Brevard County
Save Our Indian River Lagoon Project Plan
Citizen Oversight Committee

October 20, 2023 – 8:30 to 11:30 am
Brevard County Government Center
2725 Judge Fran Jamieson Way
Building C, 3rd Floor, Florida Room
Viera, Florida 32940

I. Call to Order and Pledge of Allegiance

II. Roll Call

III. Approval of the Agenda

IV. Approval of the Minutes

V. Progress and Fiscal Reports

a) Monthly Progress Report – Virginia Barker, Director

b) Monthly Revenue Graph & Financial Statements – Molly Bryan, Accountant I

VI. Other Reports and Special Presentations

a) Soil Health Matters to the Indian River Lagoon – Sally Scalera, Urban Horticulture Agent and Master Gardener Coordinator, UF/IFAS Extension Brevard County

b) Videos

i. Algae Harvesting Barge Demonstration in Brevard County - AECOM

ii. My Lagoon Story – Bobby Putnam

VII. Old Business

VIII. New Business

a) Citizen Oversight Committee Succession Planning – Dr. John Windsor

b) 528 Causeway Feasibility Study Funding

c) Sewer Connection Cost Share Limits

IX. General Public Comments

X. Final Comments by Chair and Committee Members

XI. Adjournment

Save Our Indian River Lagoon
Citizen Oversight Committee Meeting Minutes
September 15, 2023 – 8:30 a.m.
2725 Judge Fran Jamieson Way, Bldg. C,
3rd Floor, Florida Room
Viera, FL 32940

Members Present:

Expertise	Member	Present	Alternate	Present
Science	Lorraine Koss	No	Charles Venuto	Yes
Technology	Vinnie Taranto-Vice Chair	Yes	Don Deis	Yes
Education	Stephany Eley	Yes	Kimberly Newton	Yes
Finance	Todd Swingle-Chair	No	Curt Smith	Yes
Tourism	Bobby Putnam	Yes	Laurilee Thompson	No
Real Estate	Barbara Wall-Scanlon	No	Eric Mannes	No
Lagoon Advocacy	John Windsor	Yes	Terry Casto	No

Staff Present:
Virginia Barker, Brevard County Natural Resources Management Director
Heather Balser, Assistant County Attorney
Melissa Wilbrandt, Department Finance Manager
Molly Bryan, Accountant I
Jenny Hansen, Environmental Scientist
Jeanne Allen, Engineer III
Cole Stubbe, Engineer I
Brandon Smith, Environmental Specialist III
Matt Badolato, Associate Environmental Specialist
Aleah Ataman, Associate Environmental Specialist
Abbey Gering, Associate Environmental Specialist
Beb Sebastian, Associate Environmental Specialist
Jaculin Watkins, Executive Secretary

I. Call to Order

II. Roll Call

A quorum was established.

III. Approval of the Agenda

John Windsor moved to approve the Agenda; seconded by Stephaney Eley.

There was no public comment for the motion. Motion was unanimously approved.

IV. Approval of Minutes

John Windsor moved to approve the Minutes; seconded by Charles Venuto. There was no public comment for the motion. Motion was unanimously approved.

V. Progress and Fiscal Reports

a. Monthly Progress Report – Virginia Barker, Director

The Monthly Progress Report was given by Virginia Barker. Discussion ensued. Ms. Barker and Ms. Ataman responded to the Committee's questions.

b. Monthly Revenue Graph and Financial Statements – Molly Bryan, Accountant I

The Monthly Revenue Graph and Financial Statements were given by Molly Bryan. Ms. Barker and Ms. Bryan responded to the Committee's questions.

VI. Other Reports and Special Presentations

a. Florida Horseshoe Crab Watch Program and Spawning in Brevard – Holly Abeels, Florida Sea Grant Extension Agent

Holly Abeels, University of Florida IFAS Extension Agent, presented information on horseshoe crab populations, and gave an overview of their Citizen Scientist program, which allows volunteers to assist in data gathering. Discussion ensued. Ms. Abeels responded to the Committee's questions.

b. Seagrass Monitoring Update for the Indian River Lagoon – Lauren Hall, Environmental Scientist III, St. Johns River Water Management District

Lauren Hall, Environmental Scientist III with the St. Johns River Water Management District's Coastal Section, presented an update on seagrass monitoring efforts and findings in the Indian River Lagoon. Discussion ensued. Ms. Hall and Ms. Barker responded to the Committee's questions.

c. Save Our Indian River Lagoon Communications Material and Public Engagement – Brandon Smith, Environmental Specialist III

Brandon Smith, Natural Resources Management Department Environmental Specialist III, provided an overview on the diversity and reach of communication and social media programs underway as part of the Save Our Indian River Lagoon's program outreach, with statistics on public engagement. Discussion ensued. Mr. Smith responded to the Committee's questions.

d. Videos

i. Septic Smart Public Service Announcements
Four new septic smart public service announcement videos were presented. Discussion ensued. Mr. Smith and Ms. Barker responded to the Committee's questions.

ii. My Lagoon Story – Don Deis
Committee member Don Deis's My Lagoon Story video was presented.

VII. Old Business

No old business was heard.

VIII. New Business

No new business was heard.

IX. General Public Comments

General public comments were heard.

X. Final Comments by Chair and Committee Members

a. Citizen Oversight Committee Succession Planning – Dr. John Windsor

Dr. John Windsor, Lagoon Advocacy Member, requested the Citizen Oversight Committee (COC) consider Committee succession planning, as there are seven members who will reach their term limit of eight (8) maximum years in February 2025. Discussion ensued.

Stephaney Eley moved to bring the topic of succession planning to a future COC meeting. Seconded by Charles Venuto.

No public comment was heard.

Motion was passed unanimously. Item will be added to the October 2023 COC Meeting Agenda.

XI. Adjournment

Meeting was adjourned at 11:05 a.m.

Save Our Indian River Lagoon Project Plan
October 2023 Progress Report

WORK COMPLETED THIS MONTH:

- Satellite Beach Lori Laine Basin project complete
- Leaky Lateral Repairs – 420 of 649 detected private sewer leaks have been repaired; 63 grant applications received; 51 payments processed
- Quick Connects –8 more reimbursements processed of 120 to date; 390 agreements executed. Over 275 sewer connection applications have been requested by homeowners since the most recent mailing
- Septic Upgrades –13 more reimbursement processed of 203 to date; 351 total agreements executed
- University of Central Florida conducted 1-month post-deployment monitoring of the second spat-deployment at McNabb Park. Within the gabions, the number of oysters decreased by 54% but growth was observed. On the prisms, sizes were similar to deployment with a slight increase in the number of oysters observed. One-year monitoring at Castaway Cove noted a large recruitment event increasing the number of oysters by 3 to 8 times and found similar oyster sizes present in all four design types.
- Videos: Bobby Putnam's My Lagoon Story
- FDEP grant contract for Willow Lakes Package Plant Connection Executed
- Legislative Priorities and Funding Requests – prepared and submitted 2 funding requests for septic to sewer, 2 for muck removal, 200 homeowner quick connects to sewer, 100 homeowner septic upgrades and 1 feasibility study for causeway reduction

WORK UNDERWAY THIS MONTH:

- Sixteen (16) 2024 project applications were received and are under review
- Closing out the old Fiscal Year and opening Purchase Orders for the new Fiscal Year 2
- Derelict Vessels Removed
- Micco Sewer Line Extension – 95% complete; Site restoration at lift station underway; need to connect Sebastian Marina, run line to Cay Marina; FPL needs to energize primary conductors to lift station
- South Central C Septic-to-Sewer – 93.7% complete; first lift station start-up successful, awaiting FPL power connection for the other two and state approval to start connecting homes
- Brevard County Septic-to-Sewer – 100% design underway and preparing permit submittals for South Banana Zone B and Merritt Island Zones F; 75% design review complete for North Merritt Island Zone E; 75% under review for Sykes Creek M; 75% design underway for Micco Zone B, Sykes Creek Zone R, Sykes Creek Zone T; FPL installing power line for Sykes Creek Zone N
- Grand Canal Muck Dredging – Dredging underway; 299,596 cubic yards removed
- Sykes Creek Phase 1 Muck Dredging – DMMA restoration plan under development
- Sykes Creek Phase 2 Muck Dredging – Gopher tortoise relocation scheduled for October
- Eau Gallie Muck Dredging –Working on bid documents
- Canaveral South Muck Dredging – RFQ for engineering consulting services went out on 9/29/2023
- TDC-funded Recreation and Manatee Field Guides – signs arrived, were delivered to parks and installed
- FDEP Innovative Technology Grant – AECOM's algae harvesting demonstration project is underway
- Contracts – Cocoa Beach McNabb Outfall Bioretention and Rockledge Flow Equalization Basin time extension amendment under review

PRESENTATIONS THIS MONTH:

September 21 – CAMI Bringing Back Our Blue Lagoon Talk – Brandon & Anthony
October 3 – Marine Resources Brown Bag Lunch – Virginia
October 5 – A Day in the Life of the Indian River Lagoon – Aleah & Brandon

UPCOMING LAGOON SCIENCE FORUMS AND PUBLIC EVENTS:

October 18 – Ocean Research & Conservation Association Introduction to Fish Monitoring and Processing
October 19-20 – Marine Resources Council Low Impact Development Conference
October 30 – Ocean Research & Conservation Association Lab Technique Training: Particle Analysis
October 31 – Ocean Research & Conservation Association Pollution Mapping Refresher

UPCOMING VOLUNTEER PARTICIPATION OPPORTUNITIES:

October 16- Brevard Zoo's Restore Our Shores Oyster Sorting
October 20 – Ocean Research & Conservation Association Fish Processing - Email Missy Weiss To Register
October 23- Brevard Zoo's Restore Our Shores Oyster Sorting
October 25 – Ocean Research & Conservation Association Native Plant Nursery - Email Wyatt To Register
October 31 – Ocean Research & Conservation Association Fish Processing - Email Missy Weiss To Register
November 3 – Marine Resources Council First Friday Litter Patrol
Space Coast Surfrider Foundation Blue Water Task Force Monitoring – Email Chis Baker for more information
Florida Horseshoe Crab Watch – Email Holly Abeels for more information
Ocean Research & Conservation Association Pollution Mapping equipment cleaning – Email Veronica to signup
Marine Resources Council super-clam monitoring, storm drain marking in Melbourne, and Concrete Creations Program seeking volunteers – Email Caitlin Bagnall to register
Rotary Park rain garden maintenance or storm drain marking in Cocoa – Email Carlos Cuevas for opportunities
Pineda Waterway Warriors Cleanup – Every 2nd Saturday under Tropical Trail Exit overpass – Email Sherill for more information

WEBSITE, SOCIAL MEDIA, NEWSLETTER, AND REPORT LINKS:

Lagoon Loyal Outreach & Engagement Landing Page
Save Our Indian River Lagoon Website
Save Our Indian River Lagoon Facebook
Save Our Indian River Lagoon Instagram
Save Our Indian River Lagoon YouTube
Sign up for our Monthly Newsletter
Sign up for our Weekly Harmful Algal Bloom Reports

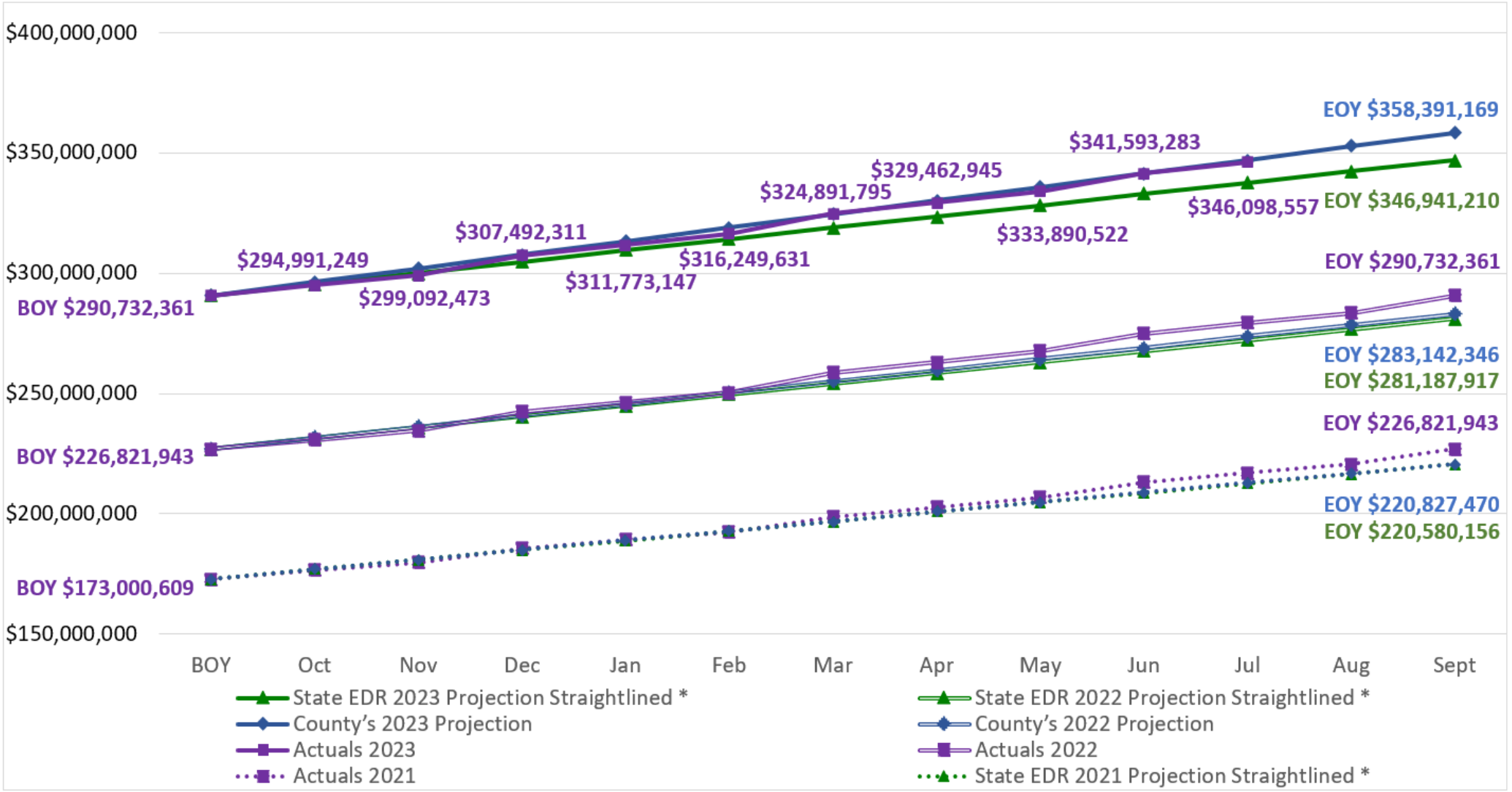
FUTURE TOPICS FOR SPECIAL PRESENTATIONS:

1. Lagoon Project Feasibility Study Update by St Johns River Water Management District
2. Regional Wastewater Treatment Feasibility Study by the Economic Development Commission
3. Surface Water Remediation Technologies
4. Turf grass options and alternatives
5. Lagoon Projects - managed and funded by other agencies, entities, or grant programs
6. Nutrient Loading Impacts of Reclaimed Water
7. Project Performance Measurements and Cost-Effectiveness Results
8. Inground Nitrogen Reducing Bioreactor Septic Drain Field Pilot Project Findings
9. Super Clam Restoration and Aquaculture Stimulus Projects
10. Shoreline Armor and Living Shoreline Permitting Authorities, Rules, and Opportunities
11. Isotope studies

Save Our Indian River Lagoon Revenues Cumulative Graph
Fiscal Year 20-21 to Current Fiscal Year

* Economic and Demographic Research Data is sourced from Florida's Office of Economic & Demographic Research using their Estimation of Realized and Unrealized Tax Revenues Table

- Projected and Actual Data is from Systems, Applications and Products program
- EDR-Economic and Demographic Research Data, BOY-Beginning of Year, EOY-End of Year
- For Screen Readers use the Save Our Indian River Lagoon Revenues Cumulative Chart Fiscal Year 20-21 to Current Fiscal Year Table
- Updated the State EDR Beginning Of Year to match Actuals End Of Year to the prior Fiscal Years



Save Our Indian River Lagoon Revenues Cumulative Chart
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Month	State EDR 2023 Projection Straight-lined *	County's 2023 Projection	Actuals 2023	State EDR 2022 Projection Straight-lined *	County's 2022 Projection	Actuals 2022	State EDR 2021 Projection Straight-lined *	County's 2021 Projection	Actuals 2021
BOY	**$290,732,361**	**$290,732,361**	**$290,732,361**	**$226,821,943**	**$226,821,943**	**$226,821,943**	**$173,000,609**	**$173,000,609**	**$173,000,609**
Oct	$295,416,432	$296,370,595	$294,991,249	$231,352,441	$231,515,310	$230,665,218	$176,965,571	$176,986,181	$176,417,554
Nov	$300,100,502	$302,008,829	$299,092,473	$235,882,939	$236,208,677	$234,614,208	$180,930,533	$180,971,752	$179,767,028
Dec	$304,784,573	$307,647,063	$307,492,311	$240,413,437	$240,902,044	$242,347,634	$184,895,496	$184,957,324	$185,628,087
Jan	$309,468,644	$313,285,297	$311,773,147	$244,943,935	$245,595,411	$246,260,610	$188,860,458	$188,942,896	$189,094,044
Feb	$314,152,715	$318,923,531	$316,249,631	$249,474,432	$250,288,778	$250,342,140	$192,825,420	$192,928,467	$192,467,433
Mar	$318,836,785	$324,561,765	$324,891,795	$254,004,930	$254,982,145	$258,706,447	$196,790,382	$196,914,039	$198,814,528
Apr	$323,520,856	$330,199,999	$329,462,945	$258,535,428	$259,675,512	$263,179,622	$200,755,345	$200,899,611	$202,841,586
May	$328,204,927	$335,838,233	$333,890,522	$263,065,926	$264,368,879	$267,470,408	$204,720,307	$204,885,183	$206,775,862
Jun	$332,888,998	$341,476,467	$341,593,283	$267,596,424	$269,062,246	$275,034,484	$208,685,269	$208,870,754	$212,965,332
Jul	$337,573,068	$347,114,701	$346,098,557	$272,126,922	$273,755,612	$279,374,282	$212,650,231	$212,856,326	$216,998,992
Aug	$342,257,139	$352,752,935		$276,657,419	$278,448,979	$283,600,235	$216,615,194	$216,841,898	$220,555,946
Sept	$346,941,210	$358,391,169		$281,187,917	$283,142,346	$290,732,361	$220,580,156	$220,827,470	$226,821,943

FY 2023 Monthly Financial Statement

Save Our Indian River Lagoon

Date Range 01 October 2022 – 09 October 2023

*Total Assigned YTD-Year to Date, includes all stages of accounting for expenditures, with data derived from Systems, Applications and Products program

Revenues	Budget	Total Assigned YTD*	% Earned
Taxes	$ 58,146,715	$ 55,366,196	95.22%
Interest Earned	$ 2,314,053	$ 6,485,258	280.26%
Other Federal Grants	$ 5,932,562	$ 339,653	5.73%
Federal Grants Hurricane Irma	$ 1,357,269	$ -	0.00%
Other State Grants	$ 13,649,974	$ 286,358	2.10%
State Grants Hurricane Irma	$ 226,212	$ -	0.00%
Tourism Development Council Grants	$ 81,428	$ -	0.00%
Other Physical Environment Grants	$ 338,713	$ -	0.00%
American Rescue Plan Act (ARPA)	$ 4,984,462	$ 1,261,798	25.31%
Statutory Reduction	$ (3,886,471)	$ -	0.00%
Balance Forward	$ 242,351,863	$ 247,253,609	102.02%
Total	**$ 325,496,780**	**$ 310,992,871**	95.54%

Expenditures (Roll-Up)	Budget	Total Assigned YTD*	Actuals
Compensation & Benefits	$ 1,355,722	$ 1,342,642	$ 1,060,316
Operating Expenses	$ 297,896	$ 212,436	$ 199,982
Capital Outlay	$ 118,893	$ 56,391	$ 56,391
SOIRL Projects funded under Operating Expenses (Non-Capital County Project & Programs)	$ 4,113,387	$ 1,908,313	$ 992,134
SOIRL Projects funded under Capital Improvement (County Projects over $35K)	$ 81,968,997	$ 27,034,441	$ 12,123,495
SOIRL Projects funded under Aid to Gov't Agencies (Cities & Water Management Districts)	$ 74,449,801	$ 25,301,748	$ 1,855,069
SOIRL Projects funded under Aid to Private Organizations (Property Owners & Non-Government Organizations)	$ 48,756,501	$ 4,664,962	$ 3,122,873
Contingency	$ 18,502,590	$ -	$ -
Reserves (for approved projects scheduled beyond this fiscal year)	$ 95,932,993	$ -	$ -
Total	**$ 325,496,780**	**$ 60,520,932**	**$ 19,410,260**

Save Our Indian River Lagoon
Citizen Oversight Committee
October 20, 2023

Agenda Item:

VIII. a. New Business

Title:

Citizen Oversight Committee Succession Planning

Requested Action:

Discuss Succession Planning Options for the Save Our Indian River Lagoon Citizen Oversight Committee and Consider Making a Recommendation to the League of Cities and County Commission

Summary Explanation and Background:

Half of the current Citizen Oversight Committee will be subject to 8-year term limits at the end of the current 2-year term in February 2025. See the attached memo from John Windsor, Committee Member, regarding committee consideration of succession planning options and potential recommendations to forward to the League of Cities and County Commission.

October 9, 2023

Memorandum

To: Save Our Indian River Lagoon Citizen Oversight Committee (SOIRL COC)

From: John G. Windsor, Jr., SOIRL COC member

Subject: SOIRL Citizen Oversight Committee Succession Planning – Suggested Topics for Discussion at the October 20, 2023 Meeting

Copy: Virginia Barker, Natural Resources Management Department

Background: The Save Our Indian River Lagoon (SOIRL) Citizen Oversight Committee (COC) was initially appointed in December 2016 after applications were reviewed and ranked by the League of Cities (LOC) and the Board of County Commissioners (BOCC). Half of the COC appointed in 2016 continues to serve today. Since 2016, new appointments to the COC came only after currently serving members officially left the committee. Recruiting and selecting new COC members can take several months. More recently the BOCC has limited the length of volunteer service on County advisory committees to eight years. Based on the table below, provided by staff (thank you Jackie!), seven members will term out in March 2025

- **NOTE: The COC has no role in selection or appointment of COC. All appointees are selected from the applicant pool by the LOC or the BOCC, and then appointed to serve by the BOCC.**

Important Issues:

With the potential that half the original COC will leave at the same time, staff will be challenged to provide support to seven new members to the committee.

The concerns are most significant in the Science and the Lagoon Advocacy areas of expertise where both the main and alternate appointees term out at the same time.

Seven COC members are voting members and seven are alternates. Five of the seven voting members may all be replaced at the same time.

In addition, the future COC will have no member who was there at the beginning, and therefore may lack historical context for project plan development.

Suggested Discussion Topics:

1. Do nothing. Allow the terms to expire. (I am concerned this will place an unnecessary extra burden on staff and on the remaining COC members.)
2. Recommend that COC members who wish to continue service to the County be allowed to reapply for a one-year appointment. This would allow a more staggered approach to COC replacement. (Unlikely to be approved, but we should discuss this or some variation of this.

This would require a supermajority vote of the BOCC to approve a waiver of the 8-year limit.)

3. Recommend to the BOCC that the County advertise for applicants at least a year before COC members reach their term limit. Advertise for a pool of applicants for LOC/BOCC approval. As applicants are approved for COC, the current serving member can either, a) resign and allow the new appointee to take over and offer to mentor the new appointee through the next work plan approval process, or b) mentor the new appointee through the next work plan approval process and then resign. (I am sure there are many other variations of this process that we could discuss at the next COC meeting if warranted.)
4. Recommend an additional, non-voting advisory board member (or two) to serve in an "ex-officio" capacity. (Prior COC members are welcome to comment on any agenda item or during public comment. However, having one or two more readily available to the COC during discussions might be a benefit to the entire COC. I am not sure if adding a non-voting member to the COC requires approval or a change in bylaws?)
5. Recommend that alternates who have seldom had the opportunity to vote be granted a term limit waiver to serve as a voting member.
6. Other succession planning topics for discussion??

Board Member/Alt.	Member Since	*M/A**	*BC or LOC*	Expertise
Lorraine Koss	Dec-16	*M*	*BC*	Science
Charles Venuto	Dec-16	*A*	*LOC*	Science
Vinnie Taranto	Dec-16	*M*	*BC*	Technology
Don Deis	Mar-23	*A*	*LOC*	Technology
John Windsor	Dec-16	*M*	*LOC*	Lagoon Adv.
Terry Casto	Dec-16	*A*	*BC*	Lagoon Adv.
Bobby Putnam	Mar-23	*M*	*BC*	Tourism
Laurilee Thompson	Mar-19	*A*	*LOC*	Tourism
Stephany Eley	Dec-16	*M*	*LOC*	Education
Kimberly Newton	Sep-20	*A*	*BC*	Education
Todd Swingle	Dec-16	*M*	*LOC*	Finance
Curt Smith	Mar-23	*A*	*BC*	Finance
Barbara Wall-Scanlon	Mar-23	*M*	*BC*	Real Estate
Eric Mannes	Mar-22	*A*	*LOC*	Real Estate

Save Our Indian River Lagoon
Citizen Oversight Committee
October 20, 2023

Agenda Item:

VIII. b. New Business

Title:

Feasibility Study for Increasing Passage of Water, Fish and Wildlife under Highway 528 Across the Banana River

Requested Action:

Authorize use of Respond funds to provide the local match required for the U.S. Army Corps of Engineers (USACE) to conduct a Feasibility Study to assess alternatives for reestablishment of flow and self-regeneration of seagrass beds within the Banana River.

Summary Explanation and Background:

In 1996, Congress authorized USACE to initiate investigations and implement projects for aquatic ecosystem restoration that improve the quality of the environment, are in the public interest, and are cost effective. Maximum federal expenditure for a project is $10,000,000,

An initial Federal Interest Determination (attached) indicates that compartmentalization by construction of earthen causeways impedes natural hydrology and the associated movement of flora and fauna and contributes to habitat degradation in the Banana River. Increasing water circulation could reestablish flow, habitat and aquatic species richness.

The proposed Feasibility Study will develop a range of structural change alternatives and determine the best one. The estimated cost of the Feasibility study is $700,000 and requires 50% non-federal funding. Construction costs are not yet known but are expected to be within the $10 million project limit. The best, cost-effective alternative will be eligible for federal implementation at 100% federal cost up to $10 million.

State cost share for the Feasibility Study has been requested through a grant from the $100 million Indian River Lagoon Protection Program and the 2024 Legislative Appropriations process. To get the Feasibility Study started, concurrence is requested for using Save Our Lagoon Respond funds. Modeling completed to compare the benefits of structural alternatives to the earthen causeway is expected to be useful for evaluating the performance of other Save Our Indian River Lagoon projects.

CONTINUING AUTHORITIES PROGRAM (CAP) PROJECT FACT SHEET – FEDERAL INTEREST DETERMINATION

1 BREVARD COUNTY (206) (P2# 502037)

Congressional Delegation: Senator Rick Scott, Republican, Senator Marco Rubio, Republican and Congressman Bill Posey, Republican, 8th Congressional District, U.S. House of Representatives.

2 AUTHORITY

Section 206 of the Water Resources Development Act of 1996, as amended, authorizes the Secretary of the Army to initiate investigations and implement projects for aquatic ecosystem restoration with the objective of restoring degraded ecosystem structure, function and dynamic processes to a less degraded, more natural condition considering the ecosystem's natural integrity, productivity, stability, and biological diversity.

Applicable paragraph(s) used to determine eligibility in EP 1105-2-58: Section 35.a., states “The purpose of this authority is to develop aquatic ecosystem restoration projects that improve the quality of the environment, are in the public interest, and are cost effective consistent with current policies and procedures governing projects of the same type which are specifically authorized by Congress.” The maximum total Federal expenditure for a Section 206 project cannot exceed $10,000,000.

3 LOCATION

Brevard County is situated along the west coast of Florida **(Figure 3-1** and **Figure 3-2)**. The location of the proposed study area is the Indian River Lagoon and Banana River as well as their cross section with Florida State Road 528 (SR 528) **(Figure 3-3).** SR 528 is an earthen causeway which buried 104.1 acres of the Banana River and narrowed the Banana River from 10,207 feet to 1,178 feet across which is the present span of the bridge **(Figure 3-4)**. Per the Non-Federal Sponsor, Brevard County, these infrastructure changes caused an 88% circulatory loss to this area of the Banana River.

The Indian River Lagoon, designated by Congress as an estuary of national significance, extends along 40% of Florida's east coast. Its historically high biological diversity and abundance includes 4,300 species of flora and fauna, many of economic value or federally listed as threatened or endangered species.

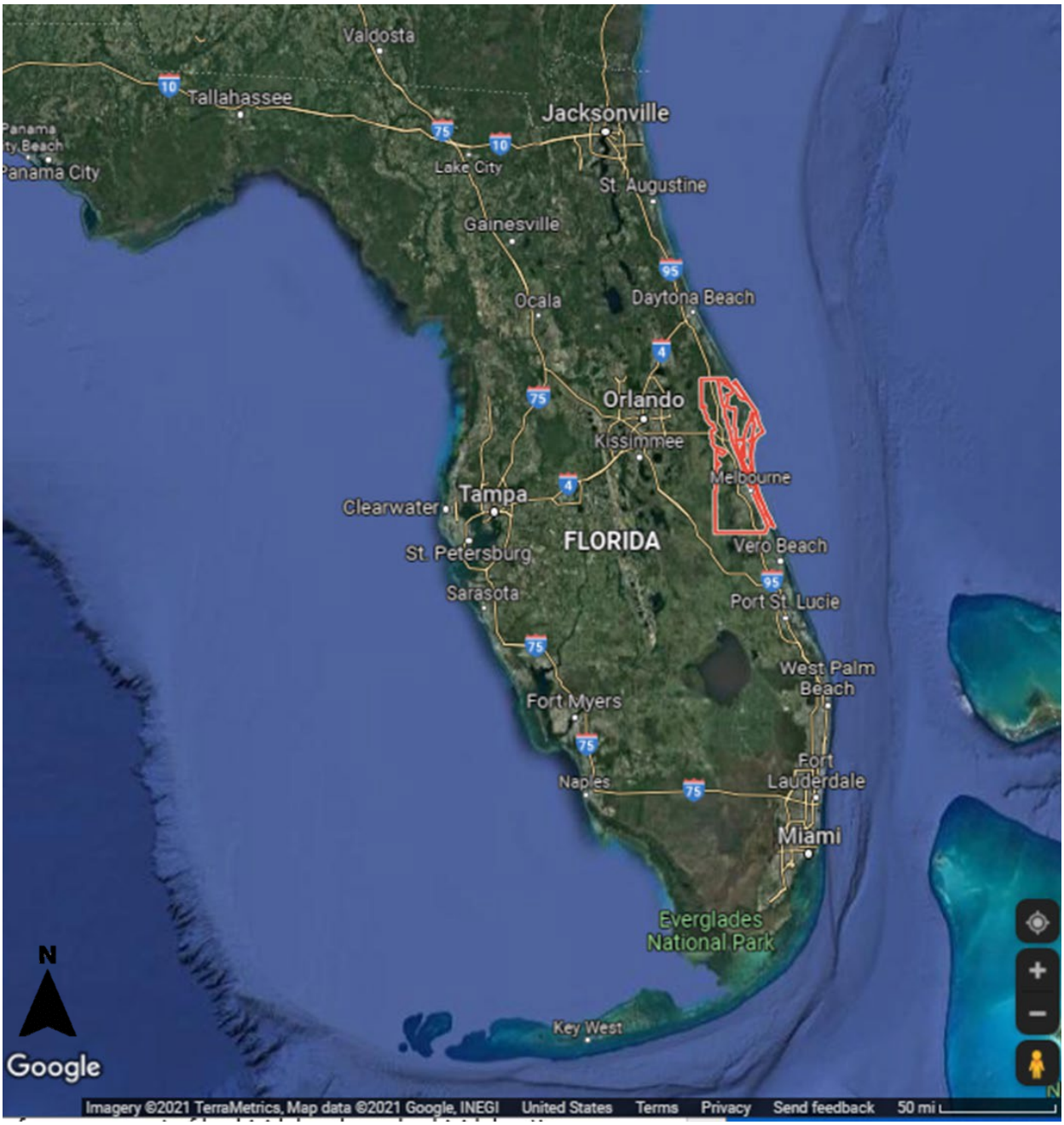

Figure 3-1: Location map of Brevard County outlined on the eastern coastline of Florida

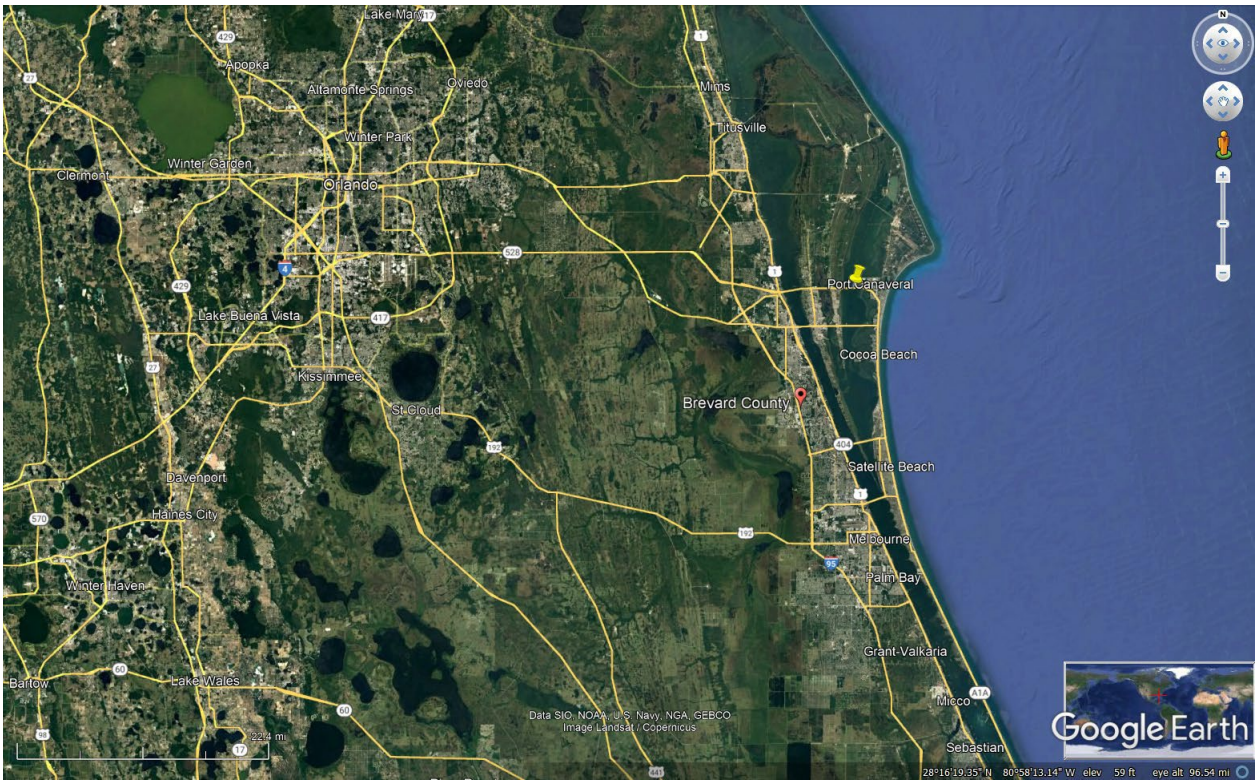

Figure 3-2: Location map of Brevard County with study site pinned by a yellow tack

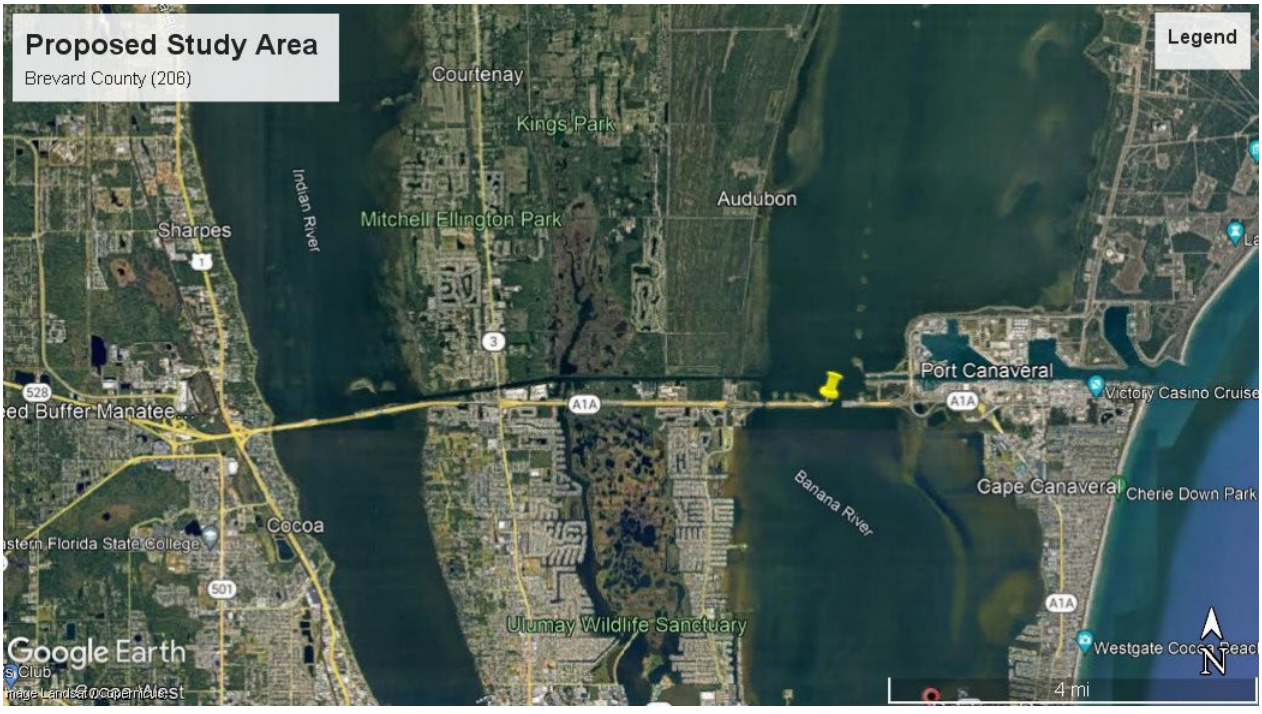

Figure 3-3: Proposed Study Area

Figure 3-4: Florida State Road 528 over the Banana River portion of the Indian River Lagoon

4 PROBLEMS, OPPORTUNITIES, OBJECTIVES, AND CONSTRAINTS

4.1 Problems

The project is located in Brevard County, Florida within the Indian River Lagoon ecosystem. These equilibrium-based estuarine systems require water flow to allow for the native flora and fauna to thrive. The Banana River balance has been disrupted by compartmentalization due to the construction of earthen causeways. The impeded hydrology has prevented the flora and fauna from inhabiting the aquatic ecosystem in a healthy manner and has ultimately led to habitat degradation. Several modeling efforts, completed by Brevard County, indicate that roads across the Banana River contribute to compartmentalization, restricting the movements of native animals as well as restricting the flow of waters from the northern end of the Banana River to the south end causing the habitat degradation indicated by and resulting in the loss of seagrasses, manatees, and other native organisms **(Figure 4-1)**. In 2020 and 2021, the paucity of surviving seagrass led to mass starvation of hundreds of manatees in Brevard County **(Figure 4-2)**, the hub of the east coast manatee population, a federally listed threatened species. SR 528 is an obstruction to water flow as well as fish and wildlife passage to seagrass habitat.

The following list is a summarization of the problems in Brevard County for the Banana River:

- Loss of historic river flows due to construction of an obstructive earthen causeway
- Degradation of the habitat causing a paucity of seagrass resulting in mass starvation of manatees
- Causeway instigated obstruction and decreased river breadth causing hinderance to fish and wildlife passage to their habitat and specifically food sources

Figure 4-1: Fish kill from Mar 2016 in Banana River Lagoon

Figure 4-2: Dead Manatees in Brevard County (2021) due to lack of access to seagrasses

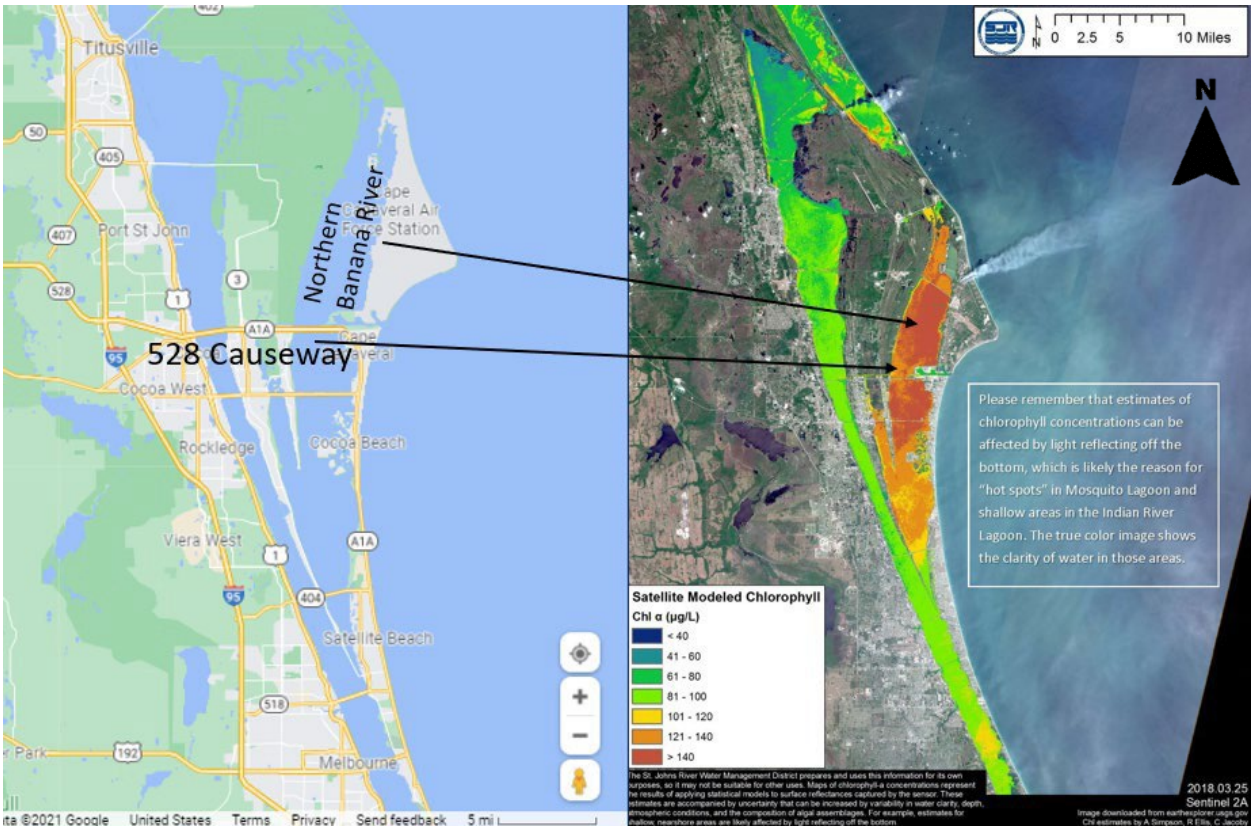

Figure 4-3: SR 528 Limits Northern Banana River Circulation Chlorophyll Concentrations

4.2 Opportunities

The existing opportunities are aligned with the Corps' ecosystem restoration mission:

- Decrease physical hinderance and improve fish and wildlife passage under SR 528
- Increase water circulation within Indian River Lagoon
- Reestablish submerged aquatic vegetation (SAV) in the Banana River and provide an environment for SAVs to recolonize and recruit better bottom coverage for the future
- Improve aquatic species richness and evenness within the Banana River
- Prevent further habitat degradation caused by water flow restrictions

4.3 Objectives

As previously described, Brevard County has undertaken investigation into some of the identified problems in the Banana River. This study provides the opportunity to produce a comprehensive approach to restore the aquatic ecosystem by addressing the study area as a whole.

- Increase water circulation in the Banana River closer to pre-SR 528 levels for the period of analysis of 50 years
- Reestablish aquatic life habitat and passage throughout study area for the period of analysis of 50 years

- Establish populations of seagrass beds to pre-SR 528 levels that are self-sustaining and maintain their coverage for the period of analysis of 50 years
- Increase aquatic species richness and evenness for the period of analysis of 50 years

4.4 Constraints

This project aims to provide aquatic ecosystem restoration to a degraded habitat for long lasting benefits. However, there are other considerations in the area providing parameters to prevent undesirable changes:

- Avoid or minimize impacts to surrounding infrastructure within the study area
- Avoid or minimize impacts to historic and cultural resources within the study area
- Avoid or minimize impacts to recreational boaters and commercial fishermen that also utilize the channel
- Avoid or minimize adverse environmental impacts that cannot be mitigated

5 INITIAL MANAGEMENT MEASURES AND ALTERNATIVE PLANS THAT HAVE BEEN CONSIDERED

5.1 Management Measures

Initial screening criteria for conceptual management measures presented below include cost effectiveness, technical feasibility, operational flexibility, safety, compatibility, and accessibility. Brainstorming of initial management measures produced the following.

Structural

- Culverts
- Bridge modifications
- Removal of SR 528
- Connection canal from Banana River to nearby water outlets
- Dredging portions of the Banana River
- Construct new bridge
- Addition of aeration pumps
- Nature Based Solutions (NBS):
    - Submerged aquatic vegetation (SAV) planting
    - Addition of oyster substrate

Non-Structural

- At this point, no non-structural measures have been identified

5.2 Alternatives

Alternatives will be fully developed in the Integrated Feasibility Report and National Environmental Policy Act (NEPA) assessment. Management measures will be refined and combined to form the following four types of conceptual alternatives:

- No-Action Alternative
- Non-Structural Alternative(s)
- Structural Alternative(s)
- Combination of Structural and Non-Structural Alternative(s)

Alternatives will be screened by the following evaluation criteria to demonstrate each alternative's effectiveness in meeting project objectives:

- Feasibility Analysis
    - National Ecosystem Restoration (NER)
    - Environmental Quality (EQ)
    - Other Social Effects (OSE)
    - NEPA assessment
- Contributions to Planning Objectives
- Response to Planning Constraints
- Response to Evaluation Criteria
    - Completeness
    - Effectiveness
    - Efficiency
    - Acceptability

Additionally, the feasibility study will analyze sea level change (SLC) and qualitatively assess how the SLC rates impact project benefits for all applicable alternatives. An environmental justice analysis will be included in the integrated report as well as other required analyses such as greenhouse gas emissions.

6 VIEWS OF FEDERAL, STATE, AND REGIONAL AGENCIES

The Non-Federal Sponsor, Brevard County, has communicated their support for the project both verbally and by letter to SAJ on 14 Sept 2021 and confirmed again via email on 17 Feb 2023. Coordination with Federal, State, and regional resource agencies will occur during the feasibility phase and be documented in the project's integrated feasibility report/NEPA assessment.

7 SIGNIFICANT EFFECTS OF THE PROPOSED PROJECT

The feasibility study will assess the effects of the proposed project to determine a best selected alternative. Alternatives will be evaluated on the basis of achieving the study objective for the determine

period of record. The implementation of the selected alternative will allow for the reestablishment and self-generation of seagrass beds and the water flow within the Banana River creating a healthier ecosystem. Based on an initial review, no significant environmental effects are currently anticipated. A description of the initial review is below in Section 9.3.

8 ESTIMATED COSTS

8.1 Study Schedule

A feasibility cost sharing agreement (FCSA) will be necessary. The Jacksonville District will complete a FCSA with the Non-Federal Sponsor and coordinate with the South Atlantic Division (SAD) once a Federal interest is determined. Upon execution of the FCSA it is anticipated that the total feasibility schedule will be 18-24 months.

8.2 Study Costs

Table 8-1 estimates the study costs at $700,000 dollars. Assumptions in developing this estimate include engineering analysis with modeling and would utilize information developed in this study area.

Table 8-1: Feasibility Cost Estimate

Task	Estimated Costs
Engineering AESVCS (hydro, topo, geotech)	$80,000
Water Resources Analysis (shoaling rate)	$60,000
Geotechnical Analysis	$50,000
Design	$60,000
Cost Estimating and Certification	$30,000
HTRW	$25,000
Plan Formulation	$90,000
Economics	$50,000
Environmental	$65,000
Cultural Resources	$40,000
Cultural Resource Surveys	$60,000
Real Estate	$25,000
Agency Technical Review	$16,000
District Quality Control	$14,000
Project Management	$35,000
Total Study Cost	**$700,000**

8.3 Project Costs

Project costs will not be known until a final array of alternative plans are developed during the feasibility phase. However, the total project costs are expected to be within the thresholds specified in the CAP Section 206 total Federal per project limit of $10 million. The relative benefits compared to the cost will be ensured to be reasonable for the project to proceed.

9 SUPPLEMENTAL INFORMATION

9.1 Real Estate Summary

The Non-Federal Sponsor is the property owner of some lands within the study area. SR 528 is owned by Port Canaveral and the Florida Department of Transportation has a perpetual easement for the road. The earthen causeway is owned by Port Canaveral. The acquisition of lands and easements outside of the study area is not anticipated at this time for any of the structural management measures proposed. The non-Federal sponsor is responsible for obtaining the Lands, Easements, Relocations, Right of Ways and Disposals (LERRD) needed to construct the project once an alternative has been identified.

9.2 Economics

The primary benefits of this project will be calculated as a habitat unit lift multiplied by the area of impact, called habitat units. These habitat units will be annualized over the 50-year federal project horizon by estimating project effectiveness in distinct time periods over the project horizon. Alternatives will be evaluated via a Cost Effectiveness/Incremental Cost Analysis (CE/ICA), which separates alternatives into non cost effective, cost effective, and best buy plans. Best buy plans will be compared with one another to select the National Ecosystem Restoration (NER) Plan, which is the plan that reasonably maximizes total NER benefits with respect to cost. If the selected alternative(s) are expected to produce recreation benefits, these benefits may be estimated and monetized. Additionally, a comprehensive benefits analysis will evaluate whether alternatives also produce benefits in other benefit categories, including National Economic Development (NED), Regional Economic Development (RED), or Other Social Effects (OSE). NED benefits will be analyzed primarily through an incidental recreation analysis, as the project is expected to increase recreation quality via increased environmental quality. Some RED benefits are expected from the construction of a project and will be analyzed using the Corps-certified Regional Economic System (RECONS). Identity, cultural pride, and leisure and recreation benefits may be qualitatively described in an OSE analysis. Currently, there are no significant benefits that we anticipate exploring with a comprehensive benefits analysis. However, additional benefit categories may be analyzed in accordance with the Jan 2021 Comprehensive Benefits Memo in the feasibility stage.

9.3 Environmental Landscape

The project is located within the Indian River Lagoon National Estuary positioned near the southern boundary of Merritt Island National Wildlife Refuge. The Indian River Lagoon National Estuary is comprised of three sections: Mosquito Lagoon, Banana River, and the Indian River **(Figure 4-3)**. SR 528 spans estuarine waters and is lined with mangrove swamp and saltwater ponds. The western shoreline of the Banana River north of SR 528 generally consists of a mosaic of shrub, freshwater marsh, scrub, and wet prairie natural communities. The shorelines (west and east) south of SR 528 are generally developed. Port Canaveral is located on the northeast corner of the causeway.

The Indian River Lagoon National Estuary lies near a convergence of temperate and tropical climates resulting in high species richness. The proposed project area includes Federally listed species **(Table 9-1)** Mixing of fresh water and salt water along with a diverse mosaic of natural communities also provides critical and essential habitat for species listed in **Table 9-2**.

Table 9-1: Federally Listed Species in Brevard County, FL* (Source: USFWS Environmental Conservation Online System; 20 Apr 2023 and NOAA Fisheries Species Directory for ESA species 23 May 2023)

Group	Common Name	Species Name	Status
Reptiles	Green sea turtle	*Chelonia mydas*	T
Reptiles	Loggerhead sea turtle	*Caretta caretta*	T
Reptiles	Leatherback sea turtle	*Dermochelys coriacea*	E
Reptiles	Hawksbill sea turtle	*Eretmochelys imbricata*	E
Reptiles	Kemp's ridley sea turtle	*Lepidochelys kempii*	E
Reptiles	American crocodile	*Crocodylus acutus*	T
Reptiles	Atlantic salt marsh snake	*Nerodia clarkii taeniata*	T
Reptiles	Eastern indigo snake	*Drymarchon couperi*	T
Birds	Eastern black rail	*Laterallus jamaicensis*	T
Birds	Red knot	*Calidris canutus rufa*	T
Birds	Everglade snail kite	*Rostrhamus sociabilis plumbeus*	E
Birds	Florida scrub-jay	*Aphelocoma coerulescens*	T
Birds	Piping plover	*Charadrius melodus*	T
Birds	Audubon's crested caracara	*Polyborus plancus audubonii*	T
Birds	Wood stork	*Mycteria americana*	T
Birds	Red-cockaded woodpecker	*Picoides borealis*	E
Fishes	Gulf sturgeon	*Acipenser oxyrinchus*	T
Fishes	Nassau grouper	*Epinephelus striatus*	T
Fishes	Giant manta ray	*Manta birostris*	E
Fishes	Smalltooth sawfish	*Pristis pectinata*	E
Mammals	Southeastern beach mouse	*Peromyscus polionotus niveiventris*	T
Mammals	West Indian manatee	*Trichechus manatus*	T
Flowering Plants	Carter's mustard	*Warea carteri*	E
Flowering Plants	Rugel's pawpaw	*Deeringothamnus rugelii*	E
Flowering Plants	Lewton's polygala	*Polygala lewtonii*	E

*Species listed as nonessential experimental population, under review, proposed, or resolved were not included.

Table 9-2: Species Critical Habitat and Essential Fish Habitat Designations in Brevard County, FL (Sources: USFWS Critical Habitat for Listed Species Mapper and NOAA Essential Fish Habitat Mapper; 20 Apr 2023)

Designation	Species/Group	Life Stage (if applicable)
Critical Habitat	West Indian manatee	Not applicable
Essential Fish Habitat	Snapper-grouper	All
Essential Fish Habitat	Spiny lobster	All
Essential Fish Habitat	Bonnethead shark	Neonate
Highly Migratory Species Essential Fish Habitat	Bull shark	All

Highly Migratory Species Essential Fish Habitat	Spinner shark	Neonate
Highly Migratory Species Essential Fish Habitat	Sailfish	Juvenile/Adult
Highly Migratory Species Essential Fish Habitat	Tiger shark	All
Habitat Area of Particular Concern	Panaied Shrimp	Not applicable
Habitat Area of Particular Concern	Phragmatopoma (worm reefs)	Not applicable

9.4 Mitigation Plan

A mitigation plan will be developed if impacts to wetland function cannot be avoided or minimized sufficiently.

9.5 Estimated Monitoring Period and Monitoring Operations and Maintenance (O&M) Costs

An adaptive management plan will be developed as per guidance under EP 1105-2-58 Section 24.a-c. for ecosystem restoration projects initiated under CAP. This plan "will be appropriately scoped for the scale of the project. The reasonableness and cost of the plan will be reviewed as part of decision document. After construction is complete, any changes to an adaptive management plan in an approved decision document must be coordinated with HQUSACE chief of Planning. If during the adaptive management period, adaptations are identified which could result in a change in the needed real estate interest and/or footprint, it is imperative that any new necessary real estate interest be identified, and necessary planning and real estate actions take place before the adaptive management changes are implemented." Monitoring, adaptive management, and O&M costs will not be known until development of the final array of alternative plans during the feasibility phase and will be included as part of the total project cost.

9.6 Project Specific Legislation and/or Report Language

Not applicable.

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Angela E. Dunn
Chief, Planning and Policy Division

Save Our Indian River Lagoon
Citizen Oversight Committee
October 20, 2023

Agenda Item:
VIII. c. New Business

Title:

Sewer Connection Cost Share Limits

Requested Action:

Motion to recommend increasing the maximum cost-share available to homeowners connecting to central sewer service when more than gravity flow is required

Summary Explanation and Background:

The Save Our Indian River Lagoon Project Plan states:

> "Quick Connects to sewer will be funded on a prorated basis of $1200 per pound of nitrogen loading reduced, up to a maximum of $18,000 for connection to force main sewer and a maximum of $12,000 for connection to gravity sewer."

This pro-rated cost share means that septic systems that load 10 pounds or more of nitrogen per year are eligible for $12,000 cost share to connect to a gravity line while systems that load 15 pounds or more are eligible for $18,000 cost share to connect to a force main.

In the 2023 Plan Update, due to the availability of state grant funds, on a first come, first serve basis, these same maximum limits of $12,000 and $18,000 were offered for any connection throughout the lagoon watershed. This expanded offer was based on the average septic system in Brevard loading 7.5 pounds per year to the lagoon, multiplied by $1200 per pound and matched 1:1 with state funds (7.5lbs x $1200 local + 7.5lbs x $1200 state = $18,000 for the homeowner).

For simple gravity connections, the $12,000 maximum continues to be sufficient cost-share most of the time to cover homeowner costs. The demand for these connections is strong and makes up over 95% of the quick connects completed to date.

Connections to force mains cost more than gravity connections because, at a minimum, they require a grinder pump. When the Quick Connect program began, the cost of grinder pumps added $5,000-$6,000 to typical connection costs, therefore the maximum cost share for connecting to a force main was increased to $18,000. More recently,

grinder pumps are adding about $10,000 to connection costs. Engineering and electrical costs have also increased, such that force main connections are now $24,000 or more.

Further, some connections to gravity mains cannot rely entirely on gravity flow and require grinder or lift pumps, electrical work, and may also require engineering to convey a home's sewage to the public gravity main. This increases the connection costs to $24,000 or more, consistent with the cost to connect to a force main.

Option 1:

Keep the maximum cost share as is. This will continue strong participation for gravity-based connections and limited participation for connections that require pumps.

Option 2:

Apply the maximum cost share allowed for force main connections to be used for gravity connections that require pumps.

> 2) "Quick Connects to sewer will be funded on a prorated basis of $1200 per pound of nitrogen loading reduced, up to a maximum of $18,000 for connection to force main sewer or gravity connections that require pumps, and a maximum of $12,000 for connection to gravity sewer."

Option 3:

Increase the maximum cost share for Quick Connects that require pumps to $24,000. At the approved cost share for Quick Connects, which is $1200/lb of nitrogen reduced, this funding would be most attractive to systems that load 20 pounds or more of nitrogen per year. Systems that load less than 20 pounds could receive partial funding pro-rated at $1200/lb. There are approximately 140 systems that load 20 pounds or more per year and are located within 30 ft of existing sewer lines.

If state grants continue to augment Save Our Indian River Lagoon funds dollar for dollar, $24,000 cost share could be offered to all systems loading 10 pounds or more of nitrogen per year and $12,000 cost share could continue to be offered throughout the lagoon watershed.

Amend the Plan language to the following:

> 3) "Quick Connects to sewer will be funded on a prorated basis of $1200 per pound of nitrogen loading reduced, up to a maximum of ~~$18,000~~ $24,000 for connection to force main sewer or gravity connections that require pumps, and a maximum of $12,000 for connection to gravity sewer."

Option 4:

Increase the cost share for Quick Connects that require pumps to $1600/lb of nitrogen reduced. At $1600/lb of nitrogen reduced, this funding would be most attractive to systems that load 15 pounds or more of nitrogen per year. These are the same systems targeted in the current plan in the absence of state funding. If state grants continue to augment Save Our Indian River Lagoon funds dollar for dollar, $24,000 cost share could be offered throughout the lagoon watershed, regardless of load estimates. This offer would be based on the average septic system in Brevard loading 7.5 pounds per year to the lagoon, multiplied by $1600 per pound and matched 1:1 with state funds (7.5lbs x $1600 local + 7.5lbs x $1600 state = $24,000 for the homeowner).

Amend the Plan language to the following:

> 4) "Quick Connects to sewer will be funded on a prorated basis of ~~$1200~~ $1600 per pound of nitrogen loading reduced, up to a maximum of ~~$18,000~~ $24,000 for connection to force main sewer or gravity connections that require pumps, and a maximum of $12,000 for connection to gravity sewer."

Option 5:

County Septic to Sewer Extension projects have evaluated the cost and feasibility of bringing gravity or vacuum sewer to the communities funded for septic to sewer conversion. While more expensive to install than force main sewer, gravity and vacuum designs minimize homeowner responsibilities and connection costs. However, in some cases, the lots are too deep or too low compared to the street that homeowner connections will still require pumps, electrical and engineering costs regardless of the public sewer design.

To minimize total project costs and maximize voluntary homeowner participation, the County would like to provide force mains but acquire grants to increase the total funds available for homeowner connection costs. For example, if the maximum Save Our Lagoon funds are $18,000 per connection and American Rescue Plan funds were available as match and state grants were secured as match, then providing up to $54,000 in funding for homeowners would cover the majority of costs associated with retrofitting homes with challenging lot conditions from septic to sewer.

Add language to the Plan as follows:

5a) “Connections within Septic to Sewer Extension Projects will be funded on a prorated basis of up to $1200 of Save Our Indian River Lagoon Program funds per pound of nitrogen loading reduced.”

Or

5b) “Connections within Septic to Sewer Extension Projects will be funded on a prorated basis of ~~$1200~~ up to $1600 of Save Our Indian River Lagoon Program funds per pound of nitrogen loading reduced.”

Option 6:

This same strategy as Option 4, where Save Our Indian River Lagoon funds are used to leverage additional funds from other agencies, could be expanded for use throughout the lagoon watershed where the cost share would be prorated based on load reduction benefits up to an approved maximum of Save Our Indian River Lagoon funds, but the total funding available to the homeowner could be more if other funds were secured for this purpose.

Amend the Plan language to the following:

6a) “Quick Connects to sewer will be funded on a prorated basis of $1200 of Save Our Indian River Lagoon Program funds per pound of nitrogen loading reduced, up to a maximum of $18,000 for connection to force main sewer or gravity connections that require pumps, and a maximum of $12,000 for connection to gravity sewer.”

Or

6b) “Quick Connects to sewer will be funded on a prorated basis of $1200 of Save Our Indian River Lagoon Program funds per pound of nitrogen loading reduced, up to a maximum of ~~$18,000~~ $24,000 for connection to force main sewer or gravity connections that require pumps, and a maximum of $12,000 for connection to gravity sewer.”

Or

6c) “Quick Connects to sewer will be funded on a prorated basis of ~~$1200~~ $1600 of Save Our Indian River Lagoon Program funds per pound of nitrogen loading reduced, up to a maximum of ~~$18,000~~ $24,000 for connection to force main sewer or gravity connections that require pumps, and a maximum of $12,000 for connection to gravity sewer.”