contribution from, any other insurance or self-insurance maintained by the City or any City members, officials, officers, employees, and agents.

F. Deductible or Self-Insured Retention Provisions. All deductibles and self-insured retentions associated with coverages required for compliance with this Agreement shall remain the sole and exclusive responsibility of the named insured Consultant. Under no circumstances will the City of Jacksonville and its members, officers, directors, employees, representatives, and agents be responsible for paying any deductible or self-insured retentions related to this Agreement.

G. Consultant's Insurance; Additional Remedy. Compliance with the insurance requirements of this Agreement shall not limit the liability of the Consultant or its subcontractors, employees, or agents to the City or others. Any remedy provided to City or City's members, officials, officers, employees, or agents shall be in addition to and not in lieu of any other remedy available under this Agreement or otherwise.

H. Waiver/Estoppel. Neither approval by City nor failure to disapprove the insurance furnished by the Consultant shall relieve the Consultant of its full responsibility to provide insurance as required under this Agreement.

I. Notice. The Consultant shall provide an endorsement issued by the insurer to provide the City thirty (30) days' prior written notice of any change in the above insurance coverage limits or cancellation, including expiration or non-renewal. If such endorsement is not provided, the Consultant, as applicable, shall provide thirty (30) days' written notice of any change in the above coverages or limits, coverage being suspended, voided, cancelled, including expiration or non-renewal.

J. Survival. Anything to the contrary notwithstanding, the liabilities of the Consultant under this Agreement shall survive and not be terminated, reduced, or otherwise limited by any expiration or termination of insurance coverage.

K. Additional Insurance. Depending upon the nature of any aspect of any project and its accompanying exposures and liabilities, the City may reasonably require additional insurance coverages in amounts responsive to those liabilities, which may or may not require that the City also be named as an additional insured.

L. Special Provision. Prior to executing this Agreement, the Consultant shall present this Agreement and insurance requirements attachments to its insurance agent affirming that: (1) the agent has personally reviewed the insurance requirements of the Agreement, and (2) the agent is capable (has proper market access) to provide the coverages and limits of liability required on behalf of the Consultant.

## INDEMNIFICATION

The Contractor and its subcontractors (collectively, the “Indemnifying Party”) shall hold harmless, indemnify, and defend the City and its respective members, officers, officials, employees, and agents (collectively, the “Indemnified Party”) from and against, without limitation, any and all claims, suits, actions, losses, damages, injuries, liabilities, fines, penalties, costs, and expenses of whatsoever kind or nature, which may be incurred by, charged to, or recovered from any of the Indemnified Parties for:

1. General Tort Liability, for any negligent act, error or omission, recklessness, or intentionally wrongful conduct on the part of the Indemnifying Party that causes injury (whether mental or corporeal) to persons (including death) or damage to property, whether arising out of or incidental to the Indemnifying Party’s performance of the Agreement, services, operations, or work performed hereunder;

2. Environmental Liability, to the extent the Agreement contemplates environmental exposures, arising from or in connection with any environmental, health, or safety liabilities, claims, citations, clean-up, or damages, whether arising out of or relating to the operation or other activities performed in connection with the Agreement; and

3. Intellectual Property Liability, to the extent the Agreement contemplates intellectual property exposures, arising directly or indirectly out of any allegation that the services, any product generated by the services, or any part of the services as contemplated in the Agreement, constitutes an infringement of any trademark, copyright, patent, trade secret, or any other intellectual property right. If in any suit or proceeding, the services, or any product generated by the services, is held to constitute an infringement and its use is permanently enjoined, the Indemnifying Party shall immediately make every reasonable effort to secure within sixty (60) days for the Indemnified Party a license, authorizing the continued use of the service or product. If the Indemnifying Party fails to secure such a license for the Indemnified Party, then the Indemnifying Party shall replace the service or product with a non-infringing service or product or modify such service or product in a way satisfactory to the Indemnified Party, so that the service or product is non-infringing.

If an Indemnified Party exercises its rights under the Agreement, the Indemnified Party will (i) provide reasonable notice to the Indemnifying Party of the applicable claim or liability, and (ii) allow the Indemnifying Party, at its own expense, to participate in the litigation of such claim or liability to protect its interests. **The scope and terms of the indemnity obligations herein described are separate and apart from, and shall not be limited by, any insurance provided pursuant to the Agreement or otherwise. Such terms of indemnity shall survive the expiration or termination of the Agreement.**

In the event that any portion of the scope or terms of this indemnity is in derogation of Section 725.06 or 725.08, Florida Statutes, all other terms of this indemnity shall remain in full force and effect. Further, any term which offends Section 725.06 or 725.08, Florida Statutes, will be modified to comply with said statutes.

**Manatee Protection Plan  
Baseline Study Budget**

**Direct Labor**

Senior Scientist	\$60,000
Benefits @ 30% of Direct Labor	<u>\$18,000</u>
	\$78,000

**Aviation**

\$ 3,800

Subtotal	\$81,800
<b><u>Overhead</u></b> - 10% of Subtotal	<u>\$ 8,200</u>

Total	\$90,000
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**Note:** Benefits to include, as appropriate, social security, medical insurance, and retirement contributions.

1 Introduced by Council Member Howland:

2  
3 **ORDINANCE 2022-**

4 AN ORDINANCE AUTHORIZING THE MAYOR AND  
5 CORPORATION SECRETARY TO EXECUTE A FOURTH  
6 AMENDMENT TO THE CONTRACT WITH JACKSONVILLE  
7 UNIVERSITY TO RENEW THE CONTRACT FOR A FOURTH  
8 ADDITIONAL YEAR FOR THE CONTINUING MANATEE  
9 PROTECTION STUDIES FOR FISCAL YEAR 2022-2023,  
10 SUBJECT TO APPROPRIATION BY CITY COUNCIL;  
11 PROVIDING FOR OVERSIGHT BY THE PLANNING AND  
12 DEVELOPMENT DEPARTMENT; PROVIDING AN EFFECTIVE  
13 DATE.  
14

15 **WHEREAS**, the City of Jacksonville has engaged Jacksonville  
16 University to provide marine science support, particularly in  
17 developing and refining the City's Manatee Protection Plan; and

18 **WHEREAS**, the University's A. Quinton White, Ph.D., a highly  
19 regarded expert on marine mammals, especially manatees, has been the  
20 principal scientist under the contract with Jacksonville University;  
21 and

22 **WHEREAS**, conflict, such as the differing regulatory approaches  
23 to manatee protection and the debate over the status of the manatee,  
24 indicates the continuing need for marine science support; and

25 **WHEREAS**, the City Council authorized the contract with Dr. White  
26 through Ordinance 2018-540-E, which invoked Section 126.107(g),  
27 *Ordinance Code*, to waive competitive solicitation and bidding due to  
28 Dr. White's expertise; and

29 **WHEREAS**, Ordinance 2018-540-E provided for four (4) one-year  
30 renewals to the contract; and

31 **WHEREAS**, the City has exercised renewal options in Ordinances



1 2019-645-E, 2020-588-E, and 2021-718-E and now desires to enter into  
2 a fourth and final renewal; and

3 **WHEREAS**, Jacksonville University has compiled a comprehensive  
4 database for the Duval County Manatee Protection Plan over the last  
5 24 years; and

6 **WHEREAS**; the City of Jacksonville desires to continue the study  
7 of manatees and boaters in the most cost effective manner without  
8 interruption; and

9 **WHEREAS**, at its X, 2022 meeting, the Waterways Commission voted  
10 to recommend approval of the proposed contract renewal; and

11 **WHEREAS**, the Council would like to exercise the fourth extension  
12 to renew the contract for an additional one-year renewal to September  
13 30, 2023; now therefore

14 **BE IT ORDAINED** by the Council of the City of Jacksonville:

15 **Section 1. Authorizing the Mayor and Corporation Secretary to**  
16 **Execute a Fourth Amendment to the Contract for Continuing Manatee**  
17 **Protection Studies, dated October 4, 2018.** Subject to appropriation  
18 by the City Council, the Mayor, or his designee, and Corporation  
19 Secretary are authorized to execute a Fourth Amendment to the contract  
20 with Jacksonville University to exercise the fourth one (1) year  
21 renewal of the contract term for the services of Dr. A. Quinton White  
22 and Dr. Gerard Pinto for continuing manatee protection studies in  
23 substantially the same form as contained in the document attached  
24 hereto as **Exhibit 1.**

25 **Section 2. Oversight.** The Planning and Development  
26 Department shall oversee the Study described herein.

27 **Section 3. Effective Date.** This Ordinance shall become  
28 effective upon signature by the Mayor or upon becoming effective  
29 without the Mayor's signature.  
30  
31

Form Approved:

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Office of General Counsel

Legislation Prepared By: Sharon M. Wyskiel

*GC-#1462082-v1-2021-718-E.docx*



# Updating Oyster And Shellfish Harvesting

## HISTORY

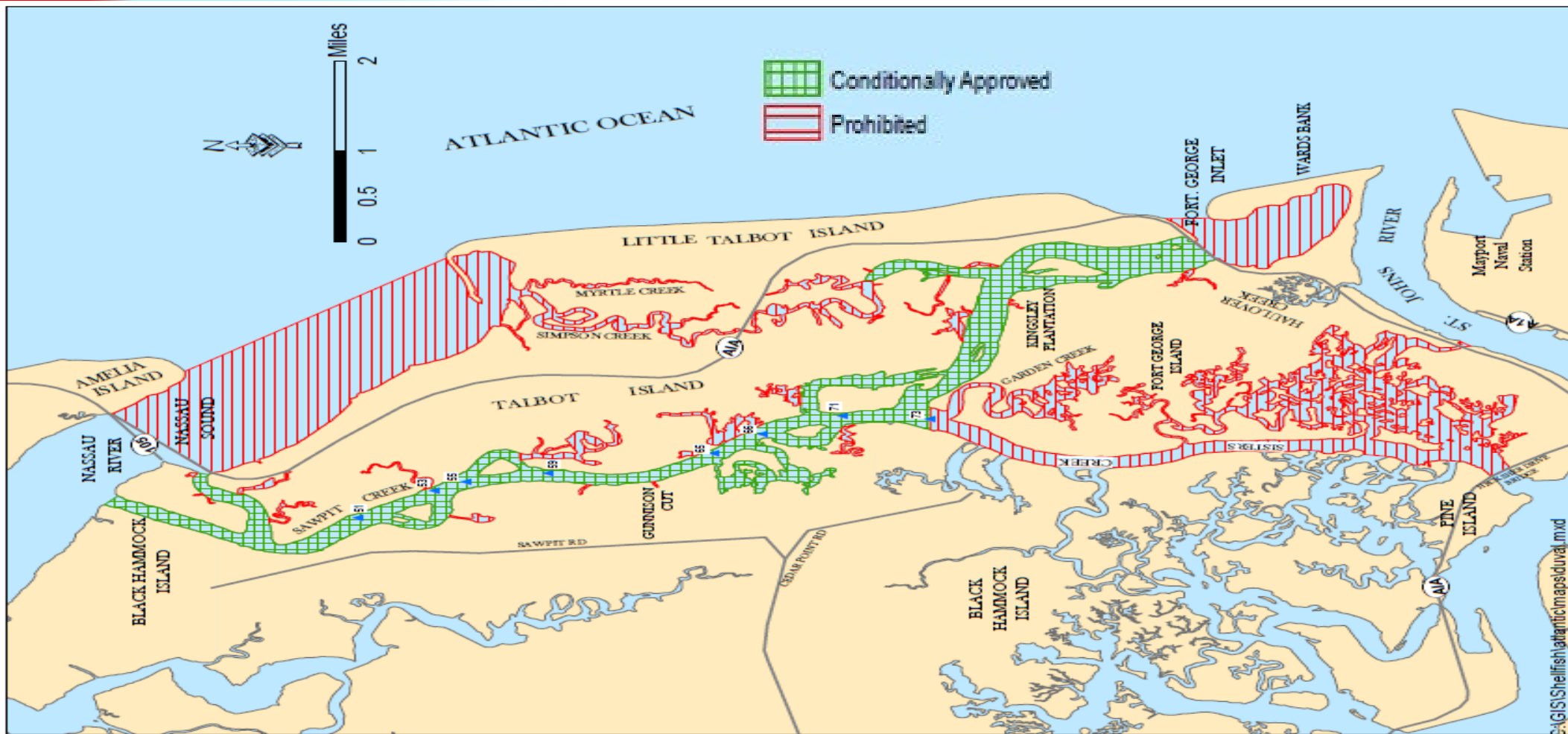
1. Duval Shell beds were leased from the state To Harvester Mike Hinchey
2. A monitor pole was installed at ICW & Ft George river at a cost of \$90,000. A satellite would pass over every 24 hours and take water temperature and salinity and relay this information to Pensacola and that is the way the beds were kept open.
3. Then a Tug Boat hit the pole and state would never replace.
4. This has been closed since 1992
5. Started this November 2017 to get area reopened to Harvest
6. In September of 2019 The map was drawn and testing began
7. Had to test for 15 months excluding interruptions of Hurricanes or tropical storms (automatic 30 day shut down)
8. In October of 2020 was assured Our classified areas allow for harvesting of both clams and oysters.
9. So here we are Approval granting **Shellfish Harvesting in Duval**



# Updating Oyster And Shellfish Harvesting

3,276 ACRES OPENED

SHELLFISH HARVESTING CLASSIFICATION MAP #96 (Survey: March 30, 2020)  
Duval County (#96) Shellfish Harvesting in Duval County





# Updating Oyster And Shellfish Harvesting

## Refrigeration Requirements for Shellfish at a Certified Dealer

(Shellfish must be delivered the same day as harvest)

### Oysters

### Clams

(Times listed in the table are when oysters must be placed in a cooler at a certified shellfish processing facility)

Month	Traditional Cooling <sup>1</sup>	Rapid Cooling <sup>2</sup>	On-board Cooling with Ice Slurry <sup>3</sup>	Restricted Use Only <sup>4</sup> (Green Tag)	Delivery to processor (same day of harvest)
November	5:00 p.m.	5:00 p.m.	5:00 p.m.	5:00 p.m.	10:00 p.m.
December	5:00 p.m.	5:00 p.m.	5:00 p.m.	5:00 p.m.	10:00 p.m.
January	5:00 p.m.	5:00 p.m.	5:00 p.m.	5:00 p.m.	10:00 p.m.
February	5:00 p.m.	5:00 p.m.	5:00 p.m.	5:00 p.m.	10:00 p.m.
March	5:00 p.m.	5:00 p.m.	5:00 p.m.	5:00 p.m.	10:00 p.m.
April	11:00 a.m.	1:00 p.m.	3:00 p.m.	4:00 p.m.	12 Hours
May	Not permitted	11:00 a.m.	3:00 p.m.	4:00 p.m.	12 Hours
June	Not permitted	11:00 a.m.	3:00 p.m.	4:00 p.m.	10 Hours
July	Not permitted	11:00 a.m.	3:00 p.m.	4:00 p.m.	10 Hours
August	Not permitted	11:00 a.m.	3:00 p.m.	4:00 p.m.	10 Hours
September	Not permitted	11:00 a.m.	3:00 p.m.	4:00 p.m.	10 Hours
October	11:00 a.m.	1:00 p.m.	3:00 p.m.	4:00 p.m.	12 Hours

Refer to FWC regulations for current bag limits and resource protection seasonal closures.

1- Traditional Cooling - Oysters must be in the cooler of a certified facility by time specified the day of harvest and at or below 55°F in 8 hours.

2 - Rapid Cooling - Oysters must be in the cooler of a certified facility by time specified the day of harvest and at or below 55°F in 2 hours.

3 - On-board Cooling with Ice Slurry - Oysters cooled on boat with ice slurry dip within 1 hour of harvest and stored under mechanical refrigeration or in a cooler surrounded by ice. Oysters must be in the cooler of a certified facility no later than 3:00pm.

4 - Restricted Use (green tag) - Oysters that do not meet the Rapid Cool or On-Board Cooling requirements must be tagged for shucking only by a certified dealer or for Post-Harvest Processing (PHP) only.





# Updating Oyster And Shellfish Harvesting

updates [https://shellfish.fdacs.gov/seas/seas\\_atlantic.htm](https://shellfish.fdacs.gov/seas/seas_atlantic.htm).

**Daily Open/Closed Status of Shellfish Harvest Areas for the Atlantic Coast:  
From Fort Pierce Inlet in St. Lucie County to Duval County**

This table of open/closed status was published at **10:00 AM Monday, December 5<sup>th</sup>, 2022** and will remain in effect until there is a change in status. Closures become effective at sunset and re-openings become effective at sunrise.

Commercial shellfish harvesters must abide by all monthly harvest time/temperature regulations pursuant to [Rule 5L-1](#).

Daily status is also available from the Atlantic Coast field office located in Melbourne by calling 321-984-4890

For FWC Commercial Regulations please visit <https://myfwc.com/fishing/saltwater/commercial/oysters/>

For FWC Recreational Regulations please visit <http://myfwc.com/fishing/saltwater/recreational/shellfish/>

Harvest of any shellfish species is prohibited year-round in waters not meeting approved or conditionally approved classification, including any unclassified waters. For classification maps please visit <https://www.fdacs.gov/Agriculture-Industry/Aquaculture/Shellfish-Harvesting-Area-Classification/Shellfish-Harvesting-Area-Information> and click on area number of interest.

The harvest of wild oysters is prohibited per FWC July 1<sup>st</sup> through September 30<sup>th</sup> except in Wakulla, Dixie and Levy counties harvest areas where the harvest of wild oysters is closed June 1<sup>st</sup> through August 30<sup>th</sup>. Open/Close status during these months are for aquaculture leases and wild clam harvest only.





# Updating Oyster And Shellfish Harvesting

## Daily Open/Closed Status of Shellfish Harvest Areas for the Atlantic Coast: From Fort Pierce Inlet in St. Lucie County to Duval County

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North St. Johns SHA# 92	Status	Date	Reason/Notes
9202 North St. Johns Conditionally Approved	OPEN	12/1/2022	
Duval Count SHA# 96	Status	Date	Reason/Notes
9602 Duval County Conditionally Approved	OPEN	12/2/2022	

Industry Notes: Weekly EC test schedule:



# Updating Oyster And Shellfish Harvesting

Date: 12/1/2022

The Florida Department of Agriculture and Consumer Services announced that the following shellfish area(s) will be re-opened at sunrise on 12/2/2022 for the harvest of oysters, clams, and mussels. In this context, shellfish does not include scallops, shrimp, or crabs.

Area(s): #9602 Duval County Shellfish Harvest Area

Affected  
Counties: Duval

Basis for  
action: Fecal coliform results indicate that water quality meets NSSP standards as defined in Chapter 5L-1.003, Florida Administrative Code

**Please Visit FWC's webpage for wild shellfish harvest seasons, executive orders, size and bag limits:**

**For FWC Commercial Regulations please**

visit <https://myfwc.com/fishing/saltwater/commercial/oysters/>

**For FWC Recreational Regulations please**

visit <https://myfwc.com/fishing/saltwater/recreational/shellfish/>

The re-opening of the waters is in compliance with the management plan. Refer to the Division of Aquaculture's Daily Status Report for daily open/closure information. For questions concerning scallop harvesting, please call the Florida Fish and Wildlife Conservation Commission at (850)487-0554.

If you have further questions or in the event the daily status report cannot be accessed due to server problems, a detailed pre-recorded message of open and closed shellfish harvest areas is available 24 hours a day by calling the closest regional office.





# Updating Oyster And Shellfish Harvesting

**Michelle Smith**

Environmental Administrator

Division of Aquaculture

Florida Department of Agriculture and Consumer Services

(850) 617-7615

(850) 510-6208 Cell

[Michelle.Smith@FDACS.gov](mailto:Michelle.Smith@FDACS.gov)

# SEDIMENT FATE AND TRANSPORT IN THE ST. JOHNS RIVER

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Dr. Jeremy Stalker and Dr. Gerry Pinto

Jacksonville Univeristy



# THREE TIERS OF ANALYSIS

## 1. Provenance

1. Determine the source of sediments to an area. Where is it coming from?

## 2. Volumetric transport

1. Determine how much sediment is being transported from one place to another. How much is being added or subtracted.

## 3. Temporal analysis

1. Determine how much is being moved on a time scale: Per day, month, season, year...etc. What are the dynamics of the movement?

# 1. PROVENANCE

- Determine the geometry and volume of the possible sediment sources and sinks. (side scan sonar)
- Determine the local current speed and directions in the area of the sources and sinks. (ADCP)
- Insert a chemical or physical tracer in the suspected source material. Sample suspected areas of deposition and monitor for the presence of the tracer.

## 2. VOLUMETRIC TRANSPORT

- Includes all in the previous level plus:
  1. Determine tracer volumes and develop a quantitative method to determine the volume of sediment added by tracer concentration. (use of a FlowCam or other spectral analysis)
  2. Develop Geochemical or numeric models for quantitative volumes.

### 3. TEMPORAL ANALYSIS

- Includes the previous two steps plus:
- 1. Sample the site routinely over a period of time to determine a rate of sediment movement and volumetric addition per unit of time. (longer sampling window with analysis)
- In all cases, if more than one source is suspected tracers unique to each place are possible.



# PROPOSAL NEEDS

- Articulate needs and deliverables
- Equipment (for site assessment and analysis)
- Sampling pre-during-post
- Tracer development
- Analysis of tracer material
- Analysis of tracer data
- Permitting
- Personnel time for set up, sampling, analysis, and write up.