1. Call to Order and Pledge of Allegiance (Kathy LaMartina, Chair)

2. Introductions & Public Comments (Kathy LaMartina, Chair)

3. Agenda Revisions (Kathy LaMartina, Chair)

4. Approval of Minutes (Kathy LaMartina, Chair)
   Requested Action: Approval of Minutes from the meeting of August 10th, 2021.

5. Finance Sub-Committee Report (Stu Glass, Chair Finance Subcommittee)
   Requested Action: Accept Committee Report.

6. Presentations
      (Mark Rains, Professor, University of South Florida and Kai Rains, Research Associate Professor, University of South Florida)

   b. NASA Kennedy Space Center Indian River Lagoon Health Initiative Plan
      Please find full report by clicking on the above hyperlink
      (Jeffrey Collins, NASA)

   c. The Importance of High Confidence Data in Geospatial Analysis for Environmental Management for the Indian River Lagoon
      (Kirsten Jo Ayres, IRLNEP)
7. Old Business

NONE

8. New Business

a. Fiscal Year 2021 Budget Amendment (Daniel Kolodny)
   **Requested Action:** Recommend that the IRL Council Board of Directors
   approves the amended budget for FY 2021 by Resolution 2021–06, pursuant to
   Florida Statutes.

b. Fiscal Year 2022 Budget Amendment (Daniel Kolodny)
   **Requested Action:** Recommend that the IRL Council Board of Directors
   approves the amended budget for FY 2021 by Resolution 2021–07, pursuant to
   Florida Statutes.

c. Approval of Communication Plan (Kathy Hill)
   **Requested Action:** Recommend that the IRL Council Board of Directors
   reviews and adopts the Communication Plan contingent on EPA concurrence.

d. Approval of the Financing the CCMP Plan (Duane De Freese)
   **Requested Action:** Recommend that the IRL Council Board of Directors
   reviews and adopts the Financing the CCMP Plan contingent on EPA
   concurrence.

e. Planning for FY 2023 IRLNEP Workforce Analysis (Duane De Freese)
   **Requested Action:** No action required. Discussion and direction to
   guide development of the tentative FY 2023 Budget.

f. IRL Council Leadership Transition Policy (Duane De Freese)
   **Requested Action:** Recommend that the IRL Board of Directors reviews and
   adopts the IRL Council Leadership Transition Policy.

g. 2022 Legislative Priorities (Duane De Freese)
   **Requested Action:** Recommend that the IRL Board of Directors reviews and
   adopts IRL Council Legislative Priorities for 2022 and authorizes the Executive
   Director to represent the IRL Council in legislative policy discussions and
   appropriations.

h. 2022 Meeting Calendar (Ashley Malcolm)
   **Requested Action:** Recommend that the IRL Council Board of Directors
   approves the proposed 2022 Meeting dates.
9. **IRLNEP Staff reports**
   a. IRL Project Update (Daniel Kolodny)
   b. Communication Report (Kathy Hill)
   c. Executive Director Report (Duane De Freese)

10. **General Public Comment**

11. **Adjourn**
    Next Management Board Meeting: Tuesday, February 8, 2022*
*Contingent on adoption of 2022 Meeting Calendar*

**NOTE:** If a person decides to appeal any decision made by the Board with respect to any matter considered at such meeting or hearing, he or she will need a record of the proceedings, and that, for such purpose, he or she may need to ensure that a verbatim record of the proceedings is made, which record includes the testimony and evidence upon which the appeal is to be based. Section 286.0105, Florida Statutes (2014).

Pursuant to the provisions of the Americans with Disabilities Act, any person requiring special accommodations to participate in this workshop/meeting is asked to advise the agency at least 48 hours before the workshop/meeting by contacting: Ashley Malcolm at (860) 416-3102. If you are hearing or speech impaired, please contact the agency using the Florida Relay Service, 1(800) 955-8771 (TDD) or 1(800) 955-8770 (Voice). For more information, contact: Ashley Malcolm, IRL Council, 1235 Main St, Sebastian, FL 32958, (860) 416-3102, or by email at malcolm@irlcouncil.org.
Meeting Minutes
August 10, 2021
10:15 am

Up the Creek Farms, 3590 Valkaria Road, Grant-Valkaria, FL 32950


Guests in Attendance: Eric Chakest, Molly Klinepeter, Fred Mays.

Agenda Item 1. Call to Order and Pledge of Allegiance (Kathy LaMartina, Chair)

THE MEETING WAS CALLED TO ORDER AT 10:22 AM.

Agenda Item 2. Introductions & Public Comments (Kathy LaMartina, Chair)

KATHY LAMARTINA INTRODUCED TOM CAREY AS THE CO-CHAIR. ROUNDTABLE INTRODUCTIONS OF EVERYONE IN ATTENDANCE.

Agenda Item 3. Agenda Revisions (Kathy LaMartina, Chair)

THERE WERE NO REVISIONS TO THE AGENDA.

Agenda Item 4. Minutes Approval (Kathy LaMartina, Chair)

Requested Action: Approval of Minutes from Management Board meeting on May 11, 2021.

MOTION MADE BY TOM CAMPENNI, SECONDED BY ANTHONY CATANESE TO APPROVE THE MINUTES FOR THE MAY 11, 2021 MEETING AS WRITTEN. MOTION CARRIED UNANIMOUSLY.
Agenda Item 5. Finance Sub-Committee Report  
(Tom Campenni, Co-Chair Finance Subcommittee)

MR. CAMPENNI REPORTED THAT WE DID NOT HAVE A QUORUM AT THIS MORNING’S MEETING SO ITEMS REQUIRING A VOTE HAVE BEEN TABLED UNTIL THE NOVEMBER 2021 MEETINGS. THOSE IN ATTENDANCE AGREED THAT ALL ITEMS SHOULD MOVE FORWARD TO THE BOARD. MR. CAMPENNI THEN ASKED MR. KOLODNY TO REVIEW THE PERTINENT ITEMS THE COMMITTEE CONSIDERED. DANIEL KOLODNY STATED THAT THIS MORNING, THE SUB-COMMITTEE REVIEWED THE QUARTERLY FINANCIALS AND THE RFP CATEGORIES AND FUNDING FOR FY 2023. RESOLUTION 2021 - 04 TO AMEND THE 2021 BUDGET AS WELL AS RESOLUTION 2021 – 05 TO AMEND THE FY 2022 BUDGET. RFP RESULTS FROM THE AUDITOR SELECTION COMMITTEE WERE DISCUSSED AND WE WILL DISCUSS THOSE RESULTS LATER IN THIS MEETING.

**Requested Action**: Accept Committee Report.

MOTION MADE BY TOM CAMPENNI, SECONDED BY KEVIN SHROPSHIRE TO ACCEPT THE FINANCE SUB-COMMITTEE REPORT. MOTION PASSED UNANIMOUSLY.

Agenda Item 6. Presentations

a. *The Aquarium Project* (Keith Winsten, Director, Brevard Zoo)

KEITH WINSTEN, EXECUTIVE DIRECTOR, BREVARD ZOO, PRESENTED THE AQUARIUM PROJECT. THE OPPORTUNITY HAS COME ALONG TO BUILD A MAJOR AQUARIUM OFF OF 1-95 IN PORT CANAVERAL ON 14-ACRES OF LAND. DUE TO THE PROXIMITY TO THE SPACE CENTER, THERE IS ALSO AN OPPORTUNITY TO DISCUSS TECHNOLOGY AND OCEANS IN A VERY UNIQUE WAY. WE ALSO MUST ACTIVELY MANAGE THE INDIAN RIVER LAGOON AND THE AQUARIUM WOULD FIT THIS NEED. THE PROPERTY FOR THE AQUARIUM IS SOUTH OF 528 AND WOULD BE LEASING 14-ACERS OF PROPERTY, IF NOT MORE. THE SITE IS RIGHT OFF OF THE HIGHWAY AND IT IS ON THE BANANA RIVER, WHICH MAKES THIS A DREAM LOCATION. THERE WILL BE A CONSERVATION HUB WHICH WOULD BE A SHARED FACILITY THAT HOUSES CONVERSATION STAFF AND POSSIBLE NEP OR ALIKE MEETINGS. IT WILL TRACK THREE WATERWAYS: BEACH, INDIAN RIVER LAGOON, AND ST. JOHNS RIVER. THEY ESTIMATE OVER HALF A MILLION PEOPLE A YEAR WILL COME THROUGH AND HAVE PLEDGED $1.00 PER PAID ADMISSION TO THE NEP AS A GRANTOR. THEY WANT THIS TO MAKE AN IMPACT FOR THE ENTIRETY OF THE LAGOON. ABOUT 900 JOBS WILL BE CREATED WITH THE NEW PROJECT AND WILL ALSO ATTRACT TOURISM DOLLARS. THE CURRENT ESTIMATE FOR THIS PROJECT IS ABOUT 85 MILLION DOLLARS WITH ALREADY A 30% COMMITMENT WITHOUT BEGINNING A CAMPAIGN.
b. Status Update on Manatees (Dr. Martine deWit, FWC)

DR. MARTINE DEWIT OF FWC PRESENTED A STATUS UPDATE ON MANATEES. THIS PAST WINTER (2021), BACK IN DECEMBER HAD A SUDDEN START TO THE WINTER AND THERE WAS AN UPTICK OF MANATEE CARCASSES AND MANATEES THAT NEEDED RESCUE. THIS WAS NOT UNEXPECTED AS MANY MANATEES WERE JUST BEGINNING, OR HAVE YET TO BEGIN, THEIR MIGRATION. SINCE THE FWC WAS STILL OPERATING UNDER COVID-19 RESTRICTIONS, THEY COULD NOT ACCURATELY ASSESS THE CAUSE OF DEATH WITH NECROPSY. IN ADDITION, LIVE MANATEES NEEDED RESCUING AND LIVE ANIMALS ARE THE PRIORITY. SLOWLY, FWC WAS ABLE TO INVESTIGATE THE NECROPSIES, THE FWC FOUND THERE WAS SOMETHING ELSE HAPPENING BEYOND THE COLD. MANATEES EXAMINED WERE VERY THIN WITHOUT A CASE OF AN UNDERLYING DISEASE. THEIR BODIES WERE DEPLETED SO THIS BEGAN TO LOOK LIKE PRIMARY STARVATION. EVEN WHEN THE WATER BEGAN TO WARM, AND THE MANATEES WERE ABLE TO LEAVE THEIR WARM-WATER SITES WHERE THERE WAS NO VEGETATION, EVEN THEN IT WAS TOO LATE AND THEY WERE TOO DEPLETED TO SURVIVE. THE LACK OF FORAGE IS NOT THE BIGGEST ISSUE RIGHT NOW. WE ARE BACK TO 'NORMAL' CAUSES OF DEATH, BUT STILL FINDING MALNOURISHED MANATEES.

Agenda Item 7. Old Business

a. Update on GeoCollaborate FDEP Innovation Grant progress. (Daniel Kolodny)

DANIEL KOLODNY REVIEWED THE FDEP INNOVATION GRANT GEOCOLLABORATE PROJECT, UNDERTAKEN IN PARTNERSHIP WITH STORM CENTER COMMUNICATIONS, AND ST. JOHNS RIVER WATER MANAGEMENT DISTRICT. TASK ONE OF FOUR HAS BEEN NEARLY COMPLETED. THIS INVOLVED, SETTING UP THE RESOURCES TO PROCESS THE DATA. OUR GIS ADMINISTRATOR, KIRSTEN AYRES, HAS COLLECTED THE DATA FROM ST. JOHNS RIVER WATER MANAGEMENT DISTRICT AND SOUTH FLORIDA WATER MANAGEMENT DISTRICT AND HAS PROCESSED IT INTO A GEOCOLLABORATE FORMAT. THE TESTING PHASE FOR THE FIRST INSTANCE SHOULD KICK OFF THE WEEK OF AUGUST 16TH, 2021 AND WE SHOULD HAVE A BETTER UNDERSTANDING BY THE NOVEMBER MEETINGS.

Requested Action: Information only – no action requested.

b. FY 2021 RFP categories and financial allocations for FY 2023 budget. (Daniel Kolodny)

DANIEL KOLODY REVIEWED THE RFP CATEGORIES. THE IRL COUNCIL WOULD LIKE TO ADD $100,000.00 TO WATER QUALITY AND ADD AN EDUCATION AND OUTREACH RFP. THE FOUR ORIGINAL RFPs: HABITAT RESTORATION, COMMUNITY-BASED RESTORATION, SCIENCE AND INNOVATION, SMALL GRANTS WILL REMAIN THE SAME.
**Requested Action:** Recommend that the IRL Council Board of Directors approve financial allocations for FY 2023 RFPs and authorize staff to develop and release competitive Requests for Proposals by November 2021.

MOTION MADE BY TOM CAMPENNI, SECONDED BY JAMES GRAY TO RECOMMEND THE IRL COUNCIL BOARD OF DIRECTORS APPROVE FINANCIAL ALLOCATIONS FOR FY 2023 RFPS AND AUTHORIZE STAFF TO DEVELOP AND RELEASE COMPETITIVE RFPS BY NOVEMBER 2021. MOTION PASSED UNANIMOUSLY.

**Agenda Item 8. New Business**

a. FY 2021 Final Budget Amendment. (Daniel Kolodny)

DANIEL KOLODY EXPLAINED HOW THIS AMENDMENT IS A RECONCILIATION FROM OUR FINANCIAL STATEMENTS FOR THE END OF FY 2020. OUR GENERAL FUND BALANCE WAS BROUGHT FORWARD AND RECONCILED TO THE PROJECTS THAT ARE CARRYING OVER FROM PRIOR FISCAL YEARS.

**Requested Actions:** Recommend that the IRL Council Board of Directors adopt Resolution 2021 – 04, amending the FY 2021 budget, pursuant to Florida Statutes.

MOTION MADE BY ANTHONY CATANESE, SECONDED BY LAURILEE THOMPSON TO RECOMMEND TO THE IRL COUNCIL OF DIRECTORS ADOPT RESOLUTION 2021 - 04, AMENDING THE FY 2021 BUDGET, PURSUANT TO FLORIDA STATUTES. MOTION PASSED AND CARRIED UNANIMOUSLY.

b. FY 2022 Budget Amendment (Daniel Kolodny)

DANIEL KOLODY REVIEWED THIS RESOLUTION AND EXPLAINED HOW IT BRINGS FORWARD UNALLOCATED FUNDS TO THE CURRENT FISCAL YEAR. ONCE EVERYTHING IS COMPLETED, THE FUND BALANCE WILL ROLL INTO THE 2023 RFPS. THERE IS A NOTE THAT $242,000.00 OF THE $550,000.00 IS RESTRICTED LICENSE PLATE FUNDS.

**Requested Action:** Recommend that the IRL Council Board of Directors adopt Resolution 2021 – 05, amending the FY 2022 budget, pursuant to Florida Statutes.

MOTION MADE BY TOM CAREY, SECONDED BY VINCE LAMB TO RECOMMEND TO THE IRL COUNCIL OF DIRECTORS ADOPT RESOLUTION 2021 - 05, AMENDING THE FY 2022 BUDGET, PURSUANT TO FLORIDA STATUTES. MOTION PASSED AND CARRIED UNANIMOUSLY.

c. Independent Auditor Services Contract (Daniel Kolodny)

THERE WERE TWO RESPONDENTS TO THE RFP FOR AUDIT SERVICES: JAMES MOORE AND CARR, RIGGS & INGRAM. OUR AUDITOR SELECTION COMMITTEE
RANKED AND SCORED BOTH AUDITORS AND CARR, RIGGS & INGRAM WON BY ONE POINT.

**Requested Action:** Information only – no action requested.

d. EPA Grant Closeout (FY 2015 -2020) (Daniel Kolodny)

Update on close-out of the EPA grant award #CE-00D36215 for FY 2015 – 2020.


**Requested Action:** Information only – no action requested.

**Agenda Item 9. IRLNEP Staff Reports**

a. Project Update (Daniel Kolodny)

DANIEL KOLODNY REVIEWED THE PROJECTS IN PROGRESS AND FEATURED SEVERAL PROJECTS THAT HAD CLOSED IN THE PREVIOUS QUARTER.

b. Communication Report (Kathy Hill)

KATHY HILL REVIEWED THE PERFORMANCE OF THE PROGRAM’S SOCIAL MEDIA AND HIGHLIGHTED A NEW SET OF ADS THAT WERE PILOT TESTED AS PAID, 15-SECONDS ADS FOR YOUTUBE. WE ARE HAPPY TO SEND THESE MP4 FILES TO ANY PARTNER ORGANIZATION FOR SHARING ON WEBSITES AND GOVERNMENT TELEVISION. THE PROGRAM HAS ALSO DESIGNED A NEW IRL LAGOON LICENSE PLATE WHICH WILL BE VETTED THROUGH THE MANAGEMENT CONFERENCE PRIOR TO FINAL APPROVAL.

c. Executive Director Report (Kathy Hill for Duane De Freese)

KATHY HILL PRESENTED ON BEHALF OF DR. DUANE DE FRESEE. DUANE IS DOING WELL AND WORKING AS MUCH AS HE IS ABLE. FEDERALLY, THERE IS MONEY IN THE INFRASTRUCTURE BILL THAT WOULD BRING ABOUT 1 MILLION DOLLARS PER NEP FOR FIVE YEARS, ABOVE AND BEYOND OUR REGULAR ALLOCATION FOR WATER QUALITY.

**Agenda Item 10. General Public Comments**

KATHY LAMARTINA NOTED THAT SFWMD IS RE-ISSUING AN RFP FOR PROJECT FUNDING THROUGH THE IRL LICENSE PLATE. THIS HAD BEEN ISSUED IN JULY 2021, BUT NO COMPLETE APPLICATIONS WERE RECEIVED. SHE WILL BE
RELEASING IT AGAIN IN THE NEXT WEEK OR TWO FOR MARTIN, PALM BEACH, AND ST. LUCIE COUNTIES. THE DUE DATE WILL BE 30 DAYS FROM WHEN IT COMES OUT.

KEVIN SHROPSHIRE SITS ON THE BOARD OF A GROUP NAMED FLORIDA WATER POLLUTION CONTROL OPERATORS ASSOCIATION (FWPCOA), WHICH CONSISTS OF 5,000 MEMBERS OF WATER, WASTEWATER, STORMWATER, INDUSTRIAL PRE-TREATMENT, AND UTILITY CUSTOMER RELATIONS PROFESSIONALS STATEWIDE. IT IS PROCLAIMED THAT AUGUST IS WATER PROFESSIONALS MONTH.

HANNAH HART FROM FWC ANNOUNCED THE FWC’S REDFISH SUMMIT IN OCALA ON AUGUST 24TH. ALTHOUGH THE MEETING WILL HAVE A FISHERIES FOCUS, THERE WILL BE PRESENTATIONS THAT TALK ABOUT STATE-WIDE WATER QUALITY AND HABITAT ISSUES.

LAURILEE THOMPSON MENTIONED THE IMPORTANCE OF SANDY BEACHES FOR LAGOON AND SEAGRASS RESTORATION. THERE IS CONCERN ABOUT RESTORATION AROUND THE SEA WALLS AND ROCK EMBEDMENTS. THE SANDY BEACHES THAT ONCE ALIGNED THE SHORE. IT IS NOW CONCREATE AND WE HAVE A LOSS OF SHORELINE HABITAT.

VOLUSIA COUNTY HAS AN INTERNATIONAL COASTAL CLEAN-UP WHICH WILL CONSIST OF A BEACH AND RIVER CLEAN-UP ON SEPTEMBER 18TH, 2021.

**Agenda Item 11. Adjourn**

MEETING ADJOURNED AT 12:17 P.M.

NEXT MANAGEMENT BOARD MEETING: NOVEMBER 16, 2021 AT 10:15 A.M.
RESOLUTION NO. 2021-06
A RESOLUTION OF THE BOARD OF DIRECTORS OF THE IRL COUNCIL AMENDING THE FINAL BUDGET FOR THE 2021 FISCAL YEAR

WHEREAS, the IRL Council was created via Interlocal Agreement to carry out the goals of the Indian River Lagoon National Estuary Program; and

WHEREAS, the IRL Council amended a Budget for Fiscal Year 2021 on November 6, 2020, February 12, 2021, and August 13, 2021; and

WHEREAS, the IRL Council finds it necessary and essential to amend the Budget for the 2021 Fiscal Year as set forth in this Resolution; and

WHEREAS, adoption of the 2021 Fiscal Year budget amendments set forth in this Resolution serves a valid public purpose.

NOW, THEREFORE, BE IT RESOLVED BY THE BOARD OF DIRECTORS OF THE IRL COUNCIL, THAT:

Section 1. The above recitals are ratified and incorporated into this resolution

Section 2. The funds and available resources and revenues that are set out in Exhibit “A” and incorporated herein by reference, are appropriated to provide the monies to be used to pay the necessary operating and other expenses of the IRL Council.

Section 3. Except as amended in Exhibit “A” the remainder of the Budget for the 2021 Fiscal Year remains in full force and effect

Section 4. This Resolution shall become effective immediately upon passage.
DONE at__________________________, Florida, this____day of__________,2021.

ATTEST:

______________________________________  By: ________________________________

Chris Dzadovsky                     Stacey Hetherington
Secretary, IRL Council               Chair, IRL Council

Approved as to legal form and sufficiency:

____________________
Glen Torcivia
IRL Council, Legal Counsel
### REVENUES

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<td><strong>TOTAL REVENUES</strong></td>
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### EXPENDITURES

Other Expenditures: $3,412,670
- IRL Council FY2021 Strategic Program, IRLNEP FY2021 EPA Work Plan,
- DEP Innovation Grant, Prior FYs Strategic Program, Prior FYs EPA
- Work Plan, Unplanned Contingency Reserve

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Fund Balance – End of Year: $550,888
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FY 2021 Budget Amendment Detail (Narrative)

(1) Decrease “External Grant” REVENUE by $612,698 from $963,470 to $350,772. This decrease represents the amount expended and due as reimbursement. The remaining amount will be moved forward into FY2022.

(2) Decrease “TOTAL REVENUES” by $612,698 from $3,250,970 to $2,638,272. This decrease is directly due to the external grant reduction in item 1 above.

(3) Decrease “OTHER EXPENDITURES” $645,198 from $4,057,868 to $3,412,670. This decrease represents:
   a.) The remaining external grant expenditures not completed and will be moved to FY 2022 ($612,698); and
   b.) A reduction of Unplanned Contingency Reserve of $32,500 to cover unexpected Salaries and benefits costs.

(4) Increase “SALARIES & BENEFITS” by $32,500 from $420,498 to $452,998. This increase is due to the increase in the overall fringe rate that went into effect on July 1, 2021 (FRS), and from reconciling PTO benefits to the former Administrative Coordinator who resigned on May 28, 2021 and the Special Project Coordinator who resigned on October 23, 2020.

(5) Decrease “TOTAL EXPENDITURES” $612,698 from $4,719,566 to $4,106,868 This decrease represents the decrease in external grant expenditures not yet completed.
RESOLUTION NO. 2021-07

A RESOLUTION OF THE BOARD OF DIRECTORS OF THE IRL COUNCIL AMENDING THE FINAL BUDGET FOR THE 2022 FISCAL YEAR

WHEREAS, the IRL Council was created via Interlocal Agreement to carry out the goals of the Indian River Lagoon National Estuary Program; and

WHEREAS, the IRL Council amended a Budget for Fiscal Year 2022 on August 13, 2021; and

WHEREAS, the IRL Council finds it necessary and essential to amend the Budget for the 2022 Fiscal Year as set forth in this Resolution; and

WHEREAS, adoption of the 2022 Fiscal Year budget amendments set forth in this Resolution serves a valid public purpose.

NOW, THEREFORE, BE IT RESOLVED BY THE BOARD OF DIRECTORS OF THE IRL COUNCIL, THAT:

Section 1. The above recitals are ratified and incorporated into this resolution

Section 2. The funds and available resources and revenues that are set out in Exhibit “A” and incorporated herein by reference, are appropriated to provide the monies to be used to pay the necessary operating and other expenses of the IRL Council.

Section 3. Except as amended in Exhibit “A” the remainder of the Budget for the 2022 Fiscal Year remains in full force and effect

Section 4. This Resolution shall become effective immediately upon passage.
DONE at____________________, Florida, this____day of_____________________.2021.

By: ____________________________
Stacey Hetherington, Chair

ATTEST:

________________________
Chris Dzadovsky, Secretary

Approved as to legal form and sufficiency:

________________________
Glen J. Torcivia
IRL Council, Legal Counsel
# IRL Council
## FY 2022 Amended Budget
### Exhibit A

### REVENUES

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### EXPENDITURES

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<td>- Postage, Office Supplies, Insurance, Printing, Travel, Licenses &amp; Subscriptions, Dues, Professional Development</td>
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<td>Fund Balance - Beginning of Year</td>
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<td>Approved August 13, 2021</td>
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<tr>
<td>Salaries &amp; Benefits</td>
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<td>Facilities Expenses</td>
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<td><strong>TOTAL EXPENDITURES</strong></td>
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<td>$ 550,888</td>
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<td>Fund Balance – End of Year</td>
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**RESOLUTION 2021-07**
FY 2022 Amended Budget
Page 4 of 5
FY 2022 Budget Amendment Detail (Narrative)

(1) Add “External Grant” to REVENUES and increase from $0 to $612,698. This is the amount not yet received the end of FY 2021 for the DEP Innovation Grant.

(2) Increase “TOTAL REVENUES” by $612,698 from $2,245,020 to $2,857,718. This increase reflects the additional revenue from the external grant listed in 1 above.

(3) Increase “OTHER EXPENDITURES” by $612,698 from $2,245,020 to $2,857,718. This increase reflects the addition of the expenses not made on the DEP external grant at the end of FY 2021.

(4) Increase “TOTAL EXPENDITURES” by $612,698 from $2,875,888 to $3,488,586. This increase reflects the increase in OTHER EXPENDITURES listed in 3 above.
Indian River Lagoon National Estuary Program (IRLNEP)
Hosted by the IRL Council, an Independent Special District of the State of Florida

About the Indian River Lagoon National Estuary Program (IRLNEP):
The IRLNEP is a non-regulatory, community-based program established to protect and restore the Indian River Lagoon. There are twenty-eight National Estuary Programs established within the U.S. EPA under the Clean Water Act. The IRLNEP is sponsored locally by the IRL Council, an independent special district of Florida, which includes representatives of the five counties bordering the Lagoon (Volusia, Brevard, Indian River, St. Lucie and Martin), the St. Johns River Water Management District, South Florida Water Management District, and the Florida Department of Environmental Protection. The U.S. EPA serves as an advisory member of the IRL Council and provides guidance, financial and technical assistance to the Program. More information is available at onelagoon.org.
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BACKGROUND

About the National Estuary Program
The U.S. Environmental Protection Agency (EPA) established the National Estuary Program (NEP) as a core water program authorized by Section 320 of the Clean Water Act. The mission of the NEP is to protect and restore the water quality and ecological integrity of the 28 estuaries (Figure 1) designated by the U.S. Congress as “Estuaries of National Significance.” Each NEP is governed by a Management Conference composed of diverse stakeholders. The Management Conference is largely responsible for developing a 10-year Comprehensive Conservation and Management Plan (CCMP) to guide estuary science, restoration and stewardship. The management conference ensures the CCMP is uniquely tailored to local environmental conditions, is based on local input, and is focused on local priorities.

The IRLNEP was established in 1990 and joined the NEP in 1991 with the St. Johns River Water Management District (SJRWMD) designated as its host agency. In 2014, the partner agencies within the IRLNEP, with strong leadership from the IRL counties, collectively decided that declining environmental conditions in the IRL required a new business approach. It was clear that local community leadership and additional investment were needed to better align with state and federal efforts to restore the IRL. The IRLNEP was reorganized with goals of improving local community leadership, expanding citizen engagement, expanding funding from multiple sources for restoration efforts, and enhancing strategic partnerships through connected leadership and shared fiscal responsibilities.

The IRL Council was created in 2015 as an independent special district of Florida. It was designated by the U.S. EPA as the host agency for the IRLNEP in January 2016. Each member organization contributes funding, leadership and technical guidance to the program. The EPA serves in an advisory, non-voting capacity.

Working together, this IRLNEP Management Conference (Figure 2) is applying the best science and leading-edge technologies to focus on restoring the Lagoon through efficient nutrient reduction projects, habitat
restoration projects, public engagement programs, development of innovative technologies and scientific research and monitoring to improve understanding of the system.

The IRL Council Board of Directors serves as the IRLNEP Policy Board. It includes members representing the Florida Department of Environmental Protection (FDEP), two water management districts, SJRWMD and South Florida Water Management District (SFWMD), and one elected official from each of the five lagoon counties (Volusia, Brevard, Indian River, St. Lucie and Martin). With reorganization of the Program, the IRL Council Board of Directors brought local communities into the policy leadership structure of the IRLNEP by appointing a diverse group of over 100 scientists, resource managers, community leaders and citizens to serve as advisors and subject-matter experts in the Management Conference. Management Board members represent federal, state, county and local agencies, non-profit organizations, and businesses. STEM (Science, Technology, Engineering and Modeling) Advisory Committee members represent the 22 research and academic institutions in the region; and members of the Citizens’ Advisory Committee (CAC) provide the link between the Program and regional community groups, non-profits, and individuals.

The connected leadership structure of the IRLNEP provides a collaborative governance model where local stakeholders share responsibility for the Lagoon and implement actions to address problems facing one of Florida’s most threatened ecosystems. Since its reorganization, the IRLNEP has become the leading organization connecting local, state, federal and community partners with a common goal to restore the IRL. In 2020, the IRLNEP celebrated its 30th anniversary.

The IRLNEP utilizes three “action pillars” as the foundation for its success. These are reflected in the CCMP as responsibilities of the IRLNEP to its partners, stakeholders and citizens throughout the watershed.
• COORDINATE the development of a CCMP and implement the actions outlined in the plan to restore water quality and habitats, and advance community support for, and stewardship of, the IRL.

• COLLABORATE among stakeholders and partners to promote engagement, investment, effective outcomes and efficiency in management of the IRL and its resources.

• COMMUNICATE knowledge, estuary health status and restoration progress to partners and communities.

Communications Challenges

Effective communication is an essential, but often underfunded activity of NEPs. This IRLNEP Communication Plan for FY 2021-2024, provides broad guidance for the delivery of both internal and external communications and will guide staff activities in developing information, identifying target audiences, and choosing appropriate communications channels. The overarching goal is to better inform internal and external audiences, as well as the wider community of stakeholders about the IRL and its condition. The communications focus will be on generating support for Lagoon restoration, fostering stewardship for the Lagoon, and communicating the One Lagoon – One Community – One Voice mission.

The size of the Lagoon watershed, varying degrees of awareness about the IRL and its health issues, the socio-economic diversity of the region, and a small staff tasked with a variety of duties provide both challenges and opportunities for developing and improving effective regional communications among internal and external stakeholders.

Watershed Size: The IRLNEP watershed is approximately 2,640 square miles in size, spanning 156 miles from north to south. It includes 3 waterbodies: Mosquito Lagoon, Banana River and Indian River. The issues plaguing the Lagoon vary both spatially and temporally. It can be difficult for new residents, tourists and seasonal visitors, and even longtime residents to understand “the Lagoon” as a single, interconnected system. Current conditions along the lagoon can vary from place to place and change quickly. When people ask, “how is the Lagoon doing”, accurate responses can be complicated because Lagoon health concerns are not uniform.

Regional Diversity and Public Awareness: The narrow linear geography of the Lagoon connects 7 counties, 1.6 million residents and approximately 50 incorporated and unincorporated cities and towns. Although the Lagoon is the thread that connects each of these, local histories, economies and cultures differ enough throughout the region that various aspects of the Lagoon system may mean different things to different people. One person’s stormwater canal is likely to be another person’s fishing spot, or yet another person's secret dumping ground. Compounding the awareness challenge is the continuing influx of new residents into the region. There is a need for all organizations working toward IRL restoration and stewardship to provide a solid baseline of accurate information to both new Floridians and long-time residents to prevent inadvertent damage to the IRL.

Staffing Issues: Since 2016, the IRLNEP has operated with a staff of three full-time employees. In October of 2019, an additional staff member was added. While this staff expansion helped to reduce the workload on individual staff members, it is difficult to contemplate expansion of communication efforts and development of new engagement programs given the current demands on staff time. The challenge lies in developing communications and workable programs that address Program and partner needs effectively while not overburdening staff or diluting their effectiveness at other essential tasks. A workforce analysis is currently being developed for presentation to the Board of Directors for future consideration and action toward staff expansion.
SITUATION ANALYSIS

Current Communications

Inventory of communications collaterals:

<table>
<thead>
<tr>
<th><strong>Annual IRL Calendar</strong>: The annual IRL Calendar continues to be the Program's most successful and sought-after publication. This level of success is associated with an annual photo contest that features 30 photos taken by citizens within the IRL watershed. Messaging focuses on Lagoon-Friendly practices, ecological attributes and species-specific information. Twenty-five thousand copies are printed each year and distributed through county libraries, government offices and regional non-profits.</th>
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<tr>
<td><img src="image1.jpg" alt="Annual IRL Calendar" /></td>
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</table>

<table>
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<tr>
<th><strong>IRLNEP Annual Report</strong>: The annual report is the Program’s annual financial and progress report. It also functions to deliver annual information about the status of the Lagoon. It highlights all IRLNEP projects funded and conducted over the past fiscal year. Also included are partner projects, an overview of IRL health and water quality and financial information with project categories, revenues and expenditures. Two thousand copies are printed and distributed to Management Conference partners, the public, state and federal legislators, county and city governments, and non-governmental partners. The document is available on the Program website <a href="http://www.onelagoon.org">www.onelagoon.org</a>.</th>
</tr>
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<tr>
<td><img src="image2.jpg" alt="IRLNEP Annual Report" /></td>
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</table>

<table>
<thead>
<tr>
<th><strong>Annual IRLNEP Business Implementation Plan</strong>: The business plan summarizes priorities and all projects funded in the current fiscal year. It includes the annual budget; expenditure summaries by revenue source and funding category; synopses of cost-share projects and EPA-funded projects. It is made available to Management Conference members and is available on the Program website <a href="http://www.onelagoon.org">www.onelagoon.org</a>.</th>
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<tbody>
<tr>
<td><img src="image3.jpg" alt="Annual IRLNEP Business Implementation Plan" /></td>
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</table>

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<thead>
<tr>
<th><strong>IRLNEP Annual EPA Work Plan</strong>: The EPA Work Plan is required each year as a grant request to receive Section 320 funding. The Work Plan outlines all work to be performed using U.S. EPA funding, status of projects, work done by partners and other elements. The work plan is made available as an internal communication to Management Conference members and is available to external audiences via the Program website <a href="http://www.onelagoon.org">www.onelagoon.org</a>.</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image4.jpg" alt="IRLNEP Annual EPA Work Plan" /></td>
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</table>
Legal and Programmatic Documents: To remain compliant with Florida Sunshine Laws, public records laws and requirements for special districts, the Program makes budgets, procurement policies, and operating policies available, along with Special District Required Reporting links to additional information via the Program website www.onelagoon.org.

Public Presentations, Articles, Events, etc.: IRL Council staff deliver over 100 public presentations to community groups each year on a variety of topics focused on CCMP implementation, program goals, progress, and other topics. Staff also produce articles for newspapers and newsletters, participate in video productions, live video streaming, and public events geared towards raising awareness about the IRL and its challenges. In 2020, the IRLNEP adopted a highly successful regional high school competition, IRL Envirothon, as an official program of the IRLNEP.

Media Platforms

Website: 
The IRLNEP’s first standalone website, www.irlcouncil.com, was developed in April 2016. This site provides basic information about the IRLNEP and IRL Council, its host agency and an independent special district of Florida. Much of the site was built around meetings of the Management Conference and providing public records. The www.irlcouncil.com website was discontinued on June 1, 2020. All information from the original website was archived and stored for public records compliance. Users are now redirected to www.onelagoon.org as the primary website for the Program.

The www.onelagoon.org was developed in alignment with rebranding of the IRLNEP in 2017 and focuses on the IRLNEP mission: One Lagoon – One Community – One Voice. It is organized around three mission areas:

- The One Lagoon section of the website provides an overview of lagoon ecology, outlines the major issues affecting lagoon health and provides an overview of lagoon monitoring (with links to continuous monitoring sites) and lagoon history.
- The One Community section focuses on the National Estuary Program, the IRLNEP, its Management Conference, annual funding and projects being undertaken.
- The One Voice section currently highlights two special projects, IRL Envirothon, an outdoor environmental competition for high schoolers, and the IRLNEP Innovators and Investors Network, which is intended to engage business and industry leaders in lagoon restoration. As new community information, education and engagement projects are rolled out, they are added to this section of the site.

Social Media: 
The IRLNEP currently utilizes Facebook, Instagram and Twitter as its primary social media platforms and coordinates postings via a Hoot Suite dashboard. Since 2016, staff relied primarily on Facebook for social
media posting. Time constraints on staff made it difficult to focus attention on building a social media following and developing communications appropriate for social media audiences. With the assistance of consultants from IDEAS, the IRLNEP has crafted and is implementing a comprehensive social media strategy. The strategy establishes a unified plan for use of social media designed to increase engagement among a variety of audiences, separate messaging depending on the platform used, allow for consistency with messaging and voice, and provide the program with a written social media policy.

**Facebook:**
Facebook will be utilized as the Program’s primary information platform. Its strategic objectives are to tell the IRLNEP story; communicate information about the IRL; promote events; share Lagoon-Friendly information and partner news, events, and successes; and disseminate important community information.

**Instagram:**
Instagram will be utilized as a virtual artbook. Its strategic objectives are to encourage users to visit the IRL for recreation or relaxation; to endear the IRL to the community; and to inspire appreciation for nature. The IRLNEP has a vast library of photographs contributed by amateur and professional photographers as part of the annual IRL Photo Contest, held since 2004. This library will be curated on Instagram, accompanied by compelling messaging, to evoke a sense of place, the peace of nature, and the wonder of the natural environment.

**Twitter:**
With demographics that tend toward younger audiences, Twitter will be utilized as a social engagement tool to build brand awareness. Its strategic objectives are to create interactive brand touchpoints, start a dialogue with the IRL community, and engage audiences in Lagoon-Friendly lifestyle practices.

**Constant Contact:**
The Program has maintained an email marketing provider, Constant Contact, since 2016 to assist with disseminating program news and information. There are over 1,600 contacts who have requested to receive information via this platform. The benefits of Constant Contact include being able to personalize email messages, parse which information is distributed to which audiences, and track the metrics of all messages (number of opens, number of click throughs to the Program website, etc.) to assess the marketing success of messages. One challenge is that many email services (particularly universities and government agencies) may direct Constant Contact emails to Junk Mail folders without messages ever reaching the intended recipient.

**Survey Monkey:**
Survey Monkey has been used by IRLNEP staff since 2018. It is intended for use to issue an annual or semi-annual survey developed by Dr. Martha Monroe and her associates at University of Florida to gauge public opinion about the IRL and its issues. It has been used in limited ways for other survey-oriented tasks but has the potential to be more widely utilized in social media to engage audiences on a variety of topics. The Program intends to continue using Survey Monkey and will also promote its availability to program partners who may be interested in making use of its capabilities.

**Key Messages**
Current IRLNEP messaging is built around several key messages that position the program within the context of the NEP, the State of Florida, and the region. These overarching messages are used, with varying
degrees of emphasis, in nearly all presentation and print materials, on the website and in social media as appropriate.

- National Estuary Programs (NEPs) are non-regulatory and consensus-building partnerships among federal, state and county governments, research institutions, business leaders, community groups, and individual stakeholders. With funding and support from the U.S. Environmental Protection Agency (EPA), NEPs are effective, efficient, and cost-effective, concentrating on providing collaborative solutions to environmental problems using local expertise.

- National Estuary Programs are excellent examples of cooperative federalism, where the U.S. Environmental Protection Agency provides funding, technical support and guidance to NEPs, empowering them through the Clean Water Act to work toward solving environmental issues in their watersheds by working closely with local and regional stakeholders.

- The IRLNEP is the only lagoonwide restoration and stewardship organization federally authorized under the Clean Water Act and the only regional program that includes federal, state, county, city, private and independent sector partners that work collaboratively under a unique Management Conference structure to implement restoration and protection efforts for the IRL.

- The Indian River Lagoon is a driver of the regional economy. A 2016 study found the annual economic value of the Lagoon to be $7.6 billion with $1.2 billion in Lagoon recreational activities. IRL health impacts all economic sectors, with direct impacts on tourism, property values, and the ability of companies to attract and retain a high-talent workforce. (Source: 2016. Indian River Lagoon Economic Valuation Update. East Central Florida Regional Planning Council and Treasure Coast Regional Planning Council; 2016, Save Our Lagoon Project Plan for Brevard County; Tetra Tech, Inc. for Brevard County Natural Resources Management Department).

- Lagoon restoration is a smart investment. A 2016 study found that for every $1 invested in Lagoon restoration, $33 is returned to the regional economy. A similar study conducted by Brevard County found a $20 return for each $1 invested. That study also found that should the Lagoon be restored, an additional $2 billion in benefits would be realized. However, in the absence of restoration, the economy would lose approximately $4.3 billion. (Source: 2016, Indian River Lagoon Economic Valuation Update. East Central Florida Regional Planning Council and Treasure Coast Regional Planning Council; 2016, Save Our Lagoon Project Plan for Brevard County; Tetra Tech, Inc. for Brevard County Natural Resources Management Department).

- While many of the actions required to return the Lagoon to health are the responsibility of governments and agencies (reductions in wastewater and stormwater discharges, septic removal, growth management, etc.), individuals play an important role in source control of many pollutants (fertilizer use and misuse, illicit discharges, non-point sources, etc.). When individuals take personal responsibility for the Lagoon and learn to live in Lagoon-Friendly ways, water quality in the Lagoon can be restored, habitats can be enhanced, and biodiversity can be protected.

- Standard Information about the IRL Council and IRLNEP: The following standard descriptor of the IRL Council and IRLNEP is attached to news announcements, publications and articles:

  **About the Indian River Lagoon National Estuary Program (IRLNEP):**
  The IRLNEP is a non-regulatory, community-based program established to protect and restore the Indian River Lagoon. There are twenty-eight National Estuary Programs within the U.S. EPA as
authorized under the Clean Water Act. The IRLNEP is sponsored locally by the IRL Council, an independent special district of Florida, which includes representatives of the five counties bordering the Lagoon (Volusia, Brevard, Indian River, St. Lucie and Martin), the St. Johns River Water Management District, South Florida Water Management District, and the Florida Department of Environmental Protection. The U.S. EPA serves as an advisory member of the IRL Council and provides guidance, financial and technical assistance to the Program. More information is available at www.onelagoon.org.

SWOT Analysis
To guide the direction of this Communication Plan, the IRLNEP staff conducted an internal strengths, weaknesses, opportunities and threats (SWOT) analysis with a focus on how it communicates with stakeholders, both internal and external. A SWOT analysis is a commonly used strategic planning tool that consists of a matrix organized into internal and external considerations. Internal considerations are arranged into strengths — those resources and capabilities advantageous to IRLNEP outreach and engagement efforts; and weaknesses — those elements that the IRLNEP has control over, but which it may not perform optimally. External factors were similarly organized into opportunities — areas of unfilled need where new approaches or new technologies could be utilized to fill programmatic gaps; and threats — those factors not under IRLNEP control that nevertheless could impede the program from achieving its goals. The ultimate objective of utilizing a SWOT analysis is for the program to be able to capitalize on each strength; correct each weakness; exploit each opportunity; and defend against, or where possible, eliminate each threat.

### Key Findings from SWOT Analysis of IRLNEP Communications

<table>
<thead>
<tr>
<th>Strengths</th>
<th>Weaknesses</th>
<th>Opportunities</th>
<th>Threats</th>
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</thead>
<tbody>
<tr>
<td>Experienced, professional, and dedicated staff with clear vision for Program goals.</td>
<td>Small staff and large workloads limit capacity to develop and deliver robust programs to community stakeholders.</td>
<td>Improve consistency and quality of content provided through communication pathways about current conditions in the IRL.</td>
<td>Lack of stable, recurring funding impedes long-term program planning and implementation. Current funding is insufficient to meet future program needs.</td>
</tr>
<tr>
<td>Leadership in policy, engagement and restoration; transparent fiscal management.</td>
<td>Though improving, communications collaterals remain insufficient to meet Program and partner communication needs.</td>
<td>Expand volunteer opportunities in IRLNEP and partner programs throughout the watershed.</td>
<td>General reluctance to fund behavior change and awareness campaigns.</td>
</tr>
<tr>
<td>Strong relationships with stakeholders; positive standing in the community.</td>
<td>Active engagement with and among members of the Management Conference at appropriate levels remains an ongoing challenge.</td>
<td>Involve partners in message development and communication to regionalize IRL-focused messaging.</td>
<td>Budget uncertainties related to one-time appropriations and unforeseen events, (such as COVID 19 pandemic) are ongoing.</td>
</tr>
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IRLNEP COMMUNICATIONS

Identifying Target Audiences
The IRLNEP has identified a number of target audiences among regional stakeholders. These include both internal and external audiences. Internal stakeholders are the members of the Management Conference's five standing boards and committees, funding partners and grant recipients. External stakeholders include policymakers who are not part of the Management Conference, community and business leaders and influencers, and members of the public. However, for communication efforts to be successful, “the public” as a broad and diverse audience needs to be parsed into targeted groups where directed communications can increase message effectiveness.

Internal Audiences:
- IRL Council Board of Directors and the organizations they represent
- IRL Council Management Board and the organizations they represent
  - Finance Subcommittee of the Management Board
- IRL Council Science, Technology, Engineering and Monitoring (STEM) Advisory Committee and the academic and research organizations they represent
- IRL Council Citizens’ Advisory Committee and the organizations they represent
- Grant recipients and funding partners

External Audiences:
- Local, State and Federal policy makers
- Community, business and industry leaders
- Lagoon-focused businesses
- Environmental non-profit organizations with Lagoon interests
- Anglers
- Power boat owners
- Passive boaters (kayakers, paddleboarders, canoeists)
- Marinas and marine industries
- Passive recreational users of the Lagoon (festivalgoers, photographers, walkers, etc.)
- Homeowners and waterfront property-owners
- New residents of the region
- Ecotour operators and ecotourists
- Teachers and students
- Internet and social media users
- Local media and consumers of local media

Communications Goals
The IRLNEP envisions its role, as outlined in the CCMP, as a nexus for communication, collaboration and cooperation among the interests working toward Lagoon restoration. This includes federal, state, county and city governments, agencies, environmental non-profits, community groups and private-sector interests. While Management Conference partners each have their own constituencies and audiences, the IRLNEP can assist in providing information and technical assistance based on the CCMP to encourage partners to implement, within their areas of responsibility, CCMP actions that will improve conditions in the IRL. The IRLNEP can also assist partners with developing information and messaging aligned with the CCMP and
focused on the IRL issues. The various communication channels of the IRLNEP are made available to partners wishing to share their news, events, project successes, and environmental innovations with their counterparts in other areas and with the public.

Staff developed a list of communication goals, separated into broad categories of audience type, that is responsive to Program needs and works toward strengthening partnerships throughout the watershed. Goals that were accepted were those that staff considered to be most workable in the next three years given current staff workloads and limits on the time that could be devoted toward additional programs.

Management Conference Stakeholders:
There are four primary goals for communication among Management Conference partners:

- Widely communicate issues and action recommendations in the revised CCMP and encourage local communities to adopt the CCMP into their own comprehensive plans; facilitate coordination and collaboration as opportunities arise.
- Assist county and local governments in getting their messages to the public about local projects and progress that restore and protect the Lagoon.
- Develop and align lagoon-focused messaging among Management Conference members and community partners; provide consistent, accurate and timely information and resources that can be commonly utilized.
- Leverage efforts among federal, state and local governments, community groups, NGOs and others to improve communications coordination, streamline outreach efforts, and reduce the redundancies in lagoon-focused outreach activities that lead to public confusion.

Community Leaders:

- Provide community leaders with accurate, science-based information about the IRL’s complexity, stressors affecting its health, and appropriate restoration solutions. Communicate the importance of implementing the CCMP as a means of restoring the IRL.
- Educate elected officials about the NEP and the annual federal investment in NEP activities. Improve understanding that NEP funding generates tangible benefits for communities and ensures that important local projects are funded and implemented.
- Improve understanding that the IRL is a regional driver of the economy. Increased resources for IRL recovery are an investment in the economy, jobs, and businesses.
- Build trust in the IRLNEP as an honest broker, a smart investment, a well-run and efficient program that produces results and strong returns on investment.
- Stress the importance of securing stable, recurring funding for the IRLNEP as a long-term stewardship, monitoring and recovery measure for the IRL.

Target Audiences:

- Work to brand the IRLNEP as the primary and trusted source of IRL information throughout the 5-county region.
- Inform target audiences about IRL issues, current conditions, causes of degradation, and long-term solutions to IRL recovery. Publicize the CCMP and educate audiences about how implementation will aid the IRL in returning to a healthier state. Address misinformation and encourage personal behavior
change through social media campaigns, communication materials, and common messaging with partners.

- Share actions individuals can undertake within target audience categories (i.e., boating tips, homeowner tips, etc.) to make a personal contribution to protecting and restoring the IRL through Lagoon-Friendly practices. Utilize the 10 Rs (Remove, Reduce, Restore, Rebuild, Research, Report, Respond, Resolve, Responsibility, Resilience) as an integral part of a public communications strategy.

- Improve partnerships between the IRLNEP and local communities to showcase project successes and other accomplishments; focus on progress being well-managed, efficient investments in lagoon recovery.

- Share information on how individuals can connect with volunteer programs, citizen science opportunities, and other ways of becoming involved in order to build a knowledgeable community dedicated to IRL protection and stewardship of the IRL.

- Highlight successful school and local programs (i.e., River Kidz, Youth-Driven Cinema, etc.) focused on educating youth about IRL issues and solutions and work with partners to encourage their expansion lagoonwide.

**Web and Social Media:**

- The Program website will be more broadly used, refreshed regularly, and better utilized to communicate Program news, current conditions, project successes, and act as a repository for project reports, technical reports, and other information that may be utilized in restoration and protection efforts throughout the watershed. Staff intend to regularly update the website with feature articles, a program newsletter that will drive web traffic, upcoming volunteer and citizen-science opportunities, project success stories, and partner news and information.

- The primary goals for social media using Facebook are to: establish the Program’s brand voice and spread brand awareness; create a community of advocates through meaningful interactions that further the goals of IRL restoration and the IRLNEP brand; serve as a connector for the Lagoon community to bring citizens together to help support the efforts of the IRLNEP; drive traffic to the Program’s website or other supportive tools.

- The primary goals for using Instagram are to: create brand identity and express the essence of the Lagoon through curating quality images of the IRL and its community; establish a brand voice and spread brand awareness; create public awareness and educate the community about the Lagoon through expressive imagery; and drive traffic to the Program’s website or other supportive tools.

- The following primary goals for social media using Twitter are to: establish a compelling, interactive voice in the online community; actively engage and educate the community about the IRLNEP mission; create or raise awareness about the Lagoon and the community that supports it; discover potential collaborations with new brands and partners that will further the mission of the IRLNEP.

**Special Projects:**

- The IRLNEP adopted the IRL Envirothon as an educational program delivery in 2019. Envirothon is the largest outdoor environmental competition for high school students in North America. The IRL Envirothon covers Brevard, Indian River, St. Lucie, Martin and Okeechobee Counties. Volusia County
operates its own Envirothon competition. The regional IRL Envirothon is held in February and enlists high school teams to compete for the chance to represent their counties at the statewide Florida Envirothon, held in April. Should a team be successful at their statewide competition, they would then move on to national competition, typically held in August. The goal of Envirothon is for students to learn collaboratively about the nation’s natural resources to both foster an environmental ethic in students and encourage them to consider careers in natural resources management. Topics covered at every level include forestry, soils, wildlife, aquatics, and a special topic that changes annually. At the IRL Envirothon, students also learn about the IRL.

The goals for adopting Envirothon as a program of the NEP were to grow participation in the program, establish a wider network of teachers specializing in natural resources and lagoon topics, and seek opportunities to collaborate more closely with schools to determine what needs they may have regarding teaching about natural resources in general and IRL issues in particular. Program staff and Envirothon teachers are interested in developing a foundational curriculum for Envirothon that will allow teachers and schools to better-prepare students for Envirothon and may potentially allow for Envirothon to be worked into school requirements as an alternative to Science Fair activities.

- The IRLNEP is also working with the University of Florida Institute for Food and Agricultural Sciences (UF/IFAS) as a partner in the CIVIC (Community Voices, Informed Choices) program, an extension initiative that builds capacity for communities to work toward enhanced quality of life and to seek solutions to local challenges by raising awareness, exploring differences and common perspectives, generating ideas, and creating recommendations. Though COVID slowed the progress of this partnership, the IRLNEP has committed to funding an internship to initiate work in the IRL region that will address diversity and inclusion issues and perform preliminary work to assess issues connected to environmental justice.

- The IRLNEP has recently joined the Southeast and Caribbean Disaster Resilience Partnership (SCDRP) as an advisory board member, the East Central Florida Regional Resilience Collaborative as a member of the Infrastructure Technical Advisory Committee and has accepted an invitation to join the Southeast Coastal Ocean Observing Regional Association (SECOORA) as a formal member. The overarching goal for each of these involvements is to improve the program reach of the IRLNEP and assist in developing and disseminating the best information available on climate resiliency, disaster preparedness, state of the art monitoring and coastal technologies. The IRLNEP is open to considering additional partnerships with other organizations to collaborate on special projects as opportunities arise so long as those potential programs align with CCMP implementation priorities and improve our ability to communicate the best science available to our community of stakeholders.

**Communications Strategy**

**Management Conference and Public Review**

The IRLNEP will share the draft Communications Plan with its Management Conference for review and comment. Concurrently, the document will be provided on the [www.onelagoon.org](http://www.onelagoon.org) website for public review and comment. Once finalized, the Communications Plan will be adopted by the IRL Council Board of Directors and shared with the U.S. EPA which will review the document and issue a concurrence. The Plan will be updated with the update of the CCMP in 2025.
Short Term (1-2 years)

Management Conference:
A primary focus of this plan will be to provide internal audiences with more integrated communications. The 100 members of the Management Conference meet quarterly to set direction for the program, approve spending, and exchange information. While meeting-focused communications and periodic announcements are accomplished effectively, communications opportunities center on effectively communicating project accomplishments and progress; coordination of Lagoon-focused messaging among counties; substantial information-sharing among organizations; and providing information about upcoming staff activities and events. IRLNEP staff intends to bring together county-level message partners for purposes of information sharing and development of common messaging that will engage the public and improve the quality and regional focus of Lagoon information. The Program will also develop avenues by which county-specific information can be effectively shared and distributed to highlight particular projects, facilitate technology transfer, and dispel the persistent public misperception that little is being done to improve Lagoon health.

Local Government Partners:
To encourage local governments to adopt the CCMP into their comprehensive plans and improve Program outreach to cities, the IRLNEP will develop a standard PowerPoint presentation to describe the CCMP, its relevance to local governments, and the long-term goals that can be achieved through IRL protection and restoration efforts. Staff will work to schedule meetings with city and town managers and staff to familiarize them with the role of the IRLNEP, importance of implementing the CCMP, and provide information about available funding opportunities. Staff will also seek other opportunities to connect with cities and towns to promote information-sharing, best practices, innovations, and technology transfers.

A frequently encountered issue at the county and city level is that agencies and local governments often lack the resources to develop information into public-facing products that can improve citizen awareness and knowledge of IRL issues. In addition, there is a public perception that nothing is being done to alleviate problems in the IRL despite efforts, both large and small, that are ongoing. In FY 2019 alone, more than 40 IRLNEP-funded projects were underway, along with an additional 161 partner projects that addressed stormwater, wastewater, septic to sewer, and habitat restoration. In 2020, 30 IRLNEP projects were funded and IRLNEP partners reported more than 260 projects underway that benefitted the IRL.

The IRLNEP will utilize its various communication channels to assist partners and local governments in publicizing their efforts to protect and restore the IRL. As projects come online, achieve significant milestones, or are completed, the IRLNEP will showcase projects benefits and champion partner successes. IRLNEP will continue to provide a “Partners at Work” section within each Annual Report and in annual reporting to the U.S. Environmental Protection Agency’s Government and Performance Results Act (GPRA) system.

A benefit of this strategy is that, as staff work among partners to ensure project initiations, milestones and completions are widely featured as they occur, progress for the Lagoon will be kept in the public consciousness. This will combat, on a regional scale, the notion that nothing is being done to address IRL problems. Partners will benefit from this effort by having their projects and programs featured outside the channels they regularly employ, thus delivering success stories to a broader audience.

The Program will assist partner communities and stakeholders by developing communications resources that can be employed throughout the entire IRL watershed. Materials may include:

- Videos
• Fact sheets
• Brochures
• Story maps
• Infographics
• Reports
• Other print or web collaterals.

All videos will be shared on the Program’s YouTube channel and can be provided to partners as MP4 files. Print and web materials will be provided to partners and stakeholder groups as camera-ready PDFs, with space available for partner logos to be applied before printing to maximize cobranding opportunities. Staff will work to ensure that community leaders become aware of the availability of these materials and will encourage their use and distribution. As materials roll out and circulate in the community, the public will be provided with accurate, timely, and useful information to assist them in better-understanding Lagoon issues. Materials will also highlight projects and programs providing volunteer or educational opportunities to further engage audiences and make it simpler to take action on a personal level to help the IRL.

Community Leaders:
The general strategy to be utilized when communicating with elected officials, community leaders, and community influencers is multi-pronged. Responsiveness will continue to be of optimal importance. Staff will provide the best science-based information available to assist with improving knowledge on IRL issues and about the IRLNEP. Key messages will include: 1) Communicating the importance of implementing the action plans in the CCMP as the best means of restoring the IRL; 2) Stressing the economic value of the IRL as a driver of the regional economy; 3) Emphasizing the high return on investment value that Lagoon restoration brings and 4) Communicating that investment in the NEP program leverages federal funding at an average of $22 to $1, meaning that for every federal dollar delivered to an NEP, $22 is invested into restoration and protection programs throughout its local watershed. In 2020, the EPA estimated the state/local to federal leveraged ratio for IRLNEP projects and programs at $33 to $1.

The IRLNEP currently enjoys a solid reputation for utilizing public funding efficiently and producing results. It also benefits from providing accurate information, being responsive to requests, and being willing to participate in public forums and events. Staff currently give over one hundred presentations to community organizations, business groups, clubs, and non-profit organizations each year. In addition, staff brief elected officials statewide about current conditions and issues, project funding, innovative technologies, and the role of the NEP in convening local stakeholders to work collaboratively in seeking solutions to environmental problems. The program intends to continue this course, connecting with community and business leaders as opportunities arise. Staff will seek additional ways to make meaningful connections with the community through business groups such as chambers of commerce, realtor associations, business roundtables, and other professional groups.

Target Audiences:
There are several different strategies that will be employed to accomplish IRLNEP communication among a variety of target audiences. However, the ability to deliver any substantial outreach efforts or educational programming is hampered by the IRLNEP’s small staff. Until such time as the Program gains the capacity to implement its own public engagement programs, it will rely on the use of social media, the Program website, and opportunistic participation at select events for most communication efforts. The Program will continue to support partners in their efforts to engage volunteers in IRL-focused restoration and protection efforts. Staff will coordinate among partners to feature volunteer and citizen science opportunities on the Program
website and help connect organizations to individuals interested in experiencing the IRL as a citizen scientist, oyster restoration, or shoreline restoration volunteer.

Development of common messaging with partners will build a collection of print collaterals that can be employed as a regular part of outreach and engagement activities at presentations and events. Specialty products (such as the IRL Boater’s Guide) may also be developed to address needs among specific groups of stakeholders.

Emphasizing Lagoon-Friendly personal behaviors and practices will provide the basis for most engagements with citizen stakeholders and IRL user groups. The IRLNEP has trademarked the Lagoon-Friendly graphic developed by IDEAS as part of Program branding and is considering ways to best capitalize on use of the mark to promote communities, programs and businesses with a Lagoon-Friendly ethic.

Since 2015, the Program has maintained a position of not competing with its partners in the education space and has largely left formal education (education that occurs in schools) to the many non-profit organizations that engage students throughout the region. In looking to the future, additional funding and expanded staff capacity would enable the Program to collaborate with science coordinators and teachers in local school districts to develop curricula and other resources to support teachers in educating youth in all grades about IRL issues, ecology and health. Until then, the Program will continue to coordinate the regional Envirothon competition and will assist in promoting and publicizing local school and community programs to encourage their adoption lagoonwide.

Throughout FY 2021, the IRLNEP will work to provide a set of videos describing the thirty-two vital signs addressed in the CCMP. These videos will be brief 30- to 40-second summaries of each action plan in the CCMP. These will first be rolled out via social media, shared on the Program’s YouTube channel, and placed on the Program website as part of an interactive page where users may explore the CCMP to varying degrees of detail.

Also rolling out in FY 2021 are ten videos focused on the 10 Rs for Lagoon restoration. The videos will be calls to action for both local governments and citizens, highlighting the various roles of each in restoring and protecting the Lagoon. These videos will be provided to any partner or stakeholder group wishing to utilize them and will provide an excellent opportunity for co-branding. A benefit of this strategy is that target audiences throughout the entire Lagoon region will receive exactly the same information, regardless of the agency or organization that distributes it. This will assist in presenting a unified restoration and protection message; eliminate conflicting messaging, promote Lagoon-Friendly behaviors and practices on a regional scale; and improve brand recognition and confidence in the Program and its partners as reliable sources for information and solutions to IRL-focused problems.

Additionally, the Program and its consultants at IDEAS are working to provide a set of 15-second ads for use on social media to promote Lagoon-Friendly behaviors with the goal of maintaining focus on the role that each individual plays in keeping the Lagoon healthy. The tag line for these ads will be “Small change, big impact” to promote the idea that making even small behavioral changes in how we treat the Lagoon can make a difference. This set of videos will focus primarily on the role of individuals in making choices that improve the health of the Lagoon. The ads will be test marketed on YouTube in Brevard and Indian River Counties initially, and, if successful, they will be marketed in all Lagoon counties and shared with willing partners.
Longer-term (3-4 years):
The tactics outlined thus far have been structured based on current staff capacity. However, concentration on information development and the use of social media will only take the Program so far. If the IRLNEP is to fulfill its mission of One Lagoon – One Community – One Voice and garner well-informed public support for long-term solutions to the problems plaguing the IRL, then increased public engagement efforts must occur. This cannot be effectively accomplished at current staffing levels. Contingent upon expanded or redirected funding, the IRLNEP plans to onboard additional staff who will be devoted to implementing additional projects and programs to improve public engagement, strengthen partnerships, improve the visibility of the Program and maintain focus on the issues impacting the IRL. Strategic expansion of IRLNEP staff would improve the ability of the program to engage, communicate with and provide technical assistance to local communities who are working to remediate IRL problems.

The enhanced program capacity created by additional staff will allow the IRLNEP to conduct public awareness campaigns on a variety of Lagoon-focused topics; allow improved message coordination with government and non-profit partners; contribute to event planning and implementation; and equip teachers with a variety of engaging and scientifically accurate resources for students, ensuring that all materials developed meet current education standards. Routine duties of these staff members are anticipated to include:

- Attending public meetings, conducting public presentations and workshops, giving invited presentations to community groups and citizens
- Engaging with traditional IRLNEP audiences and connecting with new and underserved stakeholder groups; make efforts to ensure diversity and inclusion are considered in IRLNEP programming and grant funding
- Coordinating and participating in community events, festivals etc. Conducting adult programs (kayak trips, walking tours, photography workshops, clean ups, etc.) to allow adults unique IRL experiences they may not ordinarily access
- Coordinating with government, agency and non-profit partners to assist in implementing their projects and programs, sharing information, and providing technical assistance as needed
- Developing and implementing citizen science programming and volunteer programs in association with IRLNEP partners
- Coordination with teachers in developing curricula for various grade levels and ensuring alignment with current educational standards

Each of these avenues can assist in raising the visibility of the IRLNEP; improving public awareness about the Lagoon and its issues; fostering a sense of stewardship for the Lagoon; personalizing the uniqueness of the Lagoon, even among non-users; and increasing understanding of the Lagoon as a driver of the regional economy. As public understanding and support increases, this well-informed citizenry will drive public support and political will for funding the much-needed infrastructure improvements and projects that will return the IRL to health.

The IRLNEP will track implementation metrics of these programs and conduct regular meetings to review, refine or re-focus efforts in each of the areas to maximize the audiences reached and assure the quality of information developed and dispensed.

Expected Outcomes:
Achieving the goals of this plan will extend well beyond the timeline set forth in this document. However, this plan establishes the baseline for improving the IRLNEP’s internal and external communications efforts.
As elements of the plan are enacted and programmatic infrastructure is established, the Program’s long-term partnerships and collaborations will be strengthened and improved upon and new opportunities for collaboration will arise and be sustained.

Program visibility and branding will be enhanced with the focus on assisting community partners in developing and strengthening lagoon messaging. A long-term outcome of this information development effort is a collection of free, Lagoon-focused print, web and video collaterals that partners may easily access and utilize for communication efforts. This effort will form an information umbrella that will reach partners in all 5 Lagoon counties, who will be encouraged to cobrand with the IRLNEP in using these collaterals and multiplying a regional messaging effort. Over time, with repeated messages originating from a variety of sources, a Lagoon-Friendly ethic will begin to permeate the region and a better-informed Lagoon constituency will develop. With this, public support for Lagoon restoration efforts will be more easily maintained and enhanced.

Sharing IRLNEP project successes and assisting local government and agency partners in sharing their IRL-focused successes will assist in combatting the widely held, yet incorrect, perception among many target audiences that little is being done to return the Lagoon to health.

The addition of engagement-focused staff will greatly increase the capacity of the IRLNEP to effectively engage and reach out to a variety of stakeholder groups and target audiences. This effort will improve the Program’s visibility and impact in local communities and allow the Program to better serve established community partners while also establishing new efforts to reach underserved audiences as well as environmental justice communities.

In total, the focus on increasing and improving IRLNEP messaging as detailed in this communications plan will enhance the ability of the IRLNEP to fulfil its role of science-based, collaborative efforts that restore water and habitat quality to the IRL; develop a well-informed constituency throughout the Lagoon region; improve the visibility of the program; and enhance its reputation as an honest broker of factual information and policy priorities. Over time and with continuous effort and performance, the Program will be able to fulfil its mission: One Lagoon – One Community – One Voice.
Appendix A: Specific Activities, Estimated Budgets, Deliverables, Timeframes
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<thead>
<tr>
<th>Goal/Objective</th>
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<tr>
<td>Provide internal audiences with more integrated communications</td>
<td>Management Conference</td>
<td>Communicate project startups, progress, completions and successes; communicate staff activities and invite Management Conference participation in events and at speaking engagements; email, quarterly meetings, social media, and invitations.</td>
<td>Provide summary information on staff accomplishments and IRLNEP project milestones; invite Board members to attend events or speaking engagements when staff is participating.</td>
<td>Staff time; ongoing</td>
</tr>
<tr>
<td>Communicate the value of the CCMP; encourage local governments to adopt the CCMP and work to implement it</td>
<td>County governments, cities and towns</td>
<td>Communicate with county and city managers and staff to discuss the CCMP, IRLNEP funding availability, information sharing, technology transfer and innovative solutions; emphasize the value proposition of the IRLNEP as a regional coordination and facilitation program for Lagoon restoration; produce videos to explain each of the 32 vital sign action plans included in the CCMP.</td>
<td>Schedule meetings with county and city managers and staff; develop a presentation that communicates the value of the CCMP as a benefit to communities and the economy; develop a community guide to the CCMP; produce videos to explain CCMP vital signs.</td>
<td>Staff time, ~$75,000 for contract support and video production; commenced in FY 2020, ongoing</td>
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<tr>
<td>Assist agency, county and local governments in messaging to the public about projects and programs that are working to restore water quality, habitats, and health in the IRL</td>
<td>County governments, agencies, cities and towns</td>
<td>Establish regular communications with agency, county and local governments to discuss project status, assist them in promoting their successes and project completions. Feature project successes to wider audiences.</td>
<td>Schedule webinars to showcase completed and ongoing projects; provide opportunities for agencies and local governments to feature their projects; include presentations to the Management Conference as a regular part of quarterly meetings.</td>
<td>Staff time for coordination, &lt;$20,000 for contract support and video production; commence in FY 2022, ongoing thereafter</td>
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<tr>
<td>Work to brand the IRLNEP as the primary source for trusted information and data about the IRL. Integrate IRLNEP and partner messages into a suite of Lagoon-focused print, web, and video collaterals; Make these available to partners</td>
<td>County governments, cities and towns, environmental NGOs, community groups,</td>
<td>Utilize social media to publicize partner efforts, project milestones and successes; continue to celebrate partner projects in the IRLNEP annual report; coordinate IRL-focused messaging among Lagoon counties and facilitate sharing information and resources to improve outreach; develop IRLNEP communication and outreach resources that can be utilized by local governments and organizations to inform their communities about IRL issues.</td>
<td>Social media postings shared from partners; partner projects featured in annual report; development of print and web resources made available to partners for cobranding opportunities.to assist with streamlining outreach efforts and reducing redundancies.</td>
<td>Staff time, ~$25,000 for design and layout of print publications, ~$25,000 for social media management; began in FY 2018, ongoing</td>
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## Table 1: IRLNEP Communications Roadmap FY 2021 - FY 2024

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<td>Engage with community leaders about the IRL, how stressors affect it, and what solutions are available. Emphasize the role of the IRLNEP in working towards solutions.</td>
<td>Community leaders, elected officials, community influencers, target audiences</td>
<td>Provide accurate, science-based information about the IRL's complexity, stressors affecting its health, and appropriate restoration solutions; Stress the economic value of the IRL as a regional economic driver; stress that lagoon restoration produces excellent return on investment.</td>
<td>Attend speaking engagements and forums with a wide variety of audience types; outreach to elected officials on IRL issues; produce fact sheets and other print and web materials that can be shared widely.</td>
<td>Staff time, design, layout and printing publications, ~$25,000; ongoing</td>
</tr>
<tr>
<td>Improve understanding that the IRL is an economic driver and increased resources for IRL recovery are an investment in the economy, jobs, and businesses</td>
<td>Community leaders, elected officials, community influencers, target audiences</td>
<td>Emphasize the role of the IRL in driving the economy in terms of recreational value, real estate value, and fisheries value; emphasize the quality of life benefits that make the region attractive in recruiting and retaining a highly skilled and talented workforce.</td>
<td>Seek partners and update the IRL Economic Valuation at approximately 5 year intervals.</td>
<td>Staff time, &gt;$80,000 for a full economic assessment of IRL Valuation; timeframe depends on securing funding. IRLNEP has budgeted match dollars only to date.</td>
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<tr>
<td>Build trust in the IRLNEP as an honest broker, a smart investment, an efficient, well-run program that produces results and strong returns on investment; stress the importance of securing stable, recurring funding for the IRLNEP as a long-term stewardship, monitoring and recovery measure for the IRL</td>
<td>Community leaders, elected officials, community influencers, target audiences</td>
<td>Continue to share project successes and outcomes, develop and distribute science-based, factual information; engage with community leaders and local events to raise visibility of the Program; continue to tie funding needs to desired outcomes and improvements in Lagoon health; continue to share Return on Investment (ROI) metrics and other measures of success. Emphasize the need for continuing stable funding for IRL restoration.</td>
<td>Develop information for inclusion into newsletters, social media, website news, annual reports and press releases to promote project milestones and successes, funding for projects, ROI value to funding partners, and ecological successes as they can be documented.</td>
<td>Staff time, potentially &lt;$10,000 for graphics/publication contract support; ongoing</td>
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<tr>
<td>Emphasize Lagoon-Friendly habits and behaviors using the 10 Rs (reduce, remove, restore, rebuild, research, report, respond, resolve, resilience, responsibility)</td>
<td>County governments, cities and towns, non-profits, and community groups</td>
<td>Trademark the Lagoon-Friendly logo; utilize it to co-brand with partners to expand common messaging; emphasize that everyone has a role in lagoon restoration. Produce brochures and fact sheets based around Lagoon-Friendly messaging; Produce a series of short videos explaining the 10 Rs and what they mean for lagoon restoration.</td>
<td>Lagoon-Friendly logo trademarked; 10 Rs videos produced, posted to social media and YouTube and shared with partners; production of print and web resources on Lagoon-Friendly behaviors.</td>
<td>Staff time; ~$124,000 (Trademarking: ~$2,000; Videos <del>$82,000; resource production:</del>$40,000); commenced in FY 2021, ongoing</td>
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<td>Support partner efforts to engage volunteers in restorations and education programs and build a knowledgeable community</td>
<td>Local governments, non-profits and community groups</td>
<td>Assist partners in recruiting volunteers, promoting volunteer events, restorations, clean-ups, and other efforts utilizing social media; share partner message postings, celebrate partner successes.</td>
<td>Social media posts shared from partners, tracking of social media metrics.</td>
<td>Staff time; ongoing with more focused efforts commencing in FY 22</td>
</tr>
<tr>
<td>Engage with teachers and students to provide education, outreach and volunteer opportunities to students, and professional development experience to teachers.</td>
<td>Teachers, students, schools</td>
<td>Continue support for the IRL Envirothon; seek opportunities to engage in lagoon-focused activities for youth; provide professional development experiences for teachers during the summer months.</td>
<td>Continue to organize and implement the IRL Envirothon, the nation's largest outdoor environmental competition for high school students. Conduct summer teacher workshops as can be accommodated. Provide IRL-focused engagement and educational experiences in association with partnering organizations.</td>
<td>Budget uncertain. Contingent on adequate staffing. Will not be considered before FY 2023 budgeting</td>
</tr>
<tr>
<td>Reinforce &quot;One Lagoon&quot; and &quot;Lagoon Friendly&quot; concepts with IRL communities and citizens</td>
<td>All audiences</td>
<td>Execute a comprehensive social media campaign to personalize the IRL to users and activate the IRLNEP brand; improve online engagement and increase audiences; track user metrics; utilize produced media to feature Lagoon Stories collect, curate and disperse user-generated content.</td>
<td>Improved audience expansion, social media management; produced media and user-generated videos on a variety of topics.</td>
<td>Staff time; <del>$120,000 contract support (</del>$36,000 social media management, ~$80,000 produced media and video production); commenced in FY 2021, ongoing</td>
</tr>
<tr>
<td>Utilize the IRLNEP website to include more interactivity and project-focused information. Increase the use of videos on the site to improve viewer focus</td>
<td>All audiences</td>
<td>Add interactivity to the IRLNEP website including an interactive Vital Signs wheel that feeds the thirty-two 30-second action plan videos as well as the CCMP Action plans; the 10 Rs videos and the 15-second ads for living Lagoon-Friendly. Add access to IRLNEP Technical reports and final reports from funded projects.</td>
<td>Work with communications consultants to create interactive web content; ensure all IRLNEP reports posted are ADA compliant;</td>
<td>Staff time; ongoing with more focused efforts in FY 2022 and beyond</td>
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<td>IRLNEP Specialty License Plate redesign</td>
<td>All audiences</td>
<td>Redesign the IRLNEP specialty License Plate; develop an advertising program; develop other products to increase affinity for the plate; promote the plate through social media and paid advertising as a means of making a personal contribution to Lagoon restoration.</td>
<td>Redesigned plate; production of associated products (magnets, bumper stickers, etc.) to activate messaging.</td>
<td>Staff time, ~$28,000 for contract graphics support and campaign development; graphics support completed FY 2021, marketing campaign commences after approval of design by Florida Dept. Highway Safety and Motor Vehicles</td>
</tr>
<tr>
<td>Update the Boater's Guide to the IRL</td>
<td>Power boaters, passive boaters</td>
<td>Update the IRL Boaters Guide, last issued in 1995. Expand information on good boating habits, wildlife protection, using pump outs, etc.</td>
<td>Updated Boaters Guide to the Indian River Lagoon.</td>
<td>$75,000 ($50,000 contract services, $25,000 printing); anticipated completion by December 2021</td>
</tr>
<tr>
<td>Produce a quarterly newsletter</td>
<td>All audiences</td>
<td>Utilize Constant Contact list of 1,600 subscribers to distribute information about progress of projects and programs; highlight partner progress; give updates on current state of the Lagoon; feature volunteer efforts, publicize new print and web products.</td>
<td>4 newsletters per year produced and distributed; shared with partners for additional distribution.</td>
<td>Staff time, continue subscription to Constant Contact, $850 annually; potential to begin in FY 2021 and ongoing thereafter</td>
</tr>
<tr>
<td>Presentations to community groups</td>
<td>All audiences</td>
<td>Accept speaking invitations as can be accommodates; provide updates current status, the importance of the lagoon ecologically and economically. Seek opportunities to connect with economically and socially diverse audiences.</td>
<td>Accept all invitations that can be accommodated. Should additional staff be added, seek new opportunities.</td>
<td>Staff time, travel. Additional staff not envisioned before FY 2023 budget; ongoing</td>
</tr>
<tr>
<td>Participation at indoor and outdoor community events</td>
<td>All audiences</td>
<td>With additional staffing, Program visibility can be raised through attending evening and weekend events to distribute information and print publications, answer resident questions, etc.</td>
<td>Track attendance metrics at all events attended including numbers of contacts made, publications given, etc.</td>
<td>Staff time, ~5,000 for Tents, table covers, branding materials, etc.; contingent on adequate staffing; will not be considered before FY 2023 budgeting</td>
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<tr>
<td>Goal/Objective</td>
<td>Target Audience(s)</td>
<td>Tools/Tactics</td>
<td>Deliverables</td>
<td>Estimated Budget and Timeframe</td>
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<tr>
<td>Develop engagement opportunities for underserved audiences that are</td>
<td>Underserved audiences, environmental</td>
<td>With additional staffing, begin to ensure that IRLNEP engagement and education efforts are more inclusive and aimed at more diverse audiences; work with underserved communities to assess needs and develop appropriate engagement efforts to address issues.</td>
<td>Work with University of Florida/IFAS as a partner in the CIVIC program; develop opportunities to include communities of color, economically challenged communities and environmental justice communities.</td>
<td>Staff time, budget uncertain; future efforts contingent upon adequate staffing; will not be considered before FY 2023 budgeting</td>
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<td>are authentic and relevant to community interests and needs</td>
<td>justice communities</td>
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<tr>
<td>Explore opportunities to utilize earned and paid media to promote the</td>
<td>All audiences</td>
<td>Produce press releases to publicize grant awards, completion of projects; explore using billboards to promote Lagoon-Friendly behaviors and practices; consider production of radio and TV public service announcements and purchase of air time;</td>
<td>Track earned and paid media appearances, produce billboard advertising, radio and television spots, leverage ad buys with additional free advertising.</td>
<td>Staff time, minimal budget for earned media. Budget for paid media TBD; will not be considered before FY 2023 budgeting</td>
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<tr>
<td>IRLNEP and its projects and programs</td>
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A Call to Action for Vision Leadership Catalytic Investment

PART 1
Strategies for Financing Indian River Lagoon Restoration and Long-Term Stewardship
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MESSAGE FROM THE EXECUTIVE DIRECTOR

Clean water, healthy estuaries and vibrant living resources are the foundation of Florida’s economy and way of life. We find ourselves at a historic crossroad for the Indian River Lagoon (IRL). The vitality of the IRL is threatened by aging and inadequate wastewater and stormwater infrastructure that has resulted in declining water quality, recurring harmful algal blooms, loss of seagrasses and changes at every level of the IRL food web. Whole ecosystem restoration will require science-driven decisions and a long-term financial commitment to restoration and stewardship. It is important to recognize that the “cost of restoration” is a limited perspective to describe the financial investments needed to implement the Indian River Lagoon Comprehensive Conservation and Management Plan – Looking Ahead to 2030 (CCMP). These CCMP actions and investments provide multiple benefits. It is not just about cost. It is about value. Either we leverage the many economic opportunities to enhance our environmental and economic future today and over the next several decades, or risk losing it all to poor water quality, harmful algal blooms, and declining quality of life.

This report goes beyond the requirements of an EPA CCMP concurrence document to include estimates of the costs and scope of needs based on actual projects provided by the IRLNEP’s stakeholders and partners, published economic assessments and best estimates based on comparable costs of goods and services. It provides additional information in Part 2: Appendix - Sources of Funding to assist IRL stakeholders as they look for funding sources and opportunities. To restore and sustain IRL health, investments must be scaled to meet urgent needs. The IRLNEP will strive to align investments with the IRLNEP Mission: One Lagoon – One Community – One Voice. These three mission statements are interdependent. They link human, environment and economic assets, needs and opportunities with each of the 32 IRL Vital Signs identified in the CCMP.

One Lagoon investments focus on projects that deliver clean water, healthy natural habitats, and robust living resources. The outcome is a healthy, functional ecosystem.

One Community investments focus on both human and community infrastructure and quality of life. The outcome is a network of unique, connected, and diverse IRL communities that are prosperous, vibrant, safe, and resilient.

One Voice investments bring people and communities together in a common vision and voice while retaining the individual assets and character of our 7 watershed counties and 38 incorporated cities.

To attain our shared common vision for a healthy Lagoon we must recognize that no single “silver bullet” action will restore IRL health and sustain its environmental and economic assets. No single revenue source or investment strategy will address all needs. Long-term financial commitments that are scaled to match the scope of the problems are required to ensure the IRL is healthy, biologically diverse, productive, vital, and resilient. Simple metrics can define success: clear water that is safe for swimming and recreational use; fish and shellfish that are safe to eat; an estuary dominated by healthy seagrasses; world-class recreational fishing; and sustainable and profitable commercial fisheries.

Photo: Jennifer Gutowski Photography
The financial bottom line is that current levels of funding for IRL restoration and stewardship from federal, state, local and private-sector partners are insufficient to address the immediate and long-term needs of the lagoon and the recommended actions within the 32 vital signs identified in the IRL CCMP. The common practice of funding individual projects, with priorities that waiver from year to year, and with inadequate base funding that may be expanded occasionally with small incremental funding increases, is a recipe for failure.

*A long-term programmatic approach with developed coordinated plans and projects, aligned with a well-considered financial plan is the pathway to success.*

Increased investments to upgrade old and inadequate infrastructure must be coupled with smart-growth regulations that protect Florida’s water resources. With an estimated 1,000+ people moving to Florida daily, we cannot afford to make the same growth management mistakes we made decades ago and expect that the outcome will be different.

Coastal communities that address these issues with solutions will thrive as we face the challenges of the future. Communities that fail to address clean water issues proactively today will be forced to address them as emergency responses at greatly increased costs in the future. Successful restoration and stewardship of the IRL requires vision, bold leadership, and innovation. Most importantly, it requires knowledge, awareness and respect for the fragile natural balance that is the foundation for estuary health and economic value. The future is uncertain. We have a historic opportunity to come together to protect, restore and provide responsible stewardship for the Indian River Lagoon. The time for action and investment is now.

**ONE LAGOON - ONE COMMUNITY – ONE VOICE**

Duane E. De Freese, Ph.D.
IRL Council and IRLNEP Executive Director
ACRONYMS AND ABBREVIATIONS

ANEP    Association of National Estuary Programs
AWIA    America’s Water Infrastructure Act
AWRA    American Waters Resources Act
BAA     Broad Agency Announcement
BLM     Bureau of Land Management
BMAP    Basin Management Action Plan
BRIC    Building Resilient Infrastructure and Communities
CAC     Citizen Advisory Committee
CCMP    Comprehensive Conservation and Management Plan
CERP    Comprehensive Everglades Restoration Plan
CSO     Combined Sewer Overflow
CWSRF   Clean Water State Revolving Fund
ECERT   East Central Florida Estuary Habitat Restoration Team
ECFRPC  East Central Florida Regional Planning Council
EPA     Environmental Protection Agency
FDACS   Florida Department of Agriculture and Consumer Services
FDEP    Florida Department of Environmental Protection
FEMA    Federal Emergency Management Agency
FIND    Florida Inland Navigation District
FWC     Florida Fish and Wildlife Conservation Commission
IRL     Indian River Lagoon
IRLNEP  Indian River Lagoon National Estuary Program
FAU-HBOI Florida Atlantic University - Harbor Branch Oceanographic Institute
FMA     Flood Mitigation Assistance
NEP     National Estuary Program
NERT    Northeast Florida Estuary Habitat Restoration Team
NFIP    National Flood Insurance Program
NFWF    National Fish and Wildlife Foundation
NIST    National Institute of Standards and Technology
NOAA    National Oceanic and Atmospheric Administration
NPDES   National Pollutant Discharge Elimination System
PDM     Pre-Disaster Mitigation
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<tr>
<td>PPP/P3</td>
<td>Public Private Partnerships</td>
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<td>SFWMD</td>
<td>South Florida Water Management District</td>
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<td>SJRWMD</td>
<td>St. Johns River Water Management District</td>
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<td>SRI</td>
<td>Superfund Redevelopment Initiative</td>
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<td>SSO</td>
<td>Sanitary Sewer Overflows</td>
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<tr>
<td>STAs</td>
<td>Storm Water Treatment Areas</td>
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<tr>
<td>STEMAC</td>
<td>Science, Technology, Engineering, and Modeling Advisory Committee</td>
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<tr>
<td>TCRPC</td>
<td>Treasure Coast Regional Planning Council</td>
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<tr>
<td>TMDL</td>
<td>Total Maximum Daily Load</td>
</tr>
<tr>
<td>UCF</td>
<td>Urban and Community Forestry</td>
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<tr>
<td>USACOE</td>
<td>United States Army Corps of Engineers</td>
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<tr>
<td>USEPA</td>
<td>United States Environmental Protection Agency</td>
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<td>USFWS</td>
<td>United States Fish and Wildlife Service</td>
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<td>UWSG</td>
<td>Urban Waters Small Grants Program</td>
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<tr>
<td>WIFIA</td>
<td>Water Infrastructure Finance and Innovation Act</td>
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<td>WRDA</td>
<td>Water Resources Development Act</td>
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ACKNOWLEDGEMENTS

Indian River Lagoon National Estuary Program (IRLNEP)
Hosted by the IRL Council, an Independent Special District of the State of Florida

The “Strategies for Financing Indian River Lagoon Restoration and Stewardship” (hereafter referred to as the IRL Finance Plan) was developed by Duane De Freese, Ph.D. (Senior Author) with significant support of the IRLNEP staff (Kathy Hill, Dan Kolodny, Stephanie Baumgarten-Jackson and Kaylene Wheeler) and members of the IRLNEP Management Conference.

The IRLNEP extends a special thank you to:

- Members of the IRLNEP Management Board Finance Subcommittee (Tom Campenni, Joseph Falzone, Stu Glass, Chris Hendricks, Kelli McGee, Thomas Stratton, and Greg Wilson) for their comments, insights and edits prior to presenting the final draft document for review by the IRLNEP Management Conference.

- IRLNEP Management Conference and citizens for review and comments to the final draft plan. Special thanks to Ellyn ‘Mel’ Bromberg, David Fuss, Judy Orcutt, Wayne Mills, Virginia Barker and Vincent C. McDermott for extensive edits and shared insights.

- The USEPA, with special thanks to Vince Bacalan, USEPA Headquarters and Jennifer DiMaio, USEPA Region 4 for comments, federal insights, and edits.

- The Balmoral Group for their expert economic peer-review from the private sector, as well as in-depth comments and detailed edits.
IRL COUNCIL AND IRLNEP PEER-REVIEW PROCESS

The IRL Strategies for Financing the CCMP Plan received the following IRLNEP Management Conference peer-review and public oversight:

- The draft document was sent by email to the Management Board on July 29, 2020. Edits and comments were accepted until September 16, 2020 (50 days) and incorporated into the final draft.
- The final draft was reorganized by IRLNEP staff to enhance readability, update with new information, expand citations, and modify document for ADA accessibility.
- The document was sent to the IRL Council Board of Directors and members of the IRLNEP Management Conference for final review and to USEPA for review on March 4, 2021.
- The Balmoral Group (https://www.balmoralgroup.us/) provided economic and technical review of the final draft of the document. Received May 6, 2021.
- IRLNEP staff finalized document revisions and submitted document to USEPA for CCMP concurrence review on 18 October 2021.

IRLNEP Management Conference Recommendations

- Month XX, 2021: USEPA CCMP Concurrence Certification received by email.
- November 16, 2021: The Science, Technology, Engineering and Modeling Advisory Committee (STEMAC) recommended that the IRL Council Board of Directors adopt the plan.
- November 16, 2021: The IRLNEP Management Board recommended that the IRL Council Board of Directors adopt the plan.
- November 18, 2021: The IRLNEP Citizens Advisory Committee recommended that the IRL Council Board of Directors adopt the plan.

IRL Council Review and Adoption

- November 19, 2021: IRL Council Board of Directors adopted the EPA certified plan at its regularly scheduled public meeting held at Sebastian City Hall.
EXECUTIVE SUMMARY

NATIONAL TREASURE AT RISK: Poor water quality, recurring algae blooms and extensive loss of natural habitats threaten the biological diversity and economic value that was once a hallmark of the IRL. Fisheries have declined in an estuary once considered a world-class destination for recreational sport fishing. Commercial shellfish harvests have declined 80% since 1990. The extensive loss of seagrass coverage since 2011 and the manatee unusual mortality event that was driven in part by starvation in 2020-2021 provide poignant examples of how poor water quality and HABs can alter natural ecosystem functions. Seagrasses, fishes, and manatees are indicators of the broader health of the IRL. Many scientists believe that the IRL is at a tipping point. If we miss the opportunity to restore the IRL now, we may lose a $7.6 billion regional economy and the ability to attract and retain a high-tech, high-wage workforce. The declining health of the IRL is felt most acutely by small businesses and important industry sectors like tourism, real estate, and marine industries. Ultimately, IRL restoration is about ecosystem health, human health and our quality of life. Each year that we fail to act, we increase the risk that the IRL won’t recover, and our communities will suffer.

THE SOLUTIONS: Root causes for the decline of the IRL are largely infrastructure-based. Florida must reimagine and reinvest in its 21st century wastewater and stormwater infrastructure. As with most infrastructure investments, the longer we delay, the more it will cost. Land-based nutrients, other pollutants, sediments, and freshwater loads are conveyed to the lagoon from aging and inadequate stormwater, wastewater, and septic tank infrastructure. Excess nutrients and pollutants from all sources must be reduced or removed before they enter the IRL. Legacy loads of sediments (muck) and pollutants conveyed to the IRL over past decades must be addressed. Impacts from new urbanization that accompanies population growth provides compelling motivation to make forward-thinking improvements in efficiency and resiliency. Cost-effectiveness of modernized infrastructure will pay off in the short- and long-run, with better resiliency to storms, climate change and sea level rise, as well as lower operating and maintenance costs. We can no longer rely on short-term incremental fixes. Bold actions and investments are required to break barriers for IRL restoration and recovery.

THE FUNDING STRATEGY: If implemented over a 20-year period, approximately $250 million will be required annually to achieve the required infrastructure and restorations improvement actions envisioned in the IRL CCMP – Looking Ahead to 2030. Two levels of funding are addressed in this Finance Plan: 1. Funding for the IRLNEP to continue lagoon-wide program leadership and local cost-share funding for projects; and 2. Funding to implement IRL restoration and long-term stewardship. As part of CCMP development, the IRLNEP assembled a proposed project list. Over 1,000 projects were assembled from IRL stakeholders with a projected cost of approximately $5 billion dollars (2020 estimate). Although much progress has been made, current levels of funding for IRL restoration and stewardship continue to be insufficient to address immediate and long-term restoration and stewardship needs. This level of funding is attainable through a visionary, comprehensive, and coordinated approach to funding among federal, state, local and private sector partners. Investments in transformational new 21st Century technologies for wastewater and stormwater treatment could accelerate IRL restoration and recovery, greatly reduce long-term costs, and deliver high return on investment values for the lagoon and the region’s economy.
This “Strategy for Financing the IRL CCMP” report was developed by the IRL Council and IRLNEP in 2020-2021 as a cornerstone financial advisory document to accompany and support the IRL CCMP. Recommendations and information are aligned with the IRLNEP Project Boundary Map (Figure 1).

The report is an EPA required concurrence document to the CCMP (2019). The report provides general guidance to address two fundamental financial questions associated with estuary restoration and stewardship and four specific financial strategies identified by the EPA (2016) to establish long-term financial stability to implement the CCMP through diverse resources and partners:

General Financial Guidance:

1. How to secure and sustain sufficient funding to continue the work of the IRLNEP as authorized by Section 320 of the Clean Water Act and envisioned by the IRL Council?
2. How to pay for IRL CCMP implementation, restoration and long-term stewardship’?

Specific financial strategies pursuant to EPA CCMP guidelines (2020):

1. Priorities for funding.
2. Current funding and other support (such as staff assignments, in-kind partnering, etc.).
3. Short and long-term resource needs.
4. Proposed actions or strategies to maintain or garner new resources for CCMP implementation and timeframes.

These economic questions are rarely answered with any specificity because of the complex nature of coastal ecosystem restoration, challenges to predict ecological response from interventions, and instability of funding for programs. An important and often neglected financial consideration is to look beyond restoration costs to include the economic benefits of a healthy estuary and the ecosystem services it provides.
Figure 2 provides brief answers to frequently asked questions related to IRL restoration. Ultimately, successful restoration and funding plans need to be flexible and adaptive to new information, changing conditions, unforeseen events, and emerging opportunities. Climate change and sea level rise impacts complicate these short- and long-term coastal decisions and investment strategies.

**This report is a “Call to Action for Vision, Long-Term Leadership and Catalytic Investment”**

This Plan was developed to highlight financial considerations and opportunities to restore and revive the Indian River Lagoon ecosystem and watershed. Broadly defined, ecosystem restoration attempts to remove or reduce human-induced stressors and return some measure of structural and functional integrity to the ecosystem.

The challenge for IRL restoration during the next decade and beyond is to restore water quality to support and sustain healthy living resources by reducing nutrients and pollutants from upland sources and removing legacy loads of muck and contaminants at hot-spot sites. The root causes for the decline in IRL health are largely related to aging and inadequate wastewater and stormwater infrastructure.

The economic importance of estuaries to local communities, the state of Florida, and the nation cannot be overstated. In 2016, annual return on investment was estimated at $33 of value to every $1 invested (ECFRPC and TCRPC, 2016). Based on these returns, investments that recover Indian River Lagoon health will result in community-wide benefits that far exceed cost, in many cases by an order of magnitude.

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**FREQUENTLY ASKED QUESTIONS**

**How much will it cost?**
The full cost of IRL restoration and infrastructure improvements is estimated at $5 billion. The sooner we make a commitment to this 20+ year investment, the less the total cost will be.

**Why is the cost so high?**
Most IRL water quality problems are related to antiquated and inadequate stormwater and wastewater infrastructure and outdated land-use practices. Investments in infrastructure improvements and new infrastructure construction are expensive but provide numerous community benefits beyond IRL health.

**What are the benefits?**
Investing in both new infrastructure and existing infrastructure improvements reduces risks to public health and tourism, supports growth, creates jobs, stimulates the economy, and provides community value benefits that last for decades.

**What is at risk?**
Clean water and healthy estuaries are cornerstones of our coastal economy and quality of life. Failure to address these urgent water quality issues threatens an IRL-related economy estimated at $7.6 billion annually, poses public health risks and compromises the future vitality of our communities.

**Who pays?**
Everyone pays. If you own a problem – fix your problem. Clean water is everybody’s business. To find out how to become Lagoon Friendly™, go to [www.onelagoon.org](http://www.onelagoon.org).

**When will we see results?**
Ecosystem responses to restoration efforts are difficult to predict. We know one thing for certain. If we do nothing, the health and vitality of the IRL and our communities will suffer.

**How long do we have to invest?**
IRL restoration and stewardship are long-term community investments in our economy and quality of life. Similar to workforce, economic and tourism development, lagoon restoration and stewardship is a long-term investment commitment.
**Important disclosure:** This report does not present a specific financial investment plan. Nor does it tell IRLNEP stakeholders and partners what actions they should invest in and how much they should invest. This report provides a suite of financial options, strategies, targeted opportunities, and case studies, that can be considered by partners and stakeholders engaged in IRL restoration and stewardship. The Appendix provides additional information that will be valuable to IRL stakeholders interested in federal, state, and local funding sources and opportunities.

Investment decisions in IRL stewardship must be made individually and collectively by citizens, cities, counties, the State of Florida, and our federal partners in compliance with community values and priorities, state laws, provisions of the Clean Water Act, and financial capacity. These decisions will be driven by unified agreement that the current health status of the IRL is unacceptable (Figure 3).

Figure 3: Water quality declines, harmful algal blooms (HABs) and loss of seagrasses threaten the health and economic vitality of the Indian River Lagoon. Photo composite.
All aspects of this financial plan are derived from and align closely with the 32 Vital Signs identified in the IRL CCMP that align with the IRLNEP Mission: One Lagoon – One Community – One Voice (IRLNEP, 2019) (Figure 4).

Figure 4. IRL Vital Signs and One Lagoon – One Community – One Voice Mission
The economic value of the IRL was estimated to be $7.6 billion annually (ECFRPC and TCRPC, 2016). This estimate aligned with an independent study by Brevard County Save Our Indian River Lagoon (SOIRL) Program (2016) that estimated the Brevard County portion of the IRL at $6 billion annually. Return on investment estimates based on these two studies showed that $1 of restoration funding generated a return-on-investment value of between $20-$33.

One of the great challenges and limitation of these types of value determinations is the methodology used to determine value and challenges to accurately quantify indirect and non-market values. One area where the USEPA and NEP can assist is to address the urgent need for standardized methodologies and approaches for the economic valuation of the nation’s 28 “estuaries of national significance.” This should include a comprehensive and uniform methodology for benefit-cost analysis and a framework for economic valuation of estuaries that includes both traditional and ecosystem services valuations. If each NEP had a standard economic evaluation methodology, economic value within each NEP and among the 28 NEPs in the national network could be quantified to determine aggregate value, comparison of values among estuaries and watersheds, and ability to track economic trends over time. A consistent framework for economic assessment would be a powerful economic tool to guide restoration and investment priorities and decisions. Understanding value and benefit-cost estimates is essential to well-informed decision making when billions of dollars of infrastructure investments are at stake.

One area that is often overlooked and underestimated in economic valuation of ecosystems is the economic value of ecosystem services. Restoration of natural habitats represents an investment in natural coastal infrastructure that can provide significant environmental, economic, human safety, and quality of life benefits. Quantification of these ecosystem services values is an essential consideration for economists to accurately quantify full life-cycle cost-benefit relationships. Habitat-based economic assessments demonstrate significant environmental, economic, and human safety benefits including flood reduction and mitigation, shoreline maintenance, water quality and commercial/recreational values. Ecosystem services and economic value from natural habitats have been recognized for seagrasses in Chesapeake Bay (Su, et al. 2020) and Tampa Bay (Yates, et al. 2016; Yates et al. 2019); Mangroves (Beck, et al. 2018; Narayan, et al. 2018); and Living Shorelines (Donnelly, et al., 2018). The cost-benefit values for a properly sited and well-designed living shoreline are significant. Thirty years ago, the U.S. Army Corps of Engineers estimated a $1.75 benefit for every dollar spent (http://nrcsolutions.org/living-shorelines/). Advances in techniques that lower habitat restoration costs and improved coastal resiliency provide benefits that will increase over time.

In 2020, The Nature Conservancy, Paulson Institute and Cornell Atkinson Center for Sustainability published Financing Nature: Closing the Global Biodiversity Financial Gap. The report made a compelling case that natural systems and biological diversity are essentially a capital stock with economically valuable ecosystem services that support human well-being and economic prosperity. Overarching recommendations provided in the study are relevant to the IRL:

1. Take immediate policy actions to protect natural capital and expand biodiversity conservation funding.
2. Apply available funds strategically to implement innovative financing mechanisms to promote catalytic public and private sector investments.
3. Strengthen the regulatory and financial “enabling conditions” to accelerate biodiversity conservation.
4. Implement private-sector actions to address sustainable supply chains, harmful subsidies, natural infrastructure, biodiversity offsets, nature-based solutions, carbon markets, green investments, and investment risk management to increase private-sector investment opportunities and minimize financial risks.

5. Improve tracking and reporting on biodiversity finance. Enhance global finance data collection and sharing with public funding.

6. Agree to develop and implement finance plans that mobilize resources at all levels (local, national, and global) and from all sources (public, private, and philanthropic).

In 2021, Rouleau, et al., highlighted the economic value of America’s estuaries by updating and expanding understanding of the contribution of estuary regions to the economies of the United States and the economic values of estuarine wetlands by examining the economic value of flood protection (natural infrastructure function) and storage of carbon dioxide that would contribute to climate change if released into the atmosphere (coastal blue carbon function). The analysis reconfirmed the importance of estuaries and wetlands to the U.S. economy. The report stated that “the value of America’s estuaries is much larger than traditional economic measures reveal”.

Estimating the Cost of IRL Restoration
The IRL CCMP estimated that IRL restoration, monitoring and stewardship will require $5 billion invested over next 20 years. This estimate is based on several lines of evidence: Economic projections of cost for TMDL and BMAP implementation (ECFRPC and TCRPC, 2016). This section provides information and broad policy guidance to identify potential revenue streams and opportunities for funding CCMP implementation.

The IRL Council and IRLNEP are focused on taking actions that align with the CCMP Vital Signs and action recommendations with a clear focus on 6 Vital Signs identified in the CCMP as being “critical” IRL health concerns (i.e., Impaired Waters, Wastewater, Stormwater, Seagrasses, Harmful Algal Blooms and CCMP Implementation and Financing). All 32 Vital Signs will require some level of funding and action implementation to deliver IRL health. No vital sign was considered to be stable or significantly improving. Inadequate funding is a primary barrier to implementing action item recommendations for each of the 32 IRL Vital Signs. For the IRLNEP CCMP and this financial strategy report, restoration costs have been estimated over a 20-year time horizon. The estimate is based on the following independent lines of evidence:

- The IRL economic valuation study (ECFRPC and TCRPC, 2016).
- The IRL stormwater capture and treatment feasibility study (SJRWMD, 2017).
- The IRL CCMP project list that is updated annually by the IRLNEP (IRLNEP, 2020).

The IRLNEP has chosen a conservative estimate for restoration at $5 billion based on the economic data available at the time of CCMP adoption. Although the IRLNEP is a non-regulatory program, significant current and future costs are associated with water quality and nutrient reduction projects associated with adopted Basin Management Action Plans (BMAPs) for the northern IRL, central IRL, Banana River and St. Lucie River and Estuary based on Total Maximum Daily Loads and a Reasonable Assurance Plan (RAP) for Mosquito Lagoon.

Cost Estimates: Total Maximum Daily Loads (TMDL) and Basin Management Action Plans (BMAP): The ECFRPC and TCRPC (2016) economic study of the IRL estimated cost of $4.6 billion to accomplish the required nutrient-load reductions in all four of the IRL BMAPs. These estimates represent more than 90% of the projected needs.
Cost Estimates: Large Regional Stormwater Projects: The first comprehensive effort by the IRLNEP to identify restoration projects and costs was a lagoon-wide stormwater capture and treatment feasibility study funded by FDEP and SJRWMD on behalf of the IRLNEP (SJRWMD, 2017). Over 40 potential local and regional stormwater projects were identified. Nine large-scale regional projects were identified for evaluation, including the IRL South project component of the Comprehensive Everglades Restoration Plan (CERP). Each project was evaluated based on projections of nutrient reductions, total phosphorus (TP) and total nitrogen (TN), flow restoration and water supply benefit (mgd) and costs (capital costs, annual O&M and annualized project costs). The total cost estimates for these 9 projects with alternative design options are provided in Table 1. The combined nutrient reduction estimates from the most effective design alternatives were 1,387,300 lbs of total nitrogen (TN) and 314,900 lbs of total phosphorus (TP). Total estimated costs are about $243 million excluding CERP, or $1.623 billion with CERP.

<table>
<thead>
<tr>
<th>IRL Segment</th>
<th>Project Name</th>
<th>Capital Costs 2016 dollars</th>
<th>TN Reduction (lbs)</th>
<th>TP Reduction (lbs)</th>
<th>Annual Volume Treated (acre-feet)</th>
<th>Priority</th>
</tr>
</thead>
<tbody>
<tr>
<td>South IRL</td>
<td>CERP</td>
<td>$1.38B</td>
<td>1,047,000</td>
<td>269,000</td>
<td>na</td>
<td>High</td>
</tr>
<tr>
<td>South IRL</td>
<td>City of Port St. Lucie Water Farming</td>
<td>$7.4M-$12.0M</td>
<td>na</td>
<td>3,500</td>
<td>16,500</td>
<td>High</td>
</tr>
<tr>
<td>South Central IRL</td>
<td>SRID Treatment and Storage</td>
<td>Alt 1 $11.1M-$23.7M</td>
<td>9,000</td>
<td>1,000</td>
<td>12,900</td>
<td>Medium</td>
</tr>
<tr>
<td>South Central IRL</td>
<td></td>
<td>Alt 2 $16.9M-$36.3M</td>
<td>33,000</td>
<td>4,000</td>
<td>25,000</td>
<td></td>
</tr>
<tr>
<td>South Central IRL</td>
<td></td>
<td>Alt 3 $26.8M-$57.3M</td>
<td>67,000</td>
<td>10,000</td>
<td>36,500</td>
<td></td>
</tr>
<tr>
<td>South Central IRL</td>
<td>C-54 and Fellsmere Canals Flow Restoration</td>
<td>Alt 1 $19.2M-$31.1M</td>
<td>124,000</td>
<td>15,000</td>
<td>50,000</td>
<td>High</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Alt 2 $21.5M-$34.7M</td>
<td>124,000</td>
<td>15,000</td>
<td>50,000</td>
<td></td>
</tr>
<tr>
<td>South Central IRL</td>
<td>Sottile Canal Flow Restoration</td>
<td>Alt 1 $11.4M-$18.5M</td>
<td>29,000</td>
<td>6,100</td>
<td>6,400</td>
<td>High</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Alt 2 $5.6M-$9.1M</td>
<td>29,000</td>
<td>6,100</td>
<td>6,400</td>
<td></td>
</tr>
<tr>
<td>North Central IRL</td>
<td>Crane Creek/M-1 Canal Flow Restoration</td>
<td>Alt 1 $4.5M-$7.4M</td>
<td>23,000</td>
<td>2,900</td>
<td>10,000</td>
<td>High</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Alt 2 $3.5M-$5.7M</td>
<td>23,000</td>
<td>2,900</td>
<td>10,000</td>
<td></td>
</tr>
<tr>
<td>North Central IRL</td>
<td>C-1 Canal Baseflow Treatment</td>
<td>Alt 1 $16.0M</td>
<td>35,000</td>
<td>2,100</td>
<td>17,900</td>
<td>Medium</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Alt 2 $9.4M-$15.3M</td>
<td>13,000</td>
<td>1,200</td>
<td>14,500</td>
<td></td>
</tr>
<tr>
<td>North Central IRL</td>
<td>C-10 Water Management Area</td>
<td></td>
<td>$25.2M</td>
<td>29,300</td>
<td>1,300</td>
<td>Medium</td>
</tr>
<tr>
<td>Halifax River</td>
<td>Nova Canal Watershed Alternative Water Supply</td>
<td></td>
<td>$22.1M-$35.9M</td>
<td>33,000</td>
<td>5,000</td>
<td>Medium</td>
</tr>
<tr>
<td>Total excluding CERP</td>
<td></td>
<td>$243M</td>
<td>Using midpoint of range</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total including CERP</td>
<td></td>
<td>$1.623B</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Cost Estimate: Other IRL-Partner projects that align with the CCMP.
Recognizing the value of having a lagoon-wide working project list, the IRLNEP reached out to its Management Conference members, state agencies, counties, and cities to develop a preliminary list of projects that were connected directly or indirectly with IRL restoration and stewardship. This effort expanded on the project list identified in the stormwater feasibility study and delivered a best estimate of project types and costs associated with CCMP implementation. This list has been updated annually, but until 2021, projects were not prioritized. That activity is expected to begin in FY 2022 with support from a
contractor (Tetra Tech Inc.) who will work closely with our partners to identify local project priorities and needs within project categories.

One important outcome of this preliminary project planning effort was recognition that many municipalities have not identified nor prioritized IRL projects. Others had a backlog of unfunded projects identified in capital improvement plans that could benefit the IRL. A notable exception is Brevard County, Save Our Indian River Lagoon Program (SOIRL). SOIRL has developed a definitive 10-year project priority list with projected funding allocations. The project list is reviewed and updated annually by a Citizens Oversight Committee to guide project funding and implementation. These SOIRL projects are included in the IRLNEP list. The SOIRL Project Plan and priority project list are updated annually and can be downloaded from their website at http://www.brevardfl.gov/SaveOurLagoon/ProjectPlan.

Projects in the IRLNEP inventory were characterized within broad categories with as much detail as our partners were able to provide. A summary of the FY 2021 IRL Project List is provided in Table 2 below. Note, this list includes the projects identified in Table 1. The list represents the IRLNEP current inventory of potential projects as of January 1, 2021. The IRLNEP will update the list annually with contract support from Tetra Tech Inc. or as new projects are submitted. The detailed project list is available on the IRLNEP website: www.onelagoon.org.

Table 2. IRLNEP preliminary proposed project list for CCMP implementation (including CERP - IRL South)

<table>
<thead>
<tr>
<th>Project Category</th>
<th>Total Number of Projects submitted by Stakeholders</th>
<th>Number of Projects with Estimated Costs</th>
<th>Total Cost</th>
<th>TN Reductions (lbs/yr)</th>
<th>TP Reductions (lbs/yr)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stormwater</td>
<td>519</td>
<td>470</td>
<td>$703,425,600</td>
<td>781,119</td>
<td>180,754</td>
</tr>
<tr>
<td>WWTPs and Septic Systems</td>
<td>226</td>
<td>200</td>
<td>$905,563,298</td>
<td>616,680</td>
<td>34,280</td>
</tr>
<tr>
<td>Habitat Restoration</td>
<td>79</td>
<td>60</td>
<td>$44,303,975</td>
<td>25,235</td>
<td>1,525</td>
</tr>
<tr>
<td>Muck Removal and Navigation</td>
<td>69</td>
<td>66</td>
<td>$755,422,346</td>
<td>2,246,594</td>
<td>193,156</td>
</tr>
<tr>
<td>Citizen Engagement</td>
<td>64</td>
<td>48</td>
<td>$5,270,045</td>
<td>35,505</td>
<td>2,473</td>
</tr>
<tr>
<td>Monitoring and Research</td>
<td>60</td>
<td>26</td>
<td>$22,056,082</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Capital Construction (proposed restoration facilities)</td>
<td>4</td>
<td>4</td>
<td>$95,000,000</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>CERP IRL South (Everglades Restoration)</td>
<td>1</td>
<td>Multiple*</td>
<td>$3,500,000,000</td>
<td>TBD</td>
<td>TBD</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>1,021</strong></td>
<td><strong>874</strong></td>
<td><strong>$6,031,041,346</strong></td>
<td><strong>3,705,133</strong></td>
<td><strong>412,187</strong></td>
</tr>
</tbody>
</table>

*Includes C-23, C-24, C25 and C-44 reservoirs and Stormwater treatment Areas (STAs)

The IRLNEP Project List represents a snapshot of projects currently being considered by IRLNEP stakeholders and partners. Missing from this list are projects that represent leading-edge upgrades to current wastewater treatment plants, infrastructure to address biosolids management and conversion to beneficial uses, and remediation of legacy groundwater contamination sites on federal lands.

As the IRLNEP moves forward, the program will work with Tetra Tech Inc. to refine and prioritize the IRL restoration project list and The Balmoral Group, LLC to evaluate costs and benefits. The IRLNEP list will: include projects identified in existing IRL BMAPs and RAPs; evaluate the regulatory versus non-regulatory projects based on nutrient reduction estimates; provide estimated project costs if available; and evaluate the status of nutrient reduction efforts versus BMAP reduction targets. A short-list of priority construction
ready projects will be developed with full participation of local stakeholders. Recent advancements by the SJRWMD to expand their hydrological model to incorporate water quality data and predict Chlorophyll levels, may provide an important new tool to evaluate project impacts and estimate the ecological lift of a project.

The following sections of this report (Financing the IRLNEP and Financing IRL Restoration and Stewardship) specifically address the four criteria for a CCMP finance strategy identified by the USEPA in the National Estuary Program Comprehensive Conservation and Management Plan Revision and Update Guidelines (2020). The four EPA criteria for a finance plan are: a. Priorities for funding; b. Current funding and other support such as staff assignments, or in-kind partnering; c. Short and long-term resource needs; and d. Proposed actions or strategies to maintain or garner new resources for CCMP implementation and their timeframe. A summary of how the IRLNEP will address these USEPA criteria is provided in Figure 5. Details for each are provided in the report sections that follow.

**Priorities for IRL Restoration and Stewardship Funding**

The IRLNEP CCMP identified 6 Vital Signs that were ranked by the IRLNEP Management Conference as “Level 1: Critical” IRL Heath Concerns. These represent issues with conditions that threaten the immediate and long-term prognosis for lagoon health. Indicators are unfavorable. The trend is negative. Immediate and aggressive intervention is urgently needed to stop and reverse the trend. The 6 critical vital signs are: Impaired waters, Wastewater, Stormwater, Sea Grasses, Harmful Algal Blooms and CCMP Implementation and Financing. Twenty-one Vital Signs were ranked “Level 2: Serious” Health Concerns where condition threatens the long-term prognosis for lagoon health. Five Vital Signs were ranked as “Level 3: Undetermined” health concerns where insufficient knowledge was available to inform resource management decision making.

This approach to categorize IRL health concerns for each Vital Sign provided a general indicator of the level of Management Conference and public concern and sense of urgency to address recommended actions in the CCMP. These health concern levels should not be considered a project priority ranking recommendation, nor the only consideration for project prioritization and funding. Each of the 32 Vital Signs included in the CCMP represent a critical pathway to a healthy lagoon. All CCMP Vital Signs are interdependent. No Vital Sign included in this CCMP should be considered a priority so low that it does not require action and funding consideration.

The IRL Council was created to provide stable, recurring support pursuant to the 2015 Inter-Local Agreement and consistent with Section 320 CWA authorities. The IRL Council and IRLNEP appropriates available funds strategically to fulfill Section 320 CWA responsibilities and its Mission: One Lagoon – One Community – One Voice. The IRLNEP has identified the following priorities for expanded and sustained program delivery:

- **Maintain annual levels of IRL Council funding pursuant to the Interlocal Agreement to continue the work of the IRLNEP and secure Section 320 CWA funding pursuant to EPA annual grant award requirements and program evaluation criteria.** Delivery of this priority requires clear demonstration of progress and quantification of return-on-investment value to the EPA and each funding partner in the Interlocal Agreement. Program performance and progress is evaluated by the USEPA every 5 years.

- **Expand IRL Council and IRLNEP funding through grants, strategic funding partnerships, competitive local cost-share projects, philanthropic gifts, the IRL specialty license plate, merchandise sales, and other activities that complement and do not compete with IRL Management Conference partner initiatives.** Expansion and diversification of revenue streams will decrease financial risks, build program resiliency, and expand program capacity and value.
• Secure full Congressional appropriation for the NEP as authorized in the 2021 reauthorization of Section 320 of CWA. The Association of National Estuary Programs (ANEP) is requesting a minimum of $1 million per NEP annually. This has been a standing legislative request of the IRL Council. Explore opportunities to expand Congressional authorization and funding limits for the NEP every 5 years.

• Evaluate options and opportunities to expand IRLNEP federal funding beyond Section 320 CWA. This effort includes securing Congressional funding for water infrastructure projects, exploring private sector options and opportunities such as Environmental Impact Bonds and public-private partnerships (P3s) to identify and diversify private-sector financing options that can accelerate delivery of local and regional projects. See CCMP implementation section in this report.

• Expand IRL Council/IRLNEP staff contingent on available funding to support more restoration projects, expand program delivery, and increase technical support to local stakeholders. From 2015-2021, the IRL Council has operated with a maximum staff size of 4 full-time staff equivalents (FTEs). This includes the Executive Director, Deputy Director and Chief Communications Officer, Chief Operations Officer, and Administrative Coordinator. The IRLNEP operates with one of the smallest staffs within the NEP national network. The size of the IRLNEP staff has been an issue of concern in past EPA performance evaluations.

In FY 2022, the IRLNEP leadership will present a workforce analysis and leadership transition policy document to the IRLNEP Management Conference and IRL Council Board of Directors for review and consideration. This policy document will include recommendations for IRLNEP staff expansion and a revised organizational chart to position the program for sustained and expanded program performance and ability to work more closely with our local stakeholders and communities.

Expand funding from all sources to implement actions and priority projects identified in the CCMP. The IRLNEP has estimated that $5 billion over the next 20 years will be needed to implement infrastructure and restoration projects to improve water quality, restore habitats and recover key species. This will require investment strategies that shift from annual, project-driven, and incremental investments to multi-year, program-driven, and transformational investments. The longer it takes to restore the IRL, the more it will cost.
SUMMARY: CHECKLIST OF PRIORITIES FOR FUNDING BOTH THE IRLNEP AND CCMP IMPLEMENTATION

Continue and Expand IRLNEP Program Delivery and Administrative Activities:
- Implement the Mission: One Lagoon – One Community – One Voice.
- Support the Management Conference with a focus on active engagement and diverse representation.
- Develop and implement the annual EPA-NEP Workplan Grant.
- Take restoration and stewardship actions that advance the IRL CCMP and align with CCMP Vital Signs. Focus on Vital Signs of critical concern: Impaired Waters, Wastewater, Stormwater, Seagrasses, Harmful Algal Blooms, and CCMP Implementation/Financing.

Current Funding and Other Support:
- Annual funding for the IRLNEP by IRL Council Board member agencies pursuant to the Interlocal Agreement for FY 2021 totaled $2,037,500, with $662,500 being EPA funding.
- Additional funding is received from sales revenues from the IRL specialty license plate.
- Direct cash match from the IRL Council is $2.26 to $1 federal funds.
- Leveraged funding was calculated by USEPA as $33 of local/state funds for every $1 of federal funds.
- Continue to work directly with local, state, federal agencies, universities, non-profit organizations, and private-sector partners to expand funding for IRL restoration, research, monitoring, and stewardship.

Short- and Long-Term Resource Needs:
- One Lagoon - Increased funding to expand and accelerate IRL water quality improvements with a focus on reducing nutrients, sediments, other pollutants, and freshwater pulses at the source.
- One Community – Funding to expand assistance to the seven counties, 38 incorporated cities and other communities to address CCMP Vital Signs. Important community vital signs that require expanded support include Climate Change, Trash Free Waters, Marinas and Boating, 21st Century Community planning for coastal communities, Emergency Response, and Distinctive Lagoon Communities (with specific needs to support environmental justice and under-represented communities).
- One Voice – Recognize the importance of three CCMP vital signs and expand funding to each: Monitoring and Data; Technology and Innovation; and Citizen Engagement. Specific One Voice outputs (deliverables) over the next 10 years are identified in IRL CCMP (2019).

Proposed Actions or Strategies to Maintain or Garner New Resources for CCMP Implementation and Their Timeframe:
- IRLNEP Program Actions: Maintain, expand and diversify IRL Council funding. Request full Congressional appropriation as authorized by Congress in 2021. Pursue grants, donations, and in-kind funding. Evaluate and pursue funding from philanthropic organizations. Transfer administrative authority of the IRL specialty plate to the IRL Council to grow revenue. Support stakeholders/partners to seek external funding for projects. Timeframe 1-5 years.
- Local Funding Opportunities: Encourage local municipalities to identify their environmental footprint, develop long-range growth and management plans (including low impact development), implement local finance strategies, and revise existing policies or adopt new policies to become Lagoon-Friendly™ communities. Timeframe 1-10 years.
- State Funding Opportunities: Support Florida’s leadership and commitment to estuary initiatives. Expand and diversify funding. Transition from sole-sourced single project budget requests to longer-term program-based investments. Align regulatory and non-regulatory policies to desired outcomes. Scale funding to economic needs. Support investments in technology and innovation. Timeframe 1-10 years.
- Federal Funding Opportunities: Congressional appropriation of the authorized amount in Section 320 of the CWA. Reauthorization and funding of WIFIA/WRDA. Contamination sites on federal lands. Clean water infrastructure improvement program. Innovation and technology research and development. Timeframe 1-10 years.
FINANCING THE IRLNEP
Expand IRLNEP Leadership, Funding and Stakeholder Value

Recommendation:
Continue and expand the lagoon-wide leadership and value of the IRL Council and IRLNEP through delivery of performance-based program actions that are aligned with CCMP action recommendations and supported by stable, recurring funding.

Critical Considerations:
Funding for the IRL Council and IRLNEP can be sustained and expanded by delivering a strategic and performance-based program that focuses on project support and implementation that provide clear value to the Indian River Lagoon and align closely with the IRL CCMP Vital Sign action recommendations for a healthy lagoon.

Current Funding and Other Support:
A visionary decision was made to create the IRL Council by Interlocal Agreement in 2015 as the new agency host of the IRLNEP. Reorganization of the 25-year IRLNEP that followed transformed the program to better align with the urgent restoration needs of the IRL, cultivated greater local leadership and authority for IRL restoration, and expanded recurring program funding. Annual funding for the IRLNEP by IRL Council Board member agencies pursuant to the Interlocal Agreement for FY 2021 is provided in Figure 6. This was a historic commitment among the IRL Council Members to make stable, annual and recurring investment commitments to the IRLNEP and the IRL. Total Base Funding from IRL Council Members was $1,500,000, representing a $2.5 to $1 direct cash match to EPA funding for the IRLNEP in 2016. The IRL Council exceeds the EPA non-federal match obligation to provide a 1:1 ratio of non-federal to federal funding each year. The IRL Council discloses this financial information in our annual workplan and annual reports. The IRL Council contracts for an independent financial audit annually.

Figure 6. IRL Council financial contributions

Annual IRLNEP Funding
From IRL Council Partners

- U.S. Environmental Protection Agency
  FY 2021 $662,500
  FY 2022 $700,000

- Volusia, Brevard, Indian River, St. Lucie and Martin Counties
  $50,000 ea.

- Florida Dept. Elec. Protection
  $250,000

- South Florida Water Management District
  $500,000

- St. Johns River Water Management District
  $500,000
In addition to IRL Council funds, additional annual revenues are received from the IRL specialty license plate. Revenues from license plate sales have been administered by the SJRWMD pursuant to Florida statutes. The SJRWMD distributed revenues collected from plate sales in Volusia, Brevard and Indian River Counties to the IRL Council. Revenues from St. Lucie and Martin Counties were distributed to the SFWMD for IRL projects. Use of these revenues are restricted to each county and for specific uses (at least 80% for restoration projects, up to 20% for environmental education and up to 5% for marketing and promotions). Administration and fiscal oversight of the IRL specialty license plate was transferred to the IRL Council through legislative action and support of Governor DeSantis during the 2021 session.

The IRL Council annual budget provides financial resources for the delivery of IRLNEP activities that align with authority granted to NEPs by Section 320 of the Clean Water Act; the IRL Comprehensive Conservation and Management Plan, as adopted by the IRLNEP Management Conference and IRL Council Board of Directors; and annual IRLNEP Business Plans that are developed each year that combine EPA workplan activities with other IRLNEP activities. Annual EPA workplans and the comprehensive IRLNEP Business Plans are posted on the IRL website (www.onelagoon.org).

To date, the IRL Council and IRLNEP have applied a combination of federal and IRL Council local funds effectively and with full public transparency to deliver competitive cost-share projects that align with the CCMP. Table 3 shows the distribution of funds and projects by county since creation of the IRL Council in 2015.

The IRLNEP works directly with numerous local, state, federal agencies, universities, and non-profit organizations dedicated to IRL restoration, research, and stewardship. The IRLNEP provides specific information about IRL restoration and activities of our partners to EPA annually through the NEP On-Line Reporting Tool (NEPORT), our IRLNEP Annual Report, and through social media communications.

### Table 3. IRL Council funding by county FY 2015-2020

<table>
<thead>
<tr>
<th>Project Location</th>
<th>IRL Council Funding</th>
<th>Number of Projects</th>
</tr>
</thead>
<tbody>
<tr>
<td>Volusia County</td>
<td>$1,105,119</td>
<td>15</td>
</tr>
<tr>
<td>Brevard County</td>
<td>$1,445,866</td>
<td>20</td>
</tr>
<tr>
<td>Indian River County</td>
<td>$869,611</td>
<td>13</td>
</tr>
<tr>
<td>St. Lucie County</td>
<td>$996,936</td>
<td>12</td>
</tr>
<tr>
<td>Martin County</td>
<td>$1,467,799</td>
<td>10</td>
</tr>
<tr>
<td>Lagoon-wide</td>
<td>$2,445,503</td>
<td>53</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>$8,330,834</strong></td>
<td><strong>123</strong></td>
</tr>
</tbody>
</table>

Source: Funding values are amounts allocated and may not reflect actual costs incurred. Funding does not include all local expenses that benefit IRL. Costs incurred are equal to, or less than budgeted.

#### NEPs Deliver a High Return-on-Investment Value

Each year the USEPA analyses estuary restoration activities that are occurring within each NEP watershed to estimate how much federal funding is leveraged with local and state funding for estuary restoration (includes local matching funds within the IRLNEP and IRLNEP funded projects as well as funds allocated from stakeholders for independent local projects). In 2020, the USEPA reported that the IRLNEP leverage federal to local investment ratio was $33 of local and state funds to every $1 of federal funds. In 2021, the ratio is projected to be over $40 to $1. On a national level, the average NEP leverage ratio was $22 - $1 (USEPA, 2020). When viewed through the federal perspective of total NEP leveraged dollars as identified and tracked by the USEPA), NEPs consistently document significant financial return on the federal investment.

Occasionally, EPA supplemental grants become available for NEPs through Section 320 funds allocated to the agency. The IRLNEP has taken advantage of these opportunities to support important CCMP implementation projects. These include a risk-based climate change vulnerability assessment ($24,700 in FY 2018), a climate-ready estuary adaptation plan ($52,050 in FY 2019) and expansion of IRLNEP support of Harmful Algal Bloom science, planning and response activities ($25,000 in FY 2020). The IRLNEP will
continue to support EPA in its pursuit to address gaps in funding for strategic projects as supplemental EPA funds become available.

In 2021, the U.S. Congress reauthorized Section 320 CWA at $50 million annually for FY 2022-2027. This was a significant increase from the $26.5 million authorized for FY 2016-2021. Local IRL Council dollars are used as direct match to the EPA funds appropriated annually by the U.S. Congress and allocated through the EPA NEP annual workplan proposal process to each NEP. Actual funding to the NEP is determined each year through the Congressional appropriation process.

Current funding for CCMP implementation comes from a variety of local, state, and federal sources. Collectively, these funding streams are significant, but insufficient to address the scale of problems impacting the IRL. The State of Florida has committed significant funding for local cost-share projects for the IRL through a variety of programs funded by annual legislative appropriations to FDEP and FWC. In addition, the SJRWMD and SFWMD deliver project funding through annual work plans and competitive local cost-share programs. During his tenure as Governor, Ron DeSantis, and the Florida Legislature have delivered historic levels of funding for water projects throughout Florida. However, state funding levels and priorities vary annually, making it difficult to make long-term programmatic decisions and commitments to complex, long-term projects.

Each Fiscal Year, a portion of the IRL Council budget that originates from IRL Council local and state contributions are appropriated for competitive Request for Proposals (RFPs) for local cost-share projects. In FY 2022, RFPs for implementation in FY 2023 will focus on: Water Quality (up to $600,000), Habitat Restoration (up to $200,000), Community-Based Restoration (up to $200,000), Education and Outreach (up to $50,000) and Small Grants (up to $25,000 with individual project funding between $500-$5,000). Federal funding from the EPA is appropriated in the IRLNEP RFP process to activities related to CCMP planning, science and innovation ($100,000 RFP). IRLNEP strategic project funding using EPA funds includes annual funding for community engagement, monitoring (i.e., Harmful Algal Blooms (HABs) and atmospheric deposition of nutrients) and science and innovation.

**IRL Counties and Cities are Expanding Their Local Restoration Investments**

Each of the 5 counties along the lagoon and many of the 38 incorporated cities have committed local funds to IRL restoration through allocation of general revenues, ad valorem assessments, discretionary sales tax revenues, tourism taxes or stormwater utility fees. Both Indian River County and St. Luce County have passed discretionary sales tax increases to fund infrastructure improvements. Many of those projects have direct or indirect benefits to the IRL. However, the most significant long-term commitment of local funds for IRL Restoration is in Brevard County. Brevard County citizens passed a voter-approved half-cent sales tax referendum in 2016 to create the Brevard County Save Our Indian River Lagoon (SOIRL) Program with annual revenues projected to exceed $400 million over 10 years (Brevard County SOIRL, 2021). These revenues are dedicated 100% to IRL restoration. See Figure 7 Brevard County Case Study. In addition, the Brevard County Tourism Development Council (TDC) has allocated up to $1 million annually for a competitive grants program to fund projects and communication efforts that enhance both tourism and IRL restoration. This use of Tourist Development Tax (“bed tax”) revenues was made possible by Legislative changes adopted in 2018 that made lagoon and estuary projects eligible for funds collected by Brevard County’s 5% Tourist Development Tax on hotel rooms and other short-term rentals. A decision to fund IRL projects is made annually by the Brevard County TDC.
Case Study: Brevard County Citizens Make a Catalytic Investment

In 2016, the Brevard County Save Our Indian River Lagoon Project (SOIRL) Plan became the foundation for a successful voter-approved half-cent discretionary sales tax dedicated to IRL restoration. SOIRL estimated that at least a total present value of $6 billion was tied to restoration of Brevard’s portion of the Indian River Lagoon (IRL). Approximately $2 billion in benefits were identified from restoration. An additional $4 billion in damages were identified, if the IRL was not brought back to health during the next decade.

The SOIRL plan stated that if the project plan was viewed as a financial investment that paid $2 billion in benefits alone (i.e., not counting the avoidance of the $4 billion loss), the projected pretax internal rate of return was estimated at 10%, if the plan took 10 years to implement. However, if the County were to bond the sales tax revenue to accelerate implementation of this plan over 5 years instead of 10 years, the return on investment rose to 26% because the benefits of restoration would begin to accrue much faster. Based on the sensitivity of the rate of return to the speed of plan implementation, the plan stated that it was financially responsible and beneficial for the County to borrow money at a typical 4% annual bond rate to accelerate implementation to achieve the 26% return on investment. In annualized terms, borrowing $300 million at 4% to achieve a steady 26% annual return would contribute $63 million in annual positive cash flow, making bonding an excellent investment option.

Although, Brevard County chose a pay as you go approach and decided not to incur debt by bonding, investing in municipal bonds is an important consideration for large infrastructure projects to preserve capital while generating interest. Most municipal bonds are exempt from federal taxes, and some are tax-free at the state and local level.

Sales tax revenue projections for 2021 estimate that the ten-year program will deliver over $400 million to IRL restoration with a focus on 4 of the 10 Rs identified in the IRL CCMP: REDUCE excess nitrogen and phosphorus inputs to the IRL; REMOVE muck, an internal source of nutrient flux and fine sediments that impact water clarity; RESTORE nature’s living filtration services (filter feeders and seagrasses); and RESPOND to new information by measuring project performance, updating costs, and evaluating new technologies.

This dedicated use of voter-approved discretionary sales tax revenues was a visionary and historic commitment to IRL restoration at the local level with over 30% of the revenues collected coming from sales activities of tourist visitors.

One IRL water quality restoration effort where local stakeholders have a significant investment commitment is associated with implementation of projects identified in Basin Management Action Plans (BMAPs) and Reasonable Assurance Plans (RAPs) with state oversight from FDEP. The cost of implementing the 4 adopted BMAPs was estimated at $4.6 billion to accomplish the required nutrient load reductions (ECFRPC and TCRPC, 2016). The report concluded that by this measure and extended over a 20-year period, it would require an annual investment of $230 million to sustain an IRL-based economy.
• Basin Management Action Plan (BMAP)/Total Maximum Daily Load (TMDL) Compliance. Stakeholders are committed to implementation of 4 adopted BMAPs along the IRL (i.e., North Indian River Lagoon, Central Indian River Lagoon, Banana River and St. Lucie River and Estuary).

• Reasonable Assurance Plan (RAP) for Mosquito Lagoon. Sponsors for this RAP are the City of Edgewater, City of New Smyrna Beach, City of Oak Hill, Florida Department of Transportation (FDOT), and Volusia County.

Local partnerships and cost-share funding for projects are essential to IRL restoration success. Local partners have committed significant local matching funds to support competitive grant proposals as matching funds to state funds made available by the Florida Legislature. Recent examples of state investment leadership for local competitive grants programs include:

• $25 million allocated to IRL projects during the 2020 Florida Legislative Session. The competitive grants program is being administered by the SJRWMD. Thirty-three IRL projects were funded. Estimated total construction costs were over $79 million with over $47 million in local matching funds.

• Florida Senate Bill 2500 allocated $8 million in Fixed Capital Outlay (FCO) spending authority in non-recurring funds from the State of Florida’s General Revenue Fund to the Florida Fish and Wildlife Commission’s Division of Habitat and Species Conservation’s Aquatic Habitat Conservation and Restoration Section (FWC-AHCR) for Fiscal Year 2021/2022. The funding is authorized to, “restore manatee access to springs and provide habitat restoration in manatee concentrated areas.” Seven projects were identified by FWC for funding. Four projects recommended for funding were in the IRL with a total estimated project cost of $3.5 million.

• In September 2021, Governor Ron DeSantis announced a financial commitment of more than $53M in funding for wastewater infrastructure improvement projects to be administered through FDEP to improve Indian River Lagoon as part of a $116M state commitment to water quality improvement.

Although these significant one-time annual Florida Legislative appropriations support important water quality and habitat restoration projects, a higher level of annual recurring funding from multiple sources is needed to implement the range of infrastructure and restoration projects identified by the IRLNEP and to achieve the intended estuary restoration outcomes envisioned over the next 20 years.

Resource Needs for Program Growth and Stability
The IRLNEP continues to work to expand financial resources that support the program and CCMP implementation to meet the IRLNEP Mission: One Lagoon – One Community – One Voice. The following priorities identify both short and long-term resource needs. They represent the foundation for IRL restoration progress over the next 10 years and beyond. They are consistent with action recommendations of the CCMP and needs for long-term stewardship of the Lagoon.

Restoration and stewardship of the IRL will require integration of short- and long-term project implementation strategies based on funding availability and opportunities. Significant additional financial investments are needed at all levels (federal, state, local and private sector) with short-term priorities focused on projects that effectively and efficiently reduce nutrients and pollutants from all sources. Priority funding needs should focus on reducing external nutrient and pollutant inputs to IRL from land-based sources and reduction of internal legacy loads of nutrients through muck management. Most immediate needs are associated with human-built infrastructure improvements to wastewater (includes wastewater treatment plants and septic systems) and stormwater systems (includes large
regional stormwater projects and smaller residential and urban stormwater improvements). Restoration of natural habitat water filtration services from filter feeders, living shorelines, and seagrasses represent examples of the importance of a protecting and restoring natural IRL infrastructure.

**Short Term Resources Needs, Actions and Deliverables**
The CCMP identified specific IRLNEP deliverables with target dates for completion that align with the IRLNEP Mission statement and address short-term needs. The list is provided below.

**One Lagoon**
- Continue annual project funding and implementation. Projects are identified through a competitive RFP and prioritized for IRL Council/IRLNEP funding annually. Annual recurring activity.
- Expand funding for cost-share projects from local, state, regional, federal, and private funding sources. Annual recurring activity.
- Continue to update, expand and refine the IRL Comprehensive IRL restoration project list. Work with stakeholders to identify the highest priority projects. Begin on-going annual effort in FY 2022.
- Expand program capacity and stakeholder value by delivering Lagoon-wide geographic information system (GIS) asset mapping. Address need in FY 2022.
- *Science 2030 Report* that identifies gaps in scientific knowledge, identifies emerging issues and explores innovation opportunities. Complete in 2021 and update as necessary
- Deliver a CCMP Update (USEPA mandate every five years, as needed). Next update 2025.
- Deliver a CCMP Revision (USEPA mandate every 10 years). Next revision 2030.

**One Community**
- IRL Economic Analysis (begin seeking funding partners in FY 2022 to update 2016 study).
- Emergency Incident Preparation and Response Plan. Develop in FY 2022 with a focus on HAB coordination and communication.
- Expand the IRL Innovators and Investors IRLI² network to promote and cultivate water and clean technology innovation, technology development, private-sector industry solutions and private-sector investments in the IRLNEP. Restructure program in FY 2022. Expand strategic support of science and technology symposia and workshops. Annual recurring activity.

**One Voice**
- One Lagoon Communications Plan. Complete in FY 2022.

To sustain program productivity and performance, the IRLNEP must plan for workforce needs associated with increased funding, expanding responsibilities for project management, fund raising and new programs (example: administration of the IRL Specialty license plate). The IRLNEP staff will begin these discussions with the IRL Council Board of Directors in FY 2022.
Long Term Resources Needs, Actions and Deliverables: Long term resource needs are all related to implementation of action recommendations within each of the 32 Vital Signs identified in the CCMP (Figure 4). The following narratives for each of the IRLNEP Mission statements summarizes long-term resource needs:

One Lagoon: The most important resource need is increased funding to expand and accelerate IRL water quality improvements with a focus on reducing nutrients, sediments, other pollutants, and freshwater pulses at the source. Improved water quality is the first step to restore and sustain healthy habitats and living resources. Funding must focus on human-built infrastructure improvements to wastewater treatment plants, septic to sewer conversions, stormwater, and essential habitats for species of concern and important fish populations. The large scale, complexity and cost of these projects will require multi-agency partnerships, competitive local cost-share programs, and a 21st Century vision for improved water infrastructure throughout the IRL watershed.

One Community: Seven counties and 38 incorporated cities and communities call the IRL watershed “home”. Additional resources will be required to assist these communities to address CCMP Vital Signs. Community priorities and needs are related to water quality infrastructure, climate change, trash free waters, marinas and boating, 21st Century community planning, emergency response, and preservation of distinctive lagoon communities. Communities requiring special attention and funding support include environmental justice (EJ) communities, under-represented communities, economically challenged communities, working waterfronts, and communities with vulnerable historic/cultural sites. With EPA supplemental funding support the IRLNEP completed the Climate-Ready Estuary planning process to help guide our community partners as they address specific local vulnerabilities and adaptation strategies for coastal resilience, climate change and sea level rise.

One Voice: The six Vital Signs within the One Voice part of the IRLNEP mission represent specific IRLNEP outputs (deliverables) defined in the IRL CCMP that align with Section 320 CWA authority to convene a Management Conference to communicate, collaborate and coordinate CCMP implementation. The IRLNEP Management Conference recognized the importance of CCMP Implementation and Financing and ranked it as a “critical” IRL health concern. Every Vital Sign has action recommendations that require additional funding. The following Vital Signs require additional resources to deliver a high return on investment to support multiple Vital Signs identified in the CCMP:

- Monitoring, Scientific Research and Technology Development: The importance of stable and adequate funding to support a comprehensive and integrated monitoring network for the Indian River Lagoon cannot be understated. The IRLNEP is developing a One Lagoon Monitoring Plan as a CCMP concurrence document to fulfill EPA requirements and to provide a status report for the who-what-where-when-why of the existing sampling and monitoring activities and partners. The plan will identify gaps in the current monitoring network and provide recommendations for improving data collection, quality control, sharing and communication. The IRL’s STEM Technical Advisory Committee (STEMAC) is developing a Science 2030 document that will be completed in 2021 to identify the “big scientific research questions” that need to be addressed over the next decade. Central to that effort is recognition that expanded funding for scientific research is the foundation for science-driven decision making. Expanded investments are needed for innovative water technology research and development to address complex pollution problems, accelerate water quality restoration, increase efficiency, and decrease life cycle costs.
• **Citizen Engagement:** Additional resources are required to fully engage IRL citizens to understand the One Lagoon – One Community – One Voice Mission of the IRLNEP. Public participation and engagement are essential to the success of estuary restoration, management, and stewardship. Both targeted and broad communication campaigns can be challenging and depending on scope, expensive. The IRLNEP will complete a multi-year Communication Plan in 2021. This document is an EPA required CCMP concurrence document. IRLNEP communication efforts are guided by its Vision, Mission and Goals with full alignment to the IRLNEP brand standards. Effective and consistent delivery of high-quality public engagement activities is essential to influence public knowledge and understanding of issues and develop community support for funding restoration and stewardship activities. Ultimately, public engagement, trust and resolve are essential cornerstones for financing estuary restoration.

• **Habitat Restoration:** To date, most of the habitat restoration projects that have been funded by the IRL Council and IRLNEP are pilot, proof of concept, or demonstration scale projects. Projects will evolve from IRLNEP planning activities that are in progress as well as on-going discussions with IRLNEP Management Conference partners. Four IRLNEP strategic planning documents are in development to help guide the identification of IRL restoration, monitoring and scientific research projects: “One Lagoon Monitoring Plan”, “One Lagoon Habitat Restoration Plan”, “IRL Science 2030” (focused on identifying the big scientific questions for the next decade), and a “State of the Lagoon Technical Report” that will document the state of the lagoon based on the current level of scientific knowledge.

• **CCMP Implementation and Financing.** Understanding economic value and return on investment value is critical to long-term CCMP planning and implementation. This is a continuing high priority action for the IRLNEP. Updating the 2016 IRL economic study by ECFRPC and TCRPC is considered a high priority. To ensure the quality and value of economic assessments and trend analyses both within an NEP and among the 28 NEPs nationwide, a standard methodology for economic assessment of NEP estuaries that includes valuation of ecosystem services is needed.

One aspect of CCMP implementation and financing that is often under-appreciated or overlooked is the need to build and sustain the physical capacity to implement large-scale habitat restoration and species recovery projects. This infrastructure capacity may require aquaculture systems to support and accelerate restoration of seagrasses, fishes, mangroves, salt marshes or recovery of species of special concern.

Four capital improvement projects were identified in the CCMP that occupy a unique category of proposed projects on the restoration project list (capital construction). IRL “Regional Restoration Centers” were identified as current or future human-built assets in the IRL CCMP (2019). These regional centers include the Marine Discovery Center (MDC) in New Smyrna Beach; Brevard Zoo (Viera) and the proposed Aquarium Project at Port Canaveral; Florida Atlantic University-Harbor Branch Oceanographic Institute (HBOI) in Fort Pierce; and the Florida Oceanographic Society (FOS) in Stuart. Each was identified based on their facility capacity and demonstrated experience to deliver and support regional-scale habitat restoration, life-support seawater systems for species recovery (including seagrasses, filter feeders, economically valuable fishes, and species of concern), and ability to deliver volunteer and education programs to broad audiences. The IRLNEP has requested funding support from state and federal sources at $15 million to expand existing infrastructure at MDC, HBOI and FOS and to provide funding for planning, design and engineering for the proposed Brevard Zoo Aquarium project at Port Canaveral (Table 4).
These four regional restoration centers have the capacity to:

1. Create an integrated and coordinated network of regional ecosystem restoration centers that serve multiple community partners targeting multiple species and habitats with high priority restoration needs.

2. Position IRLNEP and its partners to identify, prioritize, coordinate, and implement estuary-wide restoration activities.

3. Generate a high level of public support, engagement, and trust to cultivate private-sector investments to fund future restoration projects.

4. Contribute significant economic value to IRL communities.

5. Stimulate economic growth for tourism, fisheries, aquaculture, and coastal recreation.

6. Create and sustain high-talent, high-wage jobs.

**FINANCING RESTORATION AND LONG-TERM STEWARDSHIP**  
*Proposed actions or strategies to maintain or garner new resources*

The IRLNEP Management Conference and program activities provide the collaborative governance structure to restore the IRL through enhanced communication, collaboration, coordination and connected leadership among diverse stakeholders. Beyond the programmatic resource needs of the IRLNEP, there is an urgent need to expand funding for restoration projects among all stakeholders that reduce nutrients and other pollutants impacting the IRL. These projects represent a large and diverse portfolio of needs (Table 2) that will require dedicated and expanded funding for the next 2 decades and beyond. The following sections identify broad actions, strategies or opportunities to maintain current levels of support and garner new resources at multiple levels.
IRLNEP – Program Level Opportunities
Sustained funding for the IRLNEP is an essential foundation of support for IRL restoration and stewardship. Program level actions and strategies include:

- Maintain IRL Council funding pursuant to the 2015 Interlocal Agreement by demonstrating high performance, close alignment with CCMP actions and priorities, fiscal responsibility, and public transparency. Publish and distribute the IRLNEP Annual Report to document projects, progress and responsible use of public funds.

- Identify, evaluate, and pursue new funding support from individuals, organizations, philanthropic organizations, foundations and industry through expanded pursuit of grants, donations, and expanded direct and in-kind funding for projects. This is an ongoing annual effort that is limited by current staff capacity.

- Expand revenues from the sale of the IRL specialty license plate. In 2021, the Florida Legislature transferred administrative authority for the IRL specialty license plate to the IRL Council. The IRLNEP will implement a 3-phased plan to increase revenues generated by specialty plate sales: 1. Update the license plate artwork consistent with Florida Department of Motor Vehicles criteria; 2. Develop and implement a comprehensive marketing and sales strategy for the new plate; and 3. Target the marketing campaign at two levels - retain current IRL plateholders and expand first-time buyer sales.

- Work strategically to expand how federal funds are leveraged within the IRLNEP with local, state, and private funding sources. Leveraging funds from all sources will continue as a high priority.

- Encourage IRLNEP stakeholders and partners to aggressively seek external funding for local projects. The IRLNEP will assist that effort by providing technical and grant writing support. This is an ongoing annual effort that has demonstrated high return on investment value for local partners who have taken advantage of the IRLNEP free grant writing technical support. The Appendix (Exhibits A, B and C) provides guidance for stakeholders seeking sources of funding for projects.

- Expand private-sector participation in and value of the IRL Innovators and Investors (IRLI2) Network. Restructure the network to expand financial opportunities for direct and in-kind support of the IRLNEP.

Federal Opportunities:
The IRLNEP is the only federally authorized, non-regulatory entity with an operational boundary that includes the entire IRL watershed and connected waters. Annual EPA funding for the IRLNEP Work Plan is an essential recurring revenue source for the program. Federal policies, programs, and appropriations anchor and promote many state and local funding commitments that support NEP CCMP implementation. There is a large federal land presence along the IRL with ecological, economic, and human-built infrastructure assets having national and global significance. These federal assets have generated significant impacts to the IRL from both construction and operational activities. Expansion of federal funding support is central to IRL restoration success. Federal funding opportunities include:

- Annual Congressional Appropriations for the NEP: In 2021, the U.S, Congressed reauthorized Section 320 CWA at $50 million annually for FY 2022-2027. This was a significant increase from the $26.5 million authorized for FY 2016-2021. Local IRL Council dollars are used as direct match to the EPA funds appropriated annually by the U.S. Congress and allocated through the EPA NEP annual workplan proposal process to each NEP. Actual funding to the NEP is determined each year through the Congressional appropriation process.
• Funding and implementation of the Comprehensive Everglades Restoration Plan (CERP) through the Water Infrastructure Finance and Innovation Act (WIFIA/WRDA). Everglades Restoration and Lake Okeechobee water management practices have direct impacts on the estuaries and watersheds of two National Estuary Programs. To the west through the Caloosahatchee River is the Coastal & Heartland Estuary Partnership. This NEP includes Dona & Roberts Bays, Lemon Bay, Charlotte Harbor - including Myakka & Peace River basins, Pine Island Sound - including the Caloosahatchee River basin and Estero Bay. To the east, through the St. Lucie River and Estuary, is the Indian River Lagoon National Estuary Program. This NEP includes Mosquito Lagoon, Banana River Lagoon, Indian River Lagoon and a southern portion of the Halifax River. Direct impacts from Lake Okeechobee freshwater discharges impact the southern IRL.

• IRL infrastructure improvements and habitat restoration are high priorities in need of federal funding support. Two key priorities are mitigation of historic human-built impediments to water flow (causeway dredge and fill transportation corridors and launch infrastructure at Kennedy Space Center) as well as upgrades of antiquated and inadequate wastewater treatment facilities for KSC.

• The identification and mitigation of soil and groundwater contamination sites is an important human and ecological health issue for the IRL. Establishing groundwater clean-up target levels for emerging contaminants on federal lands remains an issue of concern and opportunity.

• The Advanced Research Projects Agency (DARPA) is a successful federal program that invests in technology R&D that can result in transformational change. A similar investment in new technology R&D could transform water, wastewater and pollution remediation technologies and technologies that advance beneficial reuse of biosolids, nutrients and pollutants.

**State Opportunities**
The State of Florida has committed historic levels of funding for water quality improvements over the past few years under the leadership of Governor Ron DeSantis. Consistent, annual funding of the IRL Council pursuant to the 2015 Interlocal Agreement has been an essential foundation of IRLNEP funding and program success. State-level opportunities include:

• Continued statewide leadership, programmatic approach, and financial investments to advance clean water and healthy estuary initiatives for the IRL and throughout Florida.

• Expansion and diversification of statewide funding for competitive local cost-share grants programs that provide a successful pathway to incentivize local investments.

• Allocation of state funds to well-designed priority projects with adequate oversight to ensure that strategic outcomes are achieved, and tax dollars are spent responsibly. Annual appropriations for state programs should align with the scope of the problem. A statewide, long-term strategic plan is needed.

• Transitioning from the tradition of funding sole-sourced, single project, legislative budget requests to directing appropriated funds through state agencies as competitive local cost-share grant programs. This would create a competitive environment that increases project quality, performance, and financial accountability. Requiring matching funds (in-kind or cash) leverages and extends available state funds. Special considerations and exemptions should be given to communities that are small and economically challenged.
• Investment in research & development, innovative pilot projects, and proof of concept projects can position Florida as a leader in clean water innovation technologies. This statewide effort should include the Florida Department of Economic Opportunity, Enterprise Florida, regional Economic Development Commissions, and industry partners.

• Development and adoption of policies that promote and incentivize local municipalities (cities and counties) to incorporate sustainability and coastal resilience into development planning and construction permitting. This policy should be comprehensive and include development pathways that are nature-based, energy efficient, resilient, low impact to the environment (land, water, and air quality), and equitable.

• Policies and regulations should align with desired restoration and stewardship outcomes.

• A statewide public-private partnership for Florida’s oceans, estuaries, and coasts could help guide Florida as it funds and implements coastal policies and programs. An executive-level state partnership could assemble the connected leadership needed from the public and private sectors to advise the Governor and Florida Legislature, help to connect activities among the many state agencies and programs, and help advance Florida’s ocean and coastal leadership in water technology and innovation on a national and global level. Existing examples include Space Florida, Enterprise Florida, Visit Florida and CareerSource Florida.

**Local Community Opportunities**

Cities and counties must play an essential leadership role in IRL restoration and stewardship. Many infrastructure and development authorities, policy decisions and investment strategies are delivered at the local level. Each city and county should look at its IRL footprint and opportunities to become a Lagoon Friendly™ community. Considerations and opportunities include:

• Identify your local environmental footprint with a focus on direct and indirect impacts to IRL water quality. Identify local authorities and responsibilities. If every municipality reduced their own stressors to the IRL, significant restoration and recovery progress would be achievable. This would require each municipality to identify and allocate financial resources to address local issues and problems.

• Develop long-range growth and growth management plans that integrate capital improvement plans with IRL restoration and coastal resilience planning. Implement growth management decisions that decrease vulnerabilities and risks and deliver high return on investment value to communities. Cost estimates should include full life-cycle costs, cost of operations and management and quantified benefit-cost analysis.

• Implement local financial strategies to secure funds for project implementation and to provide matching funds for federal, state, and other competitive grant programs. Take advantage of technical support and grant-writing services provided by the IRLNEP. Stable, recurring funding is an essential financial cornerstone for IRL restoration.

• Revise existing policies or adopt new policies with appropriate investments, to become Lagoon-Friendly™ communities. This includes, but is not limited to, re-evaluating 5- and 10-year capital improvement plans, improved financial accounting for long-term operation and management, revisions to local comprehensive plan directives to consider low impact development, application of form-based codes to improve coastal resiliency, and identification of innovative approaches to finance infrastructure improvements and natural habitat restoration projects. Make a list of local project needs and prioritize the list.
Successful long-term financial sustainability is vital to implement the IRL CCMP through diverse resources and partners. The IRL CCMP – Looking Ahead to 2030 provided substantial direction for IRLNEP actions over the next decade and beyond with financial strategies to achieve program goals.

IRL restoration investments have strong support from our citizens. Recent polling studies (Escaleres, 2020) identified the Florida consumer willingness to pay for projects that clean up our waterways of at least $24 per person per year. Another example of willingness to pay is Brevard County’s Save Our Indian River Lagoon sales tax referendum that was approved by 62% of the voters in 2016. To ensure a successful outcome, citizens, communities, and industry partners must work together to identify and commit the financial resources to fix immediate problems and prepare for the future.

**THINK BIG - CATALYTIC INVESTMENTS**

*Financial Recommendations and Considerations to Revive the Indian River Lagoon*

The IRLNEP presents 6 recommendations for catalytic investments to implement CCMP actions to support IRL restoration and long-term stewardship. As the IRLNEP Management Conference moves forward to consider financial strategies to implement the CCMP, these broad recommendations and critical considerations should be recognized as opportunities for transformational change.

**RECOMMENDATION 1: 21ST CENTURY INFRASTRUCTURE**

*Bridge the wastewater, stormwater, and natural infrastructure gap through strategic investments to improve IRL water quality, conserve natural resources assets and services, and protect quality of life.*

**Critical Considerations:** Investments in natural and 21st Century human-built infrastructure that address current needs and future growth can help maximize the use of existing urban infrastructure, expand stormwater capacity, mitigate for adverse environmental impacts, decrease risks from coastal storms, climate change and sea level rise, and prepare for future growth. Investments should be based on short- and long-term resource needs and identified priorities. Special attention is needed to protect and build resilience in under-represented and economically challenged communities.

**Invest in 21st Century Infrastructure.** Coastal communities are challenged to understand and respond to vulnerabilities of human-built infrastructure, natural resource assets, and transportation/supply chains. Today’s aging and inadequate infrastructure, population growth, changing population demographics, and emerging threats from climate change and sea level rise elevate the urgency to identify solutions to these issues. Most IRL water quality problems are related to antiquated and inadequate stormwater and wastewater infrastructure and outdated land-use practices. Making strategic, long-term investments in best available technologies for water, wastewater, and stormwater infrastructure improvements in Florida to achieve a minimum of AWT standards with responsible nutrient management of biosolids and reclaimed water would reduce or remove human and industrial pollutants that enter the IRL. Additionally, rebuilding and restoring aging or inadequate wastewater and stormwater infrastructure will reduce vulnerability to WWTP overflows to IRL surface waters, expand WWTP capacity to accommodate septic to sewer conversions that reduce groundwater contamination, and accommodate the region’s growing human population. Financial investments in new and improved water and wastewater infrastructure can reduce community vulnerability to flooding, storm surges and sea level rise in low elevation high risk areas.

The economic and community values of human-built infrastructure have been widely documented (American Society of Civil Engineers, 2021; Ajami and Kane, 2020; Brookings Institution, 2018). Full understanding of and appreciation for ecosystem services and natural capital are economic areas of
growing interest as communities struggle with protecting natural threatened by coastal urbanization and threats from climate change and sea level rise. The value of ecosystem services must be considered and integrated into economic and financial assessments.

Current estimates for IRL restoration do not take into full account the needs to address future population growth, potential impacts of climate change and sea level rise, and communities with special vulnerabilities and needs. These stressors are already being felt today. Plans for infrastructure improvements and new infrastructure development must be made with a vision for growth and development that is forward looking and guided by the best available risk and vulnerability assessments.

**Consider Future Impacts and Trends**

*Population Growth:* Population growth projections for 2018 – 2030 for the five counties along the IRL (Volusia, Brevard, Indian River, St. Lucie, and Martin) estimate that an additional 240,000 people will move into the region by 2030, a 14% increase (University of Florida Bureau of Economic and Business Research, 2019). Strategic investments in infrastructure improvements can help communities prepare for this projected growth, while mitigating for potential impacts to the IRL.

*Climate Change and Sea Level Rise:* Climate change and sea level rise represent long-term stressors that must be considered in long-range planning. A risk-based vulnerability assessment and climate change adaptation plan have been completed to initiate the climate-ready estuary planning for the IRL (IRLNEP, 2020; Parkinson, *et al.*, 2021). This work demonstrated that 154 IRL CCMP management objectives were at moderate to higher risk from climate change. Those risks combined to form 472 stressor relationships among the 32 vital signs of the CCMP. Stressors and risks were evaluated to determine strategic adaptation actions, three stressors (precipitation, storminess, and sea level rise) and nine adaptation actions (all related to reduced pollutant and nutrient loadings from wastewater, septic systems, and stormwater infrastructure). Strategic investments in infrastructure improvements that build coastal resilience can decrease vulnerability risks and support community safety, resilience, and long-term prosperity. Risk has costs. Reductions in risk translate into longer lifespans for investment, lowered costs of borrowed money, avoided costs of premature failures of infrastructure, avoided costs associated with public safety and public health, etc.

The Urban Land Institute (ULI) evaluated costs and benefits of resiliency investments in South Florida (2020). The report developed benefit-cost estimates for avoided losses (benefits) versus cumulative costs of adaptation (costs) for the four counties in the compact. Table 5 summarizes the benefits versus costs of adaptation actions based on the ULI research.

Table 5. Estimated Costs and Benefits of Resiliency Investments (ULI, 2020)

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<td>56,000</td>
</tr>
</tbody>
</table>

*Note: Results presented in net-present value terms using a 5% discount rate over the period of analysis from 2020 to 2070. Estimated job years supported by direct investment in adaptation strategies in the four counties. Individual results at the county level vary.*
Address the Needs of Underrepresented and Environmental Justice Communities

The U.S. EPA and NEP are dedicated to promoting environmental justice for all citizens and communities. ([https://www.epa.gov/environmentaljustice](https://www.epa.gov/environmentaljustice)). The EPA defines environmental justice is the fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income, with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies. This goal will be achieved when everyone enjoys the same degree of protection from environmental and health hazards, and equal access to the decision-making process to have a healthy environment in which to live, learn, work and play.

The EPA has been a long-standing advocate for environmental justice. Environmental justice considerations are integrated into EPA programs, plans, and actions and to ensure equitable and fair access to the benefits from environmental programs for all individuals. On September 17, 2021, the EPA issued a Memorandum “Near-term Actions to Support Environmental Justice in the Nonpoint Source Program”. EPA recognized that water quality and climate change impacts can disproportionately affect urban and rural communities that are predominately of color, indigenous, linguistically isolated, low-income, and/or impacted by other stressors. EPA is committed to ensuring that the benefits of clean water provided by the Section 319 CWA reach disadvantaged communities. The agency is committed to taking actions in support of this goal in FY 2022. NEPs may be able to play an important partnership role with their NPS state programs in this effort.

The U.S. Census Bureau estimates the following poverty levels among the 7 counties within the IRLNEP watershed boundary (Volusia - 13.2%; Brevard -11%; Indian River – 10.7%; St. Lucie – 12.1%; Martin – 10.7%; Palm Beach - 12.2% and Okeechobee – 21.5%). Ethnicity is another important metric that should be considered in the environmental justice analysis. Table 6 provides ethnicity data for the 7 counties in the IRL watershed. The data is provided by on-line interactive map updated in 2018 from US Census Bureau Data ([https://statisticalatlas.com/state/Florida/Race-and-Ethnicity#data-map/county](https://statisticalatlas.com/state/Florida/Race-and-Ethnicity#data-map/county)).

Table 6. Florida Race and Ethnicity Data by County

<table>
<thead>
<tr>
<th>County</th>
<th>White</th>
<th>Hispanic</th>
<th>Black</th>
<th>Asian</th>
<th>Mixed</th>
<th>Other</th>
</tr>
</thead>
<tbody>
<tr>
<td>Volusia</td>
<td>73.6</td>
<td>11.9</td>
<td>10.6</td>
<td>1.71</td>
<td>1.63</td>
<td>0.53</td>
</tr>
<tr>
<td>Brevard</td>
<td>75.8</td>
<td>8.9</td>
<td>10.2</td>
<td>2.37</td>
<td>2.20</td>
<td>0.56</td>
</tr>
<tr>
<td>Indian River</td>
<td>76.4</td>
<td>11.5</td>
<td>9.1</td>
<td>1.22</td>
<td>1.59</td>
<td>0.22</td>
</tr>
<tr>
<td>St. Lucie</td>
<td>59.3</td>
<td>17.4</td>
<td>19.5</td>
<td>1.82</td>
<td>1.68</td>
<td>0.33</td>
</tr>
<tr>
<td>Martin</td>
<td>79.4</td>
<td>12.6</td>
<td>5.6</td>
<td>1.17</td>
<td>0.94</td>
<td>0.37</td>
</tr>
<tr>
<td>Palm Beach</td>
<td>56.9</td>
<td>20.2</td>
<td>18.3</td>
<td>2.55</td>
<td>1.49</td>
<td>0.51</td>
</tr>
<tr>
<td>Okeechobee</td>
<td>63.8</td>
<td>24.8</td>
<td>8.8</td>
<td>1.04</td>
<td>0.89</td>
<td>0.73</td>
</tr>
</tbody>
</table>

The IRL CCMP is a policy instrument with recommended actions, funding needs and desired environmental outcomes. The IRLNEP Management Conference must work to ensure that the effects of policies, funding and impacts are distributed so no social segment or community bears a disproportionate share of impacts.
EPA’s Office of Environmental Justice (OEJ) provides funding to community organizations to address their local environmental justice (EJ) issues. There are two OEJ grant programs: Environmental Justice Collaborative Problem-Solving Cooperative Agreements and EJ Small Grants. EPA has funded over $6 million in EJ grants from 2014-2018. As the IRLNEP moves forward issues impacting EJ, underrepresented, poor and rural communities need greater attention and consideration (21st Century Communities and Distinctive Lagoon Communities Vital Signs of the CCMP).

**RECOMMENDATION 2: TRANSFORMATIONAL INVESTMENTS**

*Identify, develop, and deliver stable, dedicated, and recurring revenue streams from multiple public and private sector sources that are scaled to address problems effectively and efficiently.*

**Critical Considerations:** Shared and coordinated investments among multiple partners can mitigate for risks, optimize use of available financial resources, and fulfill current and future funding needs. A comprehensive, multi-pronged financial strategy with investments that are targeted and scaled to address root causes is critical to IRL restoration success. Implementation of a comprehensive, multi-pronged financial strategy will expand current revenue streams and identify new revenue sources and partnerships. The most effective and efficient use of funds is through competitive requests for proposals (RFPs) that deliver well designed cost-share projects and competitive procurement practices.

Partners can align financial resources to reduce administrative costs and avoid delays to project implementation. Challenges to the success of IRL restoration efforts include the lack of adequate recurring cost-share funding for wastewater infrastructure improvements, such as septic to sewer conversions and WWTP upgrades. Addressing these infrastructure needs and their IRL impacts will require understanding of the CCMP, expansion of significant new and recurring sources of investment, securing IRL projects through a competitive RFP process, and communicating effectively within the organization and across multiple partnerships. Other challenges related to revenue stream delivery are associated with the uncertainty of one-time annual funding. Many large infrastructure and habitat restoration projects are complex, phased, and require commitments of funds over several years. Without a clear commitment of sufficient annual and long-term funding, many of these projects become trapped in early planning, design, and engineering phases and do not proceed to permit acquisition to be “shovel-ready”.

Transitioning from reactive, annual, project-driven commitments to proactive, strategic, long-term programmatic commitments to IRL restoration and stewardship is a paradigm shift needed for both policy planning, investment commitments, and project implementation.

**RECOMMENDATION 3: INNOVATION**

*Support policies, programs and investment strategies that advance IRL monitoring, scientific research, and technology development to guide restoration actions, increase efficiencies, reduce costs, and monitor emerging threats and restoration progress.*

**Critical Considerations:** Advancing knowledge and applying cutting-edge and cost-effective technologies, will enhance performance, improve efficiencies, decrease life-cycle costs, contribute knowledge about best management practices and technologies, and help build a clean-tech workforce in Florida. Investment in scientific research and technology innovation can accelerate restoration activities, reduce life-cycle costs, and remove barriers to effective ecosystem restoration, recovery, and stewardship.

Ensuring successful implementation of prioritized projects requires that many project elements come into alignment. Barriers to success include: 1. Inadequate information to guide decision-making; 2. Inadequate
regulatory and financial incentives to compel water quality improvements; 3. Unfamiliarity with nutrient reduction standards; 4. Inadequate regulatory standards for nutrients in reclaimed water for irrigation, disposal of reclaimed water, and biosolids management and applications; and 5. Inadequate understanding of leading-edge technologies that might be available to improve project implementation, efficiencies and decrease life-cycle costs. Imagine if:

- Florida positioned itself as a global leader in clean-water and clean-tech innovation, and the “first clean water state in the Nation”?
- Clean-tech innovations needed to colonize the Moon or Mars were developed with consideration for the value those technology innovations could deliver to sustainable living here on Earth? This is a unique opportunity to link IRL restoration and space technology on Florida’s Space Coast.
- Every waterbody in Florida met its intended use with no waterbodies included on the State's Clean Water Act Section 303(d) list of impaired waters.

With vision and leadership, Florida is well positioned to become a leader in clean water technology and innovation. Strategic investment to build and sustain this industry sector would expand and diversify Florida’s economy, build on the current growth of aviation and aerospace along the IRL and create high-tech, high-wage jobs. There is historic precedent for implementing a bold vision of this scale – the U.S. vision for space exploration and space vehicle launch capacity in Florida. However, that same space vision had dramatic impacts to the Indian River Lagoon with infrastructure improvements that destroyed wetlands, altered water flow, and compartmentalized the system with earthen causeways for east-west transportation corridors across the lagoon (Figure 8) and historic dredge and fill projects for the Crawlerway and launch platforms at Kennedy Space Center (Figure 9).

Figure 8. Example of earthen causeway alteration of natural IRL water flow at SR 528 and SR 520 across IRL, Sykes Creek and Banana River.

1 Dick Nunis, former Chair Walt Disney Attractions, personal communication (De Freese)
Existing and future planned infrastructure at KSC represent both a challenge and opportunity for the future of the IRL and the regional economy. Opportunities include:

• Remediation of legacy groundwater pollutants.

• Upgrades to existing wastewater treatment facilities to showcase 21st century wastewater technologies that exceed current advanced wastewater standards.

• Improvements to transportation corridors at causeways that deliver access to KSC, restore or improve natural IRL water flow and patterns, and consider natural infrastructure and building with nature principles (USACOE, 2018).

• Infrastructure improvements that reduce vulnerability to flooding, shoreline erosion, storm surges and sea level rise.

• Decreased risks to workforce attraction and retention related to bad water quality, harmful algal blooms, wildlife mortality events and community quality of life.

The above outcomes would require strategic and significant investments. But bold, forward-thinking investments at KSC with local, state, and private-sector partners could deliver multiple technological, economic and ecological benefits to the State of Florida. Current Congressional interests to fund infrastructure improvements nationwide could provide new revenues to make this vision a reality. One positive lesson from COVID-19 is direct evidence of how public investment in response to crisis can drive technology innovation and transformative change:

• The pharmaceutical and biotech sectors advanced technological breakthroughs in diagnostics, therapeutics and vaccines at a historic pace and retooled supply pipelines to respond to urgent needs (Kwon, 2020).

• A similar transformation accelerated the digitization of customer and supply chain interactions by 3-4 years (McKinsey & Company, 2020).
Investments to advance current water technology innovation can accelerate ecosystem restoration at every step of estuary management. Successful IRL restoration and stewardship will require a common vision, connected leadership and shared investment among public-, private- and independent sectors at federal, state, and local levels. The National Estuary Program Management Conference is a successful and proven collaborative governance model to deliver connected and collaborative leadership and vision. With the diverse, economically valuable, and expansive estuary and coastal resources in Florida, a similar connected leadership and governance model is needed at the statewide level.

**RECOMMENDATION 4: CONNECTED AND COORDINATED LEADERSHIP**

*Creation of a private-public sector, executive-level advisory council to the Florida Governor and Legislature would help to coordinate leadership, shared resources, and financial investments and guide effective public policies, science-driven priorities, and measurable outcomes for the State of Florida.*

**Critical Considerations:** The fragmented framework governing the water sector in Florida and throughout the United States constrains innovation and commercialization by creating barriers to entry. Fragmentation also reduces the viability and economic value of private-sector market development. The IRL’s $7.6 billion annual economic value extends well beyond its ecological and natural resource values that support recreational uses for fishing, boating, bird-watching, and other wildlife viewing. In 2016, the Treasure Coast and East Central Florida Regional Planning Councils (TCRPC and ECFRPC) published an economic valuation update for the IRL. The economic valuation methodology and the report was reviewed by the Florida Department of Economic Opportunity (DEO). Overall, the total annual economic output or value received from the IRL (based on 2014 data) was estimated at $7.6 billion. The estimate did not include:

- About $934 million in annualized real estate value added for property located on or near the IRL.
- Economic contributions from estuary-related resources in Volusia County north of the Ponce de Leon Inlet associated with the IRLNEP planning boundary expansion in the southern Halifax River.
- Ecosystem services values.

If real estate values and the IRLNEP boundary expansion into Volusia County been included in the analysis, the total annual economic output would increase to about $9.9 billion. Regardless, for planning purposes, a $7 billion annual economic value is more than sufficient to justify a one-time investment of $5 billion to address the water infrastructure and habitat restoration needs of the IRL. It’s important to recognize that the IRL is part of a bigger coastal and nearshore ocean economy that is a major economic engine for Florida. Poor water quality and harmful algal blooms in one estuary can influence certain industries, like tourism at a statewide scale. A recent economic analysis by the Florida Ocean Alliance (2020) estimated that:

- Florida’s coastal counties generated more than $7.97 billion of economic value or 77% of the state’s more than $1 trillion economy.
- Direct and indirect use of ocean and coastal resources contributed $73.9 billion to Florida’s economy.
- More than one million jobs in Florida were directly and indirectly created by activities that used ocean and coastal resources (Florida Ocean Alliance, 2020).

There is a significant body of evidence that for large ecosystem restoration and stewardship to be successful and sustainable, an integrated framework for connected and collaborative governance is essential. Emerson, et al. (2011) broadly define collaborative governance as:
“...the processes and structures of public policy decision making and management that engage people constructively across the boundaries of public agencies, levels of government, and/or the public, private and civic spheres in order to carry out a public purpose that could not otherwise be accomplished.”

Numerous success stories can be found within the National Estuary Program network where a vision, collaborative governance, connected leadership, and resolve led to profound water quality improvements. One of the best examples is in Tampa Bay, Florida, an estuary that was plagued by poor water quality, loss of seagrasses and algal blooms from the 1970’s to the mid 1980’s. Today, Tampa Bay water quality has returned in most segments of the estuary and seagrass is abundant (Figure 10).

Figure 10. Case Study: Tampa Bay nutrient reduction and management restores Tampa Bay water quality through a common vision and connected leadership.

Case Study: Tampa Bay Proves Estuary Restoration is Possible with Vision and Connected Leadership

Tampa Bay demonstrated through decades of action that a strong community vision, infrastructure investment, a long-term commitment to nutrient reduction, and strict water quality standards can deliver significant water quality and estuary health improvements, as well as economic benefits.

In 1996, local government and agency partners in the Tampa Bay Estuary Program (TBEP) approved a long-term goal to restore 95% of the seagrass coverage observed in 1950 (38,000 acres). Also, in 1996, the Tampa Bay Nitrogen Management Consortium (TBNMC) was formed. The TBNMC included local governments and agencies participating in the TBEP, as well as phosphate companies, port industries, electric utilities, and agricultural interests in the Tampa Bay watershed. These entities pledged to work cooperatively in a voluntary, ad-hoc framework to assist with the maintenance of nitrogen loads to support seagrass restoration in Tampa Bay. Recent data and observations from Tampa Bay indicate that continuing efforts to reduce nitrogen loading by the TBNMC partners has resulted in seagrasses recovering to levels not seen in decades (TBEP, 2017).

De Angelis, et al., (2020) estimated that the TBNMC invested $0.7 billion since the mid-1990s on Nitrogen load reduction projects. A more comprehensive estimate was included in the TBNMC Reasonable Assurance Update (2017). It included the Nitrogen load reduction project estimates from the Reasonable Assurance Plan as well as ancillary partner projects for habitat restoration, habitat creation and education outreach projects. That more inclusive estimate was over $2.47 billion since TBEP's inception in 1991.

Tomasko, et al. (2018) focused on the importance of focused resource management plans that hold the line on nitrogen loads from non-point sources. They also cautioned that estuary response and water quality improvements can involve a lag-time in years after investments are made and anthropogenic nutrient loads are reduced. As the TBEP moves forward, they have recognized that nutrient reduction efforts must continue to keep pace with population growth, aging infrastructure, and emerging challenges.

An economic valuation that assessed how much local economic output is linked to Tampa Bay restoration identified about $22 billion in annual economic value that depends on the restored Bay's health (TBRPC, 2017). Compared to the $2.5 billion invested over 20 years – about $125 million annually – the payoff has more than justified the expenditures by public and private sources. Had parallel investments in IRL restoration begun in 1991, the cost likely would have been half as much as the current bill.
Sadly, from March 30th to April 9th, 2021, approximately 215 million gallons of phosphate mine wastewater was discharged from a gypsum stack to the waters of Lower Tampa Bay from the Piney Point site, a former phosphate processing plant in northern Manatee County, FL. The Tampa Bay Estuary Program estimated that ~205 tons of total nitrogen were discharged over the ten-day period, or about as much nitrogen that was estimated to be delivered to that entire bay segment during a typical year based on data from 2004-2019. (TBEP, 2021).

This catastrophic event highlighted the urgent need for increase funding for infrastructure improvements that reduce risks from old, aging, and inadequate infrastructure. The event also showcased the importance of investments to support and sustain robust coastal monitoring systems and development of effective and efficient water pollution remediation technologies.

Lessons learned at Tampa Bay, Indian River Lagoon, Sarasota Bay, and other estuaries are that the hard work and investments made over many years and decades can be undone by catastrophic events, a lack of resolve, or a growing public complacency when water quality and environmental conditions seem to be improving. It is a reminder that estuary protection and stewardship is a forever commitment.

RECOMMENDATION 5: INDUSTRY LEADERSHIP

Industry leadership and active positive engagement is essential to identify and stimulate private-sector and market driven approaches that protect and restore water quality, build resilience in coastal communities, and accelerate the timeline for restoration.

Critical Consideration: Market driven approaches and private sector leadership are key to realizing the economic potential of IRL restoration and stewardship. Investments that incentivize innovation and growth of Florida’s clean water industry sector could help transform Florida into a national and global leader in ocean and coastal innovation and stewardship. Private industry at all levels has a responsibility and role to play in estuary restoration and long-term stewardship. It is in their best economic interests.

An estuary and its watershed represent a complex ecosystem of environmental, economic, and social assets and needs that are constantly evolving. Whether it is on-site pollution management and remediation, use of low impact development design in construction, or cause-marketing opportunities, IRL businesses have much to lose from an unhealthy IRL. Private-sector industry is economically vulnerable to lost community value from declining estuary health. Hospitality-related businesses are the most directly impacted by poor water quality, harmful algal blooms, and wildlife mortality events. But almost every sector of a community is impacted, from property values of residential and commercial real estate to the ability of industry to attract and retain a high-wage, high-tech workforce.

Private sector business investments and philanthropy from both individuals and corporate interests represent opportunities to expand funding for IRL restoration and stewardship. In 2020, the Giving USA Foundation reported that individuals, bequests, foundations, and corporations gave an estimated $471.44 billion to U.S. charities in 2020. Giving to environmental and animal organizations is estimated to have increased 11.6% to $16.14 billion. Adjusted for inflation, donations to the environment-animal subsector increased 10.3%. Recommended actions that could help expand private sector participation, investment, and leadership in IRL restoration and stewardship include:

1. The IRLNEP has embraced private-sector participation by creating the IRL Innovator and Investor Network (IRLI²). This initiative is still in its early stages of development. The IRLI² holds the potential to be a tool to encourage more active leadership, engagement, and investment from private sector interests for the IRLNEP and our non-profit partners. The IRLNEP will continue to grow the IRLI² network. Donations from individuals, businesses and industries can play a vital role
in making catalytic investments in IRL organizations, programs, and projects. Corporate investments targeted to strategic programs can have immediate positive impacts, influence positive social change, and deliver competitive financial returns. Opportunities for expanded private-sector investments throughout the lagoon can build community support and help advance the One Lagoon – One Community – One Voice mission of the IRLNEP. As the IRLNEP moves forward with restoration and stewardship plans identified in the CCMP, participation and leadership from private-sector interests can expand and diversifies available revenues; promote research, development and commercialization of technologies related to water; and cultivate strategic public-private partnerships (PPPs).

2. Recognition that the clean-water and clean-tech industry sectors represent a significant opportunity for Florida to expand and diversify the economy and expand Florida’s high-tech, high-wage workforce. The importance of the cleantech industry cluster has been recognized by Enterprise Florida. They estimate that there are over 11,750 cleantech companies in Florida (https://www.enterpriseflorida.com/industries/cleantech/). Among these businesses are environmental and engineering firms, construction firms, chemical laboratories, and technology companies that are directly and indirectly engaged in water infrastructure and habitat restoration planning, design, engineering, and construction.

3. Enhance communication and coordination among emerging water-tech and cleantech firms can be viewed as a critical gap in Florida’s technology infrastructure. Scientific researchers and investors seek peers for collaboration and peer-review, but the lack of information-sharing networks in Florida hampers industry cluster growth (The Balmoral Group, FDACS Bio-Ag Feasibility Study, 2014). Concerted efforts to concentrate and grow this industry sector and build bridges to academia and the community of resource restoration and management practitioners would deliver multiple benefits by delivering innovative research, technology development, commercialization of new technologies, increased efficiencies, and an accelerated timeline for water quality restoration.

The private sector must play an essential role to successfully address the challenges of declining water quality, loss of marine and estuarine resources, threats to marine and coastal industries, and large-scale stressors presented by climate change and sea level rise. A growing number of private sector interests have recognized the need for industry leadership and action. Industry leaders are beginning to address these emerging risks and opportunities by repositioning corporate investment strategies to take full advantage of new business opportunities associated with sustainable business practices.

In 2017, the Business & Sustainable Development Commission reported that the development of sustainable and inclusive business models could unlock economic opportunities on a global scale worth approximately $12 trillion annually and generate up to 380 million jobs, primarily in developing countries. This recognition of emerging market opportunities and the scale of potential economic growth will require visionary and strategic partnerships between private and public sectors.

Florida is well positioned to take advantage of these new market opportunities to benefit the statewide economy and environment. Public and private investments with an intentional focus to advance clean water technology R&D and deployment provide an opportunity to incentivize additional private sector investments, address critical infrastructure needs, accelerate the timetable for restoration, and decrease long-term costs. Public-Private Partnerships (PPPs), Environmental Impact Bonds, and other private-sector opportunities should be considered and pursued as appropriate when developing and implementing comprehensive IRL restoration strategies. The following sections provide preliminary insights into emerging private sector investment strategies, opportunities and market trends.

**Environmental Impact Investment Portfolios:** Often the private sector can mobilize capital more responsively than the public sector, expediting projects while reducing risk and time delay to the
government sector. Private-sector investment groups are beginning to commit to corporate reorganization, investment portfolios and recommendations that improve portfolio performance and at the same time position for long-term sustainable growth and strengthen the communities in which these businesses operate.

Blackstone, one of the world’s largest alternative asset managers, has dedicated itself to environmental, social and governance principles (ESG). They fulfill a commitment to be responsible investors, owners, and operators by reducing environmental impact, foster growth, and diversity across their portfolio of investments, and provide philanthropic support to communities. Their systematic approach to sustainability is simple. Companies and properties can increase profitability and long-term growth by managing energy, water, and waste more efficiently and effectively. These actions reduce environmental impact and achieve cost savings for corporate portfolios, assets, and investors (https://www.blackstone.com/esgsustainability/?utm_medium=ads&utm_source=google&utm_content=sustainability3&utm_campaign=AlwaysOnSearch&utm_medium=ads&utm_source=google&utm_content=461439021026&utm_campaign=AlwaysOnSearch).

Public-Private Partnerships: Public-Private Partnerships (P3) occur when private sector assets are at risk and have profit potential, subsidized by public funding; Dispersed Water Management projects are one example. Pursuit of P3 opportunities is an avenue to advance projects that offer new technology or scale up project benefits, and has been used widely in some infrastructure fields, such as transportation. Currently an Innovation Grant is being used in a P3-type arrangement with the IRL to advance collaboration across water quality datasets, allowing IRL partners to respond and potentially forecast more quickly water quality incidents such as Harmful Algal Blooms.

Large scale public-sector infrastructure projects are expensive, complex, often slow to completion and vulnerable to cost overruns because of public-sector bureaucracy. PPPs are long-term cooperative financial agreements between a government agency and a private-sector company that can be used to finance, build, and operate projects, such as public transportation networks, utilities, public buildings, or parks. A well-considered, strategic PPP approach can mitigate cost overruns and schedule delays that often plague traditional public-sector infrastructure project delivery.

Public agencies pursue PPPs for a variety of reasons, including access to private capital, improved budget certainty, accelerated project delivery, transfer of risk to the private sector, attraction of private sector innovation, and improved or more reliable levels of service (USDOT, 2012). However, PPPs require dedicated and stable revenue sources to pay back the upfront capital investment. PPPs are complex transactions. Sophisticated analysis is required to determine whether a PPP is likely to provide a better result than a traditional public-sector approach. For some projects, PPPs provide high return on investment with significant cost-savings over the life cycle of a project.

The Urban Land Institute (Corrigan, et al., 2005) published 10 principles for successful PPPs:
1. Prepare Properly for Public/Private Partnerships
2. Create a Shared Vision
3. Understand Your Partners and Key Players
4. Be Clear on the Risks and Rewards for All Parties
5. Establish a Clear and Rational Decision-Making Process
6. Make Sure All Parties Do Their Homework
7. Secure Consistent and Coordinated Leadership
8. Communicate Early and Often
9. Negotiate a Fair Deal Structure
10. Build Trust as a Core Value
**Environmental Impact Bonds:** Environmental impact bonds use private sector equity capital to advance projects that otherwise would wait until local governments compiled sufficient funding to achieve a specific outcome. In environmental impact bond transactions, investors fund a specific project outcome, which is then repaid by a local government as the outcomes are achieved. This approach can transfer project risks to the investor and accelerate the timeline for project completion.

**Dispersed Water Management on Private Lands:** Throughout the lagoon, freshwater inputs to the IRL have been dramatically altered by land-use patterns and coastal development. Even if the freshwater entering the system through stormwater conveyances are high quality, the fragile freshwater and saltwater balance of an estuary influences both species composition and estuary productivity. The ability to hold, treat and manage releases of water is a foundation for successful estuary restoration. It is also one of the great challenges. Many people don’t fully realize or appreciate how far upstream (west from IRL shorelines) that these freshwater, sediment and nutrient impacts extend. Large volume rainy season freshwater discharges from Lake Okeechobee to the Caloosahatchee and/or St. Lucie Rivers combined with natural watershed discharges through the many ditches and drainage systems that lead to IRL tributaries or surface waters represent both event-driven and chronic impacts to southern IRL water quality. The storage of excess surface water on private and public lands and the treatment of water quality before discharge to surface waters are essential components of a comprehensive approach to restore the IRL and meet Florida’s water management needs. Private landowners can play an important role in the delivery of dispersed water storage, treatment, and release programs. Efforts to deliver a dispersed water management program on private lands encourage property owners to retain storm water on their land in reservoirs and treat it with natural wetland filtration or other mechanisms prior to release. Dispersed water management on private lands provides an opportunity to accelerate delivery of large regional water storage projects. Landowners typically become involved through cost-share cooperative projects, easements, or payment for environmental services. Florida Water Management Districts have developed the requisite legal and financial instruments to successfully implement and manage these projects.

**Catastrophe and Climate Resilience Bonds:** One emerging financial investment opportunity relevant to Florida and the IRL is associated with Catastrophe Bonds and Climate Resilience Bonds. When natural disasters like hurricanes or floods occur, governments are often considered as “insurers of last resort.” Public emergency funds and agencies are often expected to underwrite losses not covered by traditional insurance and to coordinate and fund reconstruction efforts. A common experience is that long after emergency response and initial recovery assistance is exhausted, local and/or state funding is required to address the long-term needs of infrastructure. Disaster and resilience bonds can be designed with the financial conviction that planning for disaster events is more cost-effective than post-disaster response, reconstruction and recovery. As the frequency and severity of natural disasters (storms, floods, wildfires) increase, reconstruction and recovery efforts become financially unsustainable for budget-constrained governments. Investment in post-disaster resilience also provides increased assurance that a community’s economy will improve and thereby be able to pay down the costs of the bonds.

Catastrophe or resilience bonds are one mechanism that can transfer these types of risks to the capital market. They provide an insurance policy in which the holder of the policy receives a pay-out when a disaster reaches a predetermined threshold. A secondary benefit is that these types of bonds, create incentives for cities to invest in resilience to reduce the human and financial cost of catastrophic events when they do strike. Two examples include the New York Subway system and Amtrak. Both their own catastrophe bonds after Hurricane Sandy in 2013. In 2018, the market for catastrophe bonds was estimated at $30 billion annually and growing (Vaijhala and Rhodes, 2018).
The Bottom Line – Moving Ahead to 2030 and Beyond

Current levels of funding for IRL restoration and stewardship are insufficient to meet projected needs identified in the IRL CCMP and IRLNEP preliminary project list.

Insufficient investments challenge our commitment and creativity to pursue IRL recovery and sustained stewardship. Insufficient investments extend the timeline for ecosystem recovery and increase costs. The longer it takes to decrease IRL stressors, the more difficult and costly restoration will become. If we delay intervention actions or fail to respond to the urgent needs of a declining ecosystem, options for recovery may become more difficult and costly.

The Balmoral Group (Technical Memorandum, 2021) conducted a review of the IRL CCMP, Strategies for Financing the CCMP report (herein), prospective significant revenue streams (federal, state, and local government sources and private or public/private sources), and their alignment with the IRLNEP priority areas. The review confirmed that $5 billion was a reasonable cost estimate to achieve CCMP implementation. If implemented over a 20-year time frame, an investment of $250 million a year would be needed from multiple sources. The Balmoral Group prepared two reasonable financial Pro Forma analyses for CCMP funding. The report concluded that a comprehensive investment strategy could achieve the target goal of $250 million annually over 20 years, if comprehensive and coordinated investment decisions were made at local, state and federal levels.

Even with significant investments for restoration and stewardship projects, predicting ecological response is complicated. In 2009, Duarte, et. al. published a scientific article in the Journal of Estuaries and Coasts titled: “Return to Neverland: Shifting Baselines Affect Eutrophication Restoration Targets.” The research evaluated the response to nutrient abatement of four well-studied coastal ecosystems that received increased nutrient inputs between the 1970s and the 1980s. Evidence showed that the restoration trajectories of these ecosystems were not directly reversible. All four ecosystems displayed non-linear trajectories that failed to return to the reference status upon nutrient reduction. This work highlights the urgency to reduce nutrient and pollutant stressors to the IRL from all sources and as quickly as possible. The research reminds us that we may no longer be able to restore a system to some past historic reference point. With climate change, sea level rise and continued human population growth, we must make restoration and stewardship decisions with a preferred future as a target outcome. Identification of restoration project goals and quantitative measures of success are important considerations for every project.

Our scientific ability to understand and predict biological and ecological responses to restoration interventions depends heavily on having a robust, comprehensive, and integrated system for monitoring, mapping, and modeling IRL status and projected response. Although this report identified $5 billion in investment needs over the next 20 years, it’s impossible to predict accurately how the IRL will ecologically respond to those restoration interventions and how long it will take to see observe significant changes. The time value of money is an important financial consideration. The longer we wait, the more damage occurs. The longer we wait, the more difficult it may become to achieve restoration targets and intended outcomes. The longer we wait, the more it will cost. Inadequate investments today push those increased costs to future generations.

This “Strategy for Financing the IRL CCMP” provides information necessary to secure and sustain sufficient funding to continue the vital work of the IRNEP and implement the recommended actions in the CCMP. The Appendix section that follows provides a preliminary list of current and potential funding sources to assist IRL stakeholders who are looking for funding. As the IRLNEP and our partners look to the future, five fundamental truths should guide our decisions and actions:
Partnerships Are Essential. To a large degree, IRL restoration progress will depend on local vision, leadership and investment. Counties, incorporated cities, unincorporated towns and communities along the IRL have varying capacities to implement IRL restoration and stewardship strategies. In some cases, local interest in a healthy IRL may not be within the financial capability of a municipality. At times, IRL priorities may come into conflict with other urgent needs or opportunities. The IRLNEP supports and respects home rule and the ability, responsibility, and authority of its IRL partners to identify their own opportunities, needs, and priorities. At minimum, local municipalities should identify and understand the scope of their local footprint and impacts on the IRL. Then take actions to remove or reduce those impacts. Local municipalities do not have to do it alone. Local cost-share opportunities with the IRLNEP, FDEP, FWC, SFWMD, and SJRWMD are available to help leverage the power of partnerships through shared investments. Ultimately, better coordination, collaboration and communication must occur among federal state and local public- and private-sector partners.

There Are No Simple and Quick Solutions. Restoration of the IRL will not happen overnight. There is no “silver bullet” single action or new technology that will transform the system back to some healthy, historic reference point. Human population growth continues to concentrate in high-quality coastal areas. Coastal infrastructure is aging and inadequate to accommodate that growth. Outdated and inadequate regulatory policies may not align with restoration needs and desired outcomes. Climate change and sea level rise complicate the identification of solutions and decision-making. Public policy, investments and regulatory actions must be implemented as long-term stewardship strategies focused on quality of life, sustainability, public safety, and coastal community resilience. Resolve and a commitment to sustained investments are needed.

Think Big. Bold, transformational decisions and investments are needed. A failure to act will increase costs, community vulnerabilities and impair future prosperity. The good news is that estuaries are naturally resilient. Significant reduction of priority stressors can jump-start the recovery of water quality, habitats and living resources. Building community resilience is a common goal that can connect the dots between water infrastructure – natural infrastructure – transportation infrastructure – homeland security – and adaptation to both climate change and sea level rise. A bold, aspirational statewide vision for clean water and healthy, resilient coasts is needed with connected leadership is urgently needed.

Scale and Time Investments to Align with Needs. A significant increase in funding is needed for the IRLNEP and its federal, state and local restoration partners to deliver measurable progress towards a sustainable IRL recovery. The IRL CCMP provides broad guidance for strategies and actions to focus investments for high return on investment value. What is missing in Florida today is a comprehensive and integrated non-regulatory and regulatory framework that supports public and private-sector investments that are scaled to deliver transformational and sustainable improvements to our water, wastewater and stormwater infrastructure that will promote and sustain a healthy IRL. If annual IRL investments continue at the current scale, restoration will be measured in centuries rather than decades. A failure to accelerate investments in clean water and healthy estuaries will short-circuit financial growth opportunities, leave coastal industries and jobs vulnerable to continued water quality declines, and ultimately increase long-term costs. Strategic investment decisions to improve water quality and restore natural habitats today will position Florida and its human communities for sustainable economic growth and improved quality of life.

Reimage Our Role and Responsibility to Protect a National Treasure. There is only one Indian River Lagoon (ONE LAGOON). Ultimately, a cultural shift is needed in how we think, how we behave, and how we value the lagoon in our daily lives, in the quality of our communities, and in our economy. The IRL delivers multiple natural resources benefits to our communities and quality of life. It is a
backbone of world-class recreational and tourism assets. The lagoon is linked physically and functionally to America’s next great expansion of aviation and space exploration. Designated by the U.S. Congress as an “estuary of national significance”, the IRL is a national treasure and an engine that drives the economy of the region, Florida, and the nation. For the Indian River Lagoon and Florida, clean water and healthy coastal ecosystems are not just aspirational environmental goals but represent economic and quality of life imperatives.
CITATIONS


Environmental Finance Center at the University of Maryland. 2016. Options for Financing Chesapeake Bay restoration in Pennsylvania. 27p.
Environmental Finance Center at the University of Maryland. 2017. Strategies for Financing Chesapeake Bay Restoration in Virginia. 30p.


Escaleras, Monica. 2020. Florida Registered Voters’ Attitudes About Florida’s Quality of Water and Waterways. Polling research sponsored by the Clean Water Coalition of Indian River County and the Brevard India River Lagoon Coalition. Florida Atlantic University Business and Economics Polling Initiative. 23 pages.


PART 2
APPENDIX
Sources of Funds
APPENDIX EXHIBIT “A”
Federal Funding Opportunities Beyond the NEP

Major sources of federal funds identified herein include Congressional Acts and Appropriations, as well as specific examples of funding opportunities within federal agencies and programs. It is not an exhaustive review. It is important to remember that funding sources and annual funding appropriations vary from year to year. Requests for proposals may not follow standard timetables. One-time funding opportunities can appear at any time.

For IRLNEP stakeholders and partners looking to identify federal grant programs, the primary source for information is the Catalog of Federal Domestic Assistance (CFDA). This catalog lists the available funding programs available to government, nonprofit organizations, for-profit businesses, and other eligible entities. Search for grants and federal funding opportunities at www.grants.gov. This resource allows potential grant applicants to search, filter, and apply for specific opportunities to receive federal funding. Some of those are included in the sections below.

Many articles and sources document federal resources for environmental restoration and stewardship. As one example, the Environmental and Energy Study Institute, an independent, bi-partisan 501 non-profit organization that promotes environmentally sustainable societies published a document in 2020 called “Federal Resources for Nature-Based Solutions to Climate Change” that listed several federal funding and technical assistance programs. Some of these opportunities are included in this document. Table A-1 provides a preliminary list of federal funding programs, approximate amount of funding available, as well as the likely potential funding capacity. These programs are summarized in greater length in the narrative sections that follow. Prospective applicants should contact the funding agencies and program representatives directly before developing and submitting a proposal. Probability of funding varies from program to program based on grant priorities and quality of proposals.
Table A-1. Federal Funding Program and Likely Potential Funding Capacity

<table>
<thead>
<tr>
<th>Funding Program</th>
<th>Approximate Funding Available</th>
<th>Type of Funding</th>
</tr>
</thead>
<tbody>
<tr>
<td>Comprehensive Everglades Restoration Plan (CERP)</td>
<td>$200,000,000</td>
<td>Congress appropriated funding</td>
</tr>
<tr>
<td>American Waters Resources Act (AWIA)/Water Resources Development Act (WRDA)</td>
<td>$67,400,000</td>
<td>Funding Authorization Vehicle</td>
</tr>
<tr>
<td>America’s Water Infrastructure Act (AWIA)</td>
<td>$2,015,200,000</td>
<td>Funding Authorization Vehicle</td>
</tr>
<tr>
<td>EPA - Building Blocks for Sustainable Communities Program</td>
<td>NA</td>
<td>Technical Assistance Program</td>
</tr>
<tr>
<td>Clean Water State Revolving Fund Program</td>
<td>$686,500,000</td>
<td>Loan</td>
</tr>
<tr>
<td>Clean Water Non-Point Source Program (Section 319)/State Water Quality Assistance Grants</td>
<td>$9,000,000</td>
<td>Federal and State Funding</td>
</tr>
<tr>
<td>Drinking Water State Revolving Fund Program</td>
<td>$54,600,000</td>
<td>Loan</td>
</tr>
<tr>
<td>EPA - Greening America’s Communities Program</td>
<td>NA</td>
<td>Technical Assistance Program</td>
</tr>
<tr>
<td>EPA - Sewer Overflow and Stormwater Reuse Municipal Grants Program</td>
<td>$1,809,000</td>
<td>Grant</td>
</tr>
<tr>
<td>EPA - Superfund Redevelopment Initiative (SRI)</td>
<td>NA</td>
<td>Tools/Training</td>
</tr>
<tr>
<td>EPA - Urban Waters Small Grants Program (UWSG).</td>
<td>$6,600,000</td>
<td>Grants</td>
</tr>
<tr>
<td>FEMA - Flood Mitigation Assistance (FMA) Grant Program</td>
<td>$897,436</td>
<td>Grants</td>
</tr>
<tr>
<td>FEMA - Building Resilient Infrastructure and Communities (BRIC)</td>
<td>$500,000,000</td>
<td>Federal Funding and Technical Assistance</td>
</tr>
<tr>
<td>HUD - Community Development Block Grant (CDBG) Program - Mitigation Program</td>
<td>$16,000,000,000</td>
<td>Grants</td>
</tr>
<tr>
<td>NOAA - Community-Based Restoration Program</td>
<td>$4,000,000</td>
<td>Grants</td>
</tr>
<tr>
<td>NOAA - Sea Grant</td>
<td>$200,000</td>
<td>Matching Grant</td>
</tr>
<tr>
<td>NOAA - Coastal Resilience Grant Program - National Coastal Resilience Fund</td>
<td>$804,348</td>
<td>Matching Grant</td>
</tr>
<tr>
<td>NOAA - Broad Agency Announcement</td>
<td>NA</td>
<td>Funding</td>
</tr>
<tr>
<td>US DEPT INT - The Bureau of Land Management Financial Assistance</td>
<td>NA</td>
<td>Financial and non-financial assistance</td>
</tr>
<tr>
<td>US DEPT AGR - Urban and Community Forestry (UCF) Challenge Cost Share Program</td>
<td>$1,000,000</td>
<td>Technical, Financial (Matching Grants), Research and Educational Services</td>
</tr>
<tr>
<td>US DEPT AGR - Conservation Stewardship Program</td>
<td>$2,282,000</td>
<td>Financial Assistance, Technical Assistance</td>
</tr>
<tr>
<td>US DEPT AGR - Environmental Quality Incentives Program</td>
<td>$1,750,000</td>
<td>Financial Assistance, Technical Assistance</td>
</tr>
<tr>
<td>US DEPT AGR - Forest Stewardship Program</td>
<td>NA</td>
<td>Technical Assistance Program</td>
</tr>
<tr>
<td>USFWS - Partners for Fish and Wildlife Program</td>
<td>NA</td>
<td>Technical Assistance</td>
</tr>
<tr>
<td>USFWS - The National Coastal Wetlands Conservation Grant Program</td>
<td>$27,000,000</td>
<td>Matching Grant</td>
</tr>
</tbody>
</table>
GENERAL FUNDING OPPORTUNITIES

Comprehensive Everglades Restoration Plan (CERP), authorized by Congress in 2000, is a 50-50 partnership between the federal government and the state of Florida. The Plan includes more than 60 projects that will take more than 30 years to completed at an estimated cost of $16.4 billion. Components of CERP have both direct and indirect impacts on restoration and stewardship of the southern Indian River Lagoon and its tributary, the St. Lucie River and Estuary. Congress authorized the Indian River Lagoon-South (IRL-S) project in the Water Resource Development Act of 2007. The project includes about 170,000 acre-feet (ac-ft) of new water storage in reservoirs (C-44 Reservoir, C-23/24 North/South Reservoirs, and C-25 Reservoir) and storm water treatment areas (STAs, C-44 West/East, C-23, C-24, and C-25); additional water storage on about 92,000 acres of natural storage areas (Allapattah, Palmar, and Cypress Creek); removal of 7,900,000 cubic yards of muck from the St. Lucie River and Estuary; and construction of artificial oyster habitat in the Lagoon. In 2020, Congress appropriated $250 million in the FY 2021 omnibus appropriations bill for South Florida Ecosystem Restoration, which funds a suite of Everglades projects, including the Central Everglades Planning Project. This was an increase from $200 million in FY 2020 federal appropriations for Everglades Restoration.

American Waters Resources Act (AWRA)/Water Resources Development Act (WRDA). Reauthorized during the 116th Congress (2020) in a two-year authorization cycle, WRDA bills authorize water resources studies and projects and set policies for navigation, flood control, hydropower, recreation, water supply and emergency management for the U.S Army Corps of Engineers. This legislation addresses local interests related to ports, inland waterways, levees, dams, wetlands, watersheds, and coastal restoration. The WRDA recognizes the critical water infrastructure needs in our states and communities as well as the importance of green infrastructure and low impact development to reduce costal vulnerability.

Specific to the Indian River Lagoon, current WRDA funding is used to support Everglades Restoration, the State Revolving Loan Fund, the Clean Water State Revolving Fund, and the Drinking Water State Revolving Loan Fund. WRDA reauthorization and expanded appropriations can advance federally funded water infrastructure projects, natural infrastructure to mitigate the risk of storms and flooding, expand projects that enhance coastal resilience, support Harmful Algal Bloom research, mitigation, and prevention projects, and advance our scientific understanding of coastal and ocean acidification to determine risk-based vulnerabilities and responses.

America's Water Infrastructure Act (AWIA) of 2020 was reported to Senate in May 2020. AWIA primarily addresses the Civil Works program of the Army Corps of Engineers (Corps). The bill supports the nation’s global economic competitiveness by authorizing the Corps to undertake projects, programs and initiatives in their Civil Works program relating to navigation, environment, flood risk management, hydropower, recreation, regulatory, emergency management, and water supply. AWIA 2020 also facilitates our nation’s water infrastructure by creating and reauthorizing U.S. Environmental Protection Agency (EPA) water and wastewater programs under the Clean Water Act (CWA). Section 3016 reauthorizes the National Estuary Program as part of the CWA and includes new estuaries to EPA’s candidate list to be considered as estuaries of national significance. It increases the authorization of the program to $50 million for each fiscal year 2022 to 2026 (See Sustaining the IRL Council and IRLNEP through Partnerships and Stable, Recurring Investments of this document). Section 3210 Under management conference calls for the administrator to give priority consideration Indian River Lagoon, among others. Further, the bill reauthorizes through FY2024 the Clean Water State Revolving Fund, which provides financing for water quality infrastructure projects. The bill also reauthorizes through FY2030 the Indian Irrigation Fund, which provides funds to maintain and repair Indian irrigation projects.
**Water Infrastructure Finance and Innovation Act (WIFIA)** was signed into law in 2014. The WIFIA program is managed by the EPA. WIFIA includes both direct loans and a new credit enhancement/guarantee mechanism for eligible water and wastewater infrastructure improvements. WIFIA was amended by Section 1445 of the Fixing America’s Surface Transportation Act of 2015 (FAST), section 5008 of the Water Infrastructure Improvements for the Nation Act of 2016 (WIIN), and section 4201 of America’s Water Infrastructure Act of 2018. [The statute and its amendments are in 33 USC Ch. 52: Water Infrastructure Finance and Innovation.] The interim final WIFIA implementation rule, Credit Assistance for Water Infrastructure Projects, was adopted by EPA in 2016 and established guidelines for the WIFIA program and the process by which EPA will administer credit assistance. The interim final previously incurred Costs in the WIFIA Program was signed by EPA in 2018 amending WIFIA regulations to clarify the process and conditions for including costs incurred and the value of integral in-kind contributions made before loan closing in the calculation of total eligible costs. It also explains the process for being reimbursed for those eligible costs by WIFIA loan proceeds. The WIFIA program can fund development and implementation activities for eligible projects including those eligible for the Clean Water SRF, Drinking Water SRF, energy efficiency projects, projects secured by a common security pledge, as well as development phase activities, among others. Complete guidelines are listed under the EPA WIFIA site.

**ENVIRONMENTAL PROTECTION AGENCY (EPA) OPPORTUNITIES**

**Building Blocks for Sustainable Communities Program.** Developed in 2011, EPA developed this program to provide quick, targeted technical assistance to selected communities using tools that are designed to address a variety of challenges in many different local contexts. The tool includes an agenda, presentations and exercises that help facilitate discussion, a self-assessment to inform the conversation, an action-oriented process leading to next steps and partnerships. Technical assistance provided includes public engagement through a 2-day workshop, direct consultation with decision makers and potential partners, and a memo with specific next steps. Eligible applicants: local, county, and tribal governments and non-profit organizations that have the support of the local government on whose behalf they are applying (including IRL stakeholders) Applicants can submit a letter of interest outlining specific information including challenges the community faces, proposed technical assistance, alignment with strategy implementation, and capacity for implementation including partners involved.

**Clean Water Act Nonpoint Source Grants Program.** Section 319 of the Clean Water Act awards grants for projects that manage nonpoint sources of water pollution. Section 319 grants may only be used for water management activities that do not directly implement a National Pollutant Discharge Elimination System (NPDES) permit. In Florida Section 319 grants are administered by the Florida Department of Environmental Protection. Eligible applicants: Local municipalities (including IRL stakeholders), state agencies and tribes. The grant total in 2020 was $172.3 million in grant money supporting a variety of activities including technical assistance and assistance, education, training, technology transfer, demonstration projects and monitoring to assess the success of specific nonpoint source projects.

**Clean Water State Revolving Fund (CWSRF)** CWSRF uses federal and state funds to provide low-interest loans for water infrastructure projects. States contribute a 20-percent match of the federal funding and are responsible for operating and implementing the projects. Nature-based solutions for habitat restoration, pollution management, and other projects (such as those contemplated by the CCMP) are eligible for CWSRF funding. State CWSRF programs provide loans to eligible recipients to construct municipal wastewater facilities, control nonpoint sources of pollution, build decentralized wastewater treatment systems, create green infrastructure projects, protect estuaries, and fund other water quality projects. Building on a federal investment of $46.8 billion, state CWSRFs have provided $145 billion to communities through 2020. IRL projects funded through this program include reclaimed water reuse facilities, treatment facilities, wastewater treatment and stormwater management facilities as well as lift station rehab for Cape Canaveral, among others.
**Greening America’s Communities Program.** This program supports green infrastructure and sustainable design projects in cities and towns across the United States. Eligible applicants include cities and towns. The EPA funds a team of designers to produce schematic designs to catalyze or complement a larger planning process for the pilot neighborhood. The design team and EPA, along with partners from other federal agencies, also help city staff develop specific implementation strategies. Additionally, these pilots are often the testing ground for citywide actions, such as changes to local codes and ordinances to better support environmentally sustainable growth and green infrastructure. The design team and EPA, along with other federal agencies, can help city staff develop specific implementation strategies.

**Sewer Overflow and Stormwater Reuse Municipal Grants Program** – This new grant program will provide funding for critical stormwater infrastructure projects in communities including sanitary sewer overflows (SSO). States are required to prioritize funding projects for communities that are financially distressed, have a long-term municipal CSO or SSO control plan, or for projects that have requested a grant on their Clean Water State Revolving Fund (CWSRF) Intended Use Plan. Projects under this program will have many of the same program requirements as the CWSRF and, to the extent that eligible projects are available, at least 20 percent of a state’s allocation must be used for green infrastructure, water and energy efficiency improvements, and other environmentally innovative activities. Florida will receive 2.7% of the allocation from this program (approximately $1,809,000).

**EPA Superfund Redevelopment Initiative (SRI).** The SRI supports the cleanup and redevelopment of sites that are contaminated with hazardous waste by providing "site owners, businesses, local governments and lenders with the tools and information resources they need to make reuse happen.” Creating resilience to climate change is incorporated into Superfund site cleanup. Many Superfund sites can be redeveloped to include nature-based solutions that prevent flooding, erosion, and transport of contaminants. Eligible applicants: Government agencies, site owners, responsible parties, community members, developers, non-profit agencies, and other partners. This initiative is a nationally coordinated effort to ensure that EPA and its partners have an effective process and the necessary tools and information to return Superfund hazardous waste sites to productive use. In 2020, EPA collected data showing that at 632 non-federal facility sites that are in reuse, 9,902 businesses are generating $63.3 billion in sales revenue and employ 227,769 people who earned a combined income of $16.3 billion. As of January 2018, there have been 31 Superfund redevelopment opportunity sites, 4 of which are in Florida. Property owners and entities with controlling interests in a superfund property can utilize the redevelopment tools on the EPA page.

**EPA Urban Waters Small Grants Program (UWSG).** The Urban Waters Small Grants Program provides funds for projects that improve urban water quality. The projects must also provide additional community benefits (i.e., economic, recreational, and employment opportunities), engage underserved communities, and foster partnerships. Water quality issues can often be addressed with green infrastructure to manage runoff and reduce flooding. Since the inception of the Urban Waters Small Grants Program in 2012, the program has awarded approximately $6.6 million in grants to 114 organizations across the country and Puerto Rico. The grants are competed and awarded every two years, with individual award amounts of up to $60,000. This program can specifically address some of the environmental equity concerns of the IRLNEP. Eligible applicants include states, local governments (including IRL stakeholders), Indian Tribes, public and private universities, and colleges, public or private nonprofit institutions/organizations, intertribal consortia, and interstate agencies.

**EPA Regulatory Enforcement Fines:** Directed fines from EPA regulatory enforcement actions and assessment of Civil Penalties. Regulatory actions may result in civil penalties - monetary assessments paid by a person or regulated entity due to a violation or noncompliance. Penalties act as an incentive for coming into compliance and staying in compliance with the environmental statutes and regulations. Penalties are designed to recover the economic benefit of noncompliance and to compensate for the
seriousness of the violation. When civil penalties are assessed with funds transferred to the U.S. Treasury or mitigation projects performed to comply with regulatory enforcement actions related to damage to coastal water quality, habitats or living resources, the NEP should be involved in where and how those funds and/or projects are allocated. Any projects that occur within NEP watersheds should be in full alignment with adopted CCMPs and structured to secure highest mitigation return-on-investment value. This would represent an opportunity for IRLNEP to coordinate regularly with EPA to determine whether fines are applicable and can be directed.

FEDERAL EMERGENCY MANAGEMENT AGENCY (FEMA) OPPORTUNITIES

Flood Mitigation Assistance (FMA) Grant Program. This FEMA grant program provides resources “to reduce or eliminate the risk of repetitive flood damage to buildings and structures insurable under the National Flood Insurance Program (NFIP).” FMA funds projects that reduce flood damage and make communities more resilient to future flooding. Stormwater management, wetland restoration or creation, and floodplain and stream restoration projects are eligible for FMA funding. Eligible applicants: States, territories, and federally recognized tribes can submit applications on behalf of homeowners, businesses, and private nonprofits. The application period to apply for fiscal year 2020 FMA funding was opened on September 30, 2020. There is $200 million available in FMA funding.

FEMA’s Building Resilient Infrastructure and Communities (BRIC) program was authorized by the Disaster Recovery Reform Act of 2018. It replaces the FEMA Pre-Disaster Mitigation (PDM) Grant Program. This grant program allows participants to develop resilient infrastructure to reduce the impacts of natural disasters, such as floods, earthquakes, droughts, and wildfires, before a disaster occurs. This program will provide FEMA with a steady stream of funding year-to-year for pre-disaster hazard mitigation projects, and a unique and exciting opportunity to shift toward proactive investment in community resilience. This program replaces FEMA’s Pre-Disaster Mitigation program and supports states, local communities (including IRL stakeholders), tribes, and territories, as they undertake hazard mitigation projects reducing the risks they face from disasters and natural hazards. BRIC’s guiding principles are supporting communities through capability and capacity-building; encouraging and enabling innovation; promoting partnerships; enabling large projects; maintaining flexibility; and providing consistency. There is $700 million in funding available. This includes $500 million for Building Resilient Infrastructure and Communities with $20 million in set-aside grants for tribes.

U.S. DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT (HUD) OPPORTUNITIES

Community Development Block Grant (CDBG) Program. The CDBG program supports a range of community needs, including affordable housing, neighborhood stabilization, and economic development. The program provides annual grants on a formula basis to states, cities, and counties to develop viable urban communities by providing decent housing and a suitable living environment, and by expanding economic opportunities, principally for low- and moderate-income persons. Green infrastructure for stormwater management and urban tree planting are eligible for CDBG funding because they create jobs, mitigate flooding in communities, and increase economic activities. Eligible Applicants: States, cities, and counties. Programs include the CDBG Cares Act, Disaster Recovery Program, Entitlement Program, Mitigation Program, State Program, 108 Loan Guarantee Program, Insular Areas Program, among others. Congress appropriated $12 billion in CDBG funds in February 2018 specifically for mitigation activities for qualifying disasters in 2015, 2016, and 2017, and HUD was able to allocate an additional $3.9 billion, bringing the amount available for mitigation to nearly $16 billion. This represents an opportunity for IRLNEP to engage and assist its communities (subject to limitations imposed by current CDBG funding within each local government) to evaluate financing options for IRL projects.
COMMUNITY-BASED RESTORATION PROGRAM supports coastal and marine habitat restoration projects, such as restoring coral and oyster reefs, removing dams, and rebuilding coastal wetlands. The program provides grants and technical assistance for “restoration projects that use a habitat-based approach to rebuild productive and sustainable fisheries, contribute to the recovery and conservation of protected resources, promote healthy ecosystems, and yield community and economic benefits. $4 Million in funding was available in community-based restoration program funding for coastal and marine habitat restoration in 2020. Eligible Applicants include Institutions of higher education, non-profit organizations, for-profit organizations, foreign public entities and foreign organizations, state, territory, local (including IRL stakeholders), and Indian tribal governments. The Florida Aquarium, Groundwork Jacksonville, Inc, Mote Marine Lab, and the Coral Restoration Foundation are among past recipients for these awards.

NOAA Sea Grant provides a variety of non-infrastructure funding opportunities based on its work in four focus areas: Healthy Coastal Ecosystems, Sustainable Fisheries and Aquaculture, Resilient Coastal Communities and Economies, and Environmental Literacy and Workforce Development. Funding opportunities include National Strategic Investments, Special Projects, and focused opportunities through each of the 34 Sea Grant programs. Florida Sea Grant Funding and Proposal Information is available for the period 2020-2022 and should identify a topic and project relevant to coastal and ocean needs in Florida and the nation. Program Priorities change for different funding cycles. The 2020 to 2022 funding cycle priority areas are healthy and coastal environments, sustainable fisheries and aquaculture, and resilient communities and economies.

NOAA Coastal Resilience Grant Program funds projects that are helping coastal communities and ecosystems prepare for and recover from extreme weather events, climate hazards, and changing ocean conditions. All project proposals undergo a rigorous merit review and selection process by a panel of subject matter experts from across the United States that include representatives of government, academia, and private industry. For example, the City of Naples working in partnership with the FDEP and NOAA utilized this funding vehicle to restore five acres of oyster reef in three locations in Naples Bay. Additionally, this grant program provided the Gulf of Mexico Alliance with project partner Florida DEP funds to help coastal communities enhance overall resilience to future hazards.

NOAA Broad Agency Announcement is a mechanism to encourage research, education and outreach, innovative projects, or sponsorships that are not addressed through NOAA’s competitive discretionary programs. This announcement is not soliciting goods or services for the direct benefit of NOAA. Funding for activities described in this notice is contingent upon the availability of Fiscal Year 2021, Fiscal Year 2022, and Fiscal Year 2023 appropriations. Eligibility requirements are the same as those for Community-Based Restoration Program. In furtherance of this objective, NOAA issues this BAA for extramural research, innovative projects, and sponsorships (e.g., conferences, newsletters, etc.) that address one or more of the following four mission goal descriptions contained in the NOAA Strategic Plan.

NATIONAL INSTITUTE OF STANDARDS AND TECHNOLOGY (NIST) OPPORTUNITIES

NIST’s core mission is to promote U.S. innovation and industrial competitiveness. NIST research programs are targeted towards emerging technologies that will have the greatest impact in advancing the competitive position of the United States. Currently, these critical technology domains include Quantum Information Science, Artificial Intelligence, 5G and Advanced Communication, Advanced Manufacturing, and Biotechnology. Because of the scale of vulnerabilities and the significant benefits that our estuaries and coasts provide to the U.S. economy, our quality of life, and national security, NIST should consider adding ocean and coastal technology priorities to the list of critical technology domains. The capabilities
of the Kennedy Space Center and its affiliates could be evaluated for NIST opportunities, especially as relate to IRL resource management needs. To thrive in its mission to promote U.S. innovation and industrial competitiveness, water and clean tech industry innovation should become a federal investment priority.

U.S. DEPARTMENT OF AGRICULTURE OPPORTUNITIES

Urban and Community Forestry (UCF) Challenge Cost Share Program. This program works with states to provide technical, financial, research and educational services so communities can conserve, restore, and enhance urban forests. The program funds projects that improve human health, educate communities on urban forestry, and increase the resilience of urban forests. Urban forests help manage stormwater runoff and reduce building energy use by moderating temperatures (which also reduces the public health impact of heat waves) and mitigate climate change by sequestering carbon. Eligible Applicants: Local governments (including IRL stakeholders), non-profit organizations, community groups, educational institutions, and tribal governments.

Conservation Stewardship Program. The largest conservation program in the United States with more than 70 million acres of productive agricultural and forest land enrolled in CSP. This program assists producers in protecting grazing land uses; conserving and improving soil, water and wildlife resources; and achieving related conservation values by conserving eligible land through grassland conservation contracts. Includes grassed waterways, grade stabilization structure, residue management, and water and sediment control basin, degraded plan conditions, terrestrial habitat, etc. Nearly 7% of all farm and ranch land nationwide is involved in program. All private agricultural land, including cropland, pasture, and rangeland, is eligible to enroll in CSP. Applications are ranked based on conservation in place at time and ability to increase natural resource and environmental benefits.

Environmental Quality Incentives Program. NRCS provides agricultural producers with financial resources and one-on-one help to plan and implement improvements, or what NRCS calls conservation practices. Using these practices can lead to cleaner water and air, healthier soil and better wildlife habitat, all while improving agricultural operations. To get started, NRCS first assists to develop a conservation plan that meets goals and vision for the land; In Florida, the following priorities guide EQIP application selection: Water Quality Degradation, Insufficient Water, Soil Health, Plant and Animal Health, Inadequate Habitat for Fish and Wildlife. Additionally, farm records must be established or updated with the Farm Service Agency for both the person(s) and the land for the application to be eligible and evaluated; meets AGI and payment limitations provisions compliant with highly erodible land and wetland conservation requirements. Payments of up to $450,000 are made to participants after an EQIP plan/practice is constructed and/or measures have been carried out.

National Resources Conservation Service (NRCS). NRCS's natural resources conservation programs help people reduce soil erosion, enhance water supplies, improve water quality, increase wildlife habitat, and reduce damages caused by floods and other natural disasters.

Forest Stewardship Program provides aid to owners of forest land where good stewardship, including agroforestry practices, will enhance and sustain multiple forest resources and contribute to healthy and resilient landscapes. The Forest Stewardship Program focuses on assisting landowners to actively manage their land and related resources, keeping land in a productive and healthy condition for present and future owners, and increasing the economic benefits of land (timber harvesting, for example) while conserving the natural environment.
U.S. FISH & WILDLIFE SERVICE OPPORTUNITIES

Partners for Fish and Wildlife Program. This program works with landowners to complete habitat restoration projects. In the last 24 years, 50,000 landowners have worked with Partners to complete 60,000 habitat restoration projects on 6 million acres. The health of the country's fish and wildlife populations depends on private landowners, who manage more than two-thirds of the country's land. Partners provides technical and financial assistance to landowners interested in restoring and enhancing wildlife habitat on their land. Projects are custom designed to meet landowners’ needs.

The National Coastal Wetlands Conservation Grant Program annually provides grants of up to $1 million to coastal and Great Lakes states, as well as U.S. territories to protect, restore and enhance coastal wetland ecosystems and associated uplands. The grants are funded by taxes or import duties collected from the sale of recreational fishing equipment, boats, electric motors, and motorboat and small engine fuels under the authority of the Dingell-Johnson Sport Fish Restoration Act of 1950. Currently, FWS evaluates grant requests received from the State agencies on an annual schedule. Florida received funding from this grant in 2021 for Big Pine Key Hydrologic Restoration project and Bogey Creek Preserve Acquisition Phase 3 project.
APPENDIX EXHIBIT “B”
STATE OF FLORIDA FUNDING OPPORTUNITIES BEYOND THE NEP

Strategic statewide investments to improve Florida’s infrastructure can provide substantial, long-term benefits to the public and the economy. For the Indian River Lagoon, new infrastructure projects and improvements to aging and inadequate infrastructure can be designed to provide direct and indirect benefits to water quality and IRL health. For new and improved roadways – the benefits are delivered through improved stormwater design and engineering that consider stormwater runoff and water quality. Historic causeway dredge and fill projects and the NASA KSC Crawlerway represent significant obstructions to natural water flow in the IRL that should be considered as infrastructure improvements are considered. Special considerations need to focus on restoring natural IRL water flow, restoration of natural shorelines to provide resilience to storm surges and sea level rise and innovative approaches to habitat creation to mitigate historic losses.

For buildings and new construction, Low Impact Development and other technologies can improve stormwater treatment, improve hurricane resilience to wind and floods, and increase water/energy efficiency. The development community and local governments often cite cost as a reason not to consider stronger building codes and practices that improve coastal resiliency. The cost of a project over its entire life span needs to be considered along with benefits. Projects should be built sustainably and resiliently. Repeated damage of infrastructure from hurricanes that hit Florida show construction vulnerabilities, inadequacies, and costs. As we move into post-COVID recovery, strategic investments to improve Florida’s water infrastructure can provide significant benefits to water quality, economic stimulus, job creation and community resilience.

Florida’s FY 2020-2021 state budget included significant investments to protect the environment by allocating $690 million for water quality restoration. This included $322.6 million for Everglades Restoration, $236.6 million for water quality improvements like septic to sewer and wastewater improvement programs, and $25 million for projects to restore the Indian River Lagoon. Governor DeSantis and the Florida Legislature have appropriated historic levels of funding for Everglades Restoration and Florida’s water resources. These appropriations include significant funding to address harmful algal blooms (HABs) and coastal resilience. These public funds are well spent and deliver a high return on investment. Continued and expanded investment in clean water and healthy coastal ecosystems can create, protect, and sustain jobs and Florida’s clean-water dependent economy.

Florida Statutes provide authority as well as legal and policy guidance to state agencies and local municipalities regarding a wide range of financial issues including taxation, special districts, financing, and bonding. The size of Florida’s general revenue fund is driven by collection of sales taxes, insurance taxes, and corporate income tax. Because trust funds are dedicated to specific purposes, general revenue remains the most flexible source of funds to address statewide needs, with competition for funding. Numerous state programs within different agencies provide direct and indirect opportunities for Indian River Lagoon restoration and stewardship. Historically, many of the available state programs and funding sources have contributed to IRL restoration progress and stewardship.

There is one common thread among these state funding programs – the financial needs of restoration and stewardship exceed available annual funds. One of the great challenges for the State of Florida will be to develop a long-term investment strategy with stable, recurring funding appropriations. The following sections provide a preliminary list of state funding sources and opportunities.
FLORIDA REVENUE SOURCES

Water and Land Conservation Constitutional Amendment (Article X, Section 28 FL Constitution)
On November 14, 2014, Florida voters passed a Constitutional Amendment, “Amendment 1”, the Water and Land Conservation Amendment. With support from 4.2 million voters (75%) a third of the revenues collected by the Florida documentary stamp tax were to be directed towards water and land conservation efforts over a 20-year period (2014-2024).

This revenue source is a major environmental “budget driver” identified by the Florida Legislative Budget Commission (2019). The voter-approved Constitutional Amendment dedicated 33% of the net revenues derived from existing excise tax on documents (doc stamp tax) to the Land Acquisition Trust Fund for water and land acquisition, conservation, and management purposes.

Dedicated funding started on July 1, 2015. Revenues will continue for 20 years. The Florida Long-Range Financial Outlook projected annual doc stamp revenues to exceed $9.00 million annually with net proceeds after debt service exceeding $785 million for FY 2020-2021. Annual incremental growth was projected between 3.32%-3.59% until FY 2025-2026 when net revenues after debt service would exceed $1 billion. Total net revenue projections to LATF after debt service for the time period between FY 2019-2020 through FY 2034-2035 are projected at over $17 billion.

Strategic allocation of these revenues with a comprehensive, integrated, and forward-looking statewide plan to coordinate investments provides a historic opportunity for Florida to address existing water and land conservation challenges and position the state for future prosperity and high quality of life for future generations. Each relevant state agency (i.e., Department of Environmental Protection, Department of Agriculture and Consumer Services, Department of State, and the Florida Fish and Wildlife Conservation Commission) has its respective project priority lists. For example, the DEP Parks Division prioritizes capital improvements through individual park management plans. Coordination among agencies, perhaps using the IRL as a focal point for leverage, would increase the effectiveness of public investment.

AD VALOREM REVENUES – FLORIDA WATER MANAGEMENT DISTRICTS
Florida’s five Water Management Districts (WMDs) are agencies of the State, structured to deliver four statutorily determined water priorities: ensure sustainable water resources, increase water conservation, enhance water supply, and improve water quality in priority water bodies. The IRL is represented by two WMDs, the South Florida Water Management District and the St. Johns River Water Management District. Pursuant to the IRL Council Inter-local Agreement of 2015, the IRL Council receives $500,000 annually from each WMD. Water Management Districts collect most of their annual revenues from ad valorem (capped constitutionally at 1 mil) Millage. In addition to property tax revenues, the WMD budgets include funding from state, federal and other sources, including revenue from federal grants, state appropriations, timber sales, cattle leases and permit fees, and interest earnings.

As Florida’s population continues to grow, WMD’s must address complex water supply and water quality challenges, increased need to provide services, and increased stressors to Florida’s surface and ground waters. Strategic short- and long-term financial planning will be necessary to evaluate financial capacity, needs and the time value of money. WMD Governing Boards have a long history of adopting millage rollbacks to reflect to population growth and associated revenues with the goal of delivering year to year...
flat revenues and controlled expenditures. However, with rapid population growth, historic underinvestment in stormwater upgrades and increased costs of goods and services, WMD’s will need to evaluate budget considerations to increase revenues to meet current and future needs. WMDs have demonstrated the value of directing available funds to competitive local cost-share projects. This provides a powerful incentive for communities to move forward with local investments for water and habitat restoration projects and leverage available WMD funds. Further, the districts have the authority to designate individual “basins” for which different millage rates may be applied. The IRL could be defined as such a basin with a levy high enough to meet Districts priorities to support IRL-specific capital improvements and cost-share programs.

**TAXES AND FEES**

Sales taxes are the state’s leading source of revenue. They pay for more than 78 percent of the state’s general revenue programs. This revenue stream depends heavily on tourism activity, especially during seasonal peaks (winter-spring).

A traditional method for generating revenue is to increase existing taxes and fees or impose new ones. This approach has the advantage of raising new funds rather than reallocating them from other existing programs. There are barriers to increasing taxes with existing programs (i.e., sales tax, gas tax, user fees) or creating new tax structures with appropriate and equitable tax rates (i.e., pollution tax on nutrients, pollutants, or carbon emissions). For Florida, there is a widespread public and political aversion to tax increases.

In contrast, the public has repeatedly demonstrated its willingness to pay for clean water and conservation through both state and local voter-approved referenda. See Brevard County SOIRL Case Study in this report. In 2020, the Florida Atlantic University, College of Business, initiated a statewide public polling initiative on behalf of the Brevard Indian River Lagoon Coalition and the Clean Water Coalition of Indian River County (Escaleras, 2020). Floridians were polled (n=1150) using statistically defensible polling methodologies. 61% of the respondents said they were extremely or moderately concerned about water quality of Florida’s lakes, rivers, springs, and estuaries. 87% agreed that it was very important or important to clean up Florida’s waterways. Overall, 62% said they were willing to pay $2 per month beyond current levels to help pay for projects to clean up Florida waterways.

**COMMERCIAL AQUACULTURE**

The Indian River Lagoon was historically a desirable shellfish production area. Increased oyster reef area offers opportunity for commercial reef leases to aquaculture operators. Annual lease payments in turn provide revenue to support further reef restoration. Expanded investments to build Florida’s commercial aquaculture sector could cultivate expansion of this industry sector and expand the role of this industry sector as a partner in natural habitat and species recovery efforts.

**FLORIDA FISHING AND HUNTING LICENSES (USER FEES)**

One example of where user fees have made a significant impact on conservation in Florida and the U.S. is within the fishing, hunting and outdoor recreation communities. State wildlife agencies and the wildlife conservation system of the U.S. depend heavily on sportsperson recreation for funding. Activities include fishing, hunting, and wildlife-related recreation. Over the years, public participation in these activities vary within user-groups. The 2016 USFWS National Survey of Fishing, Hunting, and Wildlife-Associated Recreation revealed that over 103 million U.S. residents 16 years and older participated in wildlife-related recreation. During that year, 35.8 million people fished, 11.5 million hunted, and 86.0 million participated in at least one type of wildlife-watching activity including observing, feeding, or photographing fish and other wildlife. A strong commitment to clean water, healthy habitats and high-quality wildlife resources are essential to sustain this outdoor recreation industry sector.
In Florida, the Florida Fish & Wildlife Conservation Commission (FWCC) is responsible for managing Florida's freshwater aquatic life, wildlife, and marine life. The agency was created by the enactment of Chapter 99-245, Laws of Florida, during the 1999 Regular Legislative Session and is largely funded through hunting and fishing licenses (both freshwater and saltwater), and through vessel registration fees, specialty license plates, federal grants, assorted hunting and fishing specialty tags, stamps, and permits, and general revenue provided by the state. FFWCC revenues flow through numerous restricted trust fund accounts (land acquisition, marine resources conservation, state game, nongame wildlife, invasive plant control, save the manatee, Florida panther, administrative, grants and donations and federal grants). In FY 2019-2020, 11% of FFWC revenues were from general revenue.

Also, Florida receives more than $22 million annually via disbursements under the Wallop-Breaux Act. Some of these funds are for boating safety, but the majority is deployed for public access and aquatic natural resource management. While the monies are for statewide use (including freshwater), the IRL could be legislatively designated as a priority, even if time-limited, for these funds. Again, the opportunity for leveraging dollars is enhanced by flexing additional resources.

**NUTRIENT CREDIT TRADING**

Water quality credit trading is a voluntary, market-based approach that can help promote and accelerate the protection and restoration of Florida's rivers, lakes, streams, and estuaries. The goal of nutrient trading is to facilitate economic exchanges that can reduce pollution quicker and more effectively using market forces to drive water quality restoration.

In 2008, the Florida Legislature passed HB 547 to amend the Florida Watershed Restoration Act and authorized water quality credit trading in the Lower St. Johns River Basin. By October 2010, over ten trades were approved by the Department of Environmental Protection (“Department”). These trades primarily involved draft pollutant reduction allocations, developed cooperatively by stakeholders and the Department before adoption of the Lower St. Johns River Basin Management Action Plan (“BMAP”).

On June 7, 2013, Governor Scott signed House Bill 713 (Ch. 2013-146, Laws of Florida), expanding the program to the entire State. The bill authorized FDEP to approve voluntary water quality credit trading in adopted BMAPs. For many reasons too complex to discuss here, water quality trading (nutrient credit trading) is an option that has not had widespread use in Florida. The potential of markets to achieve water quality goals more quickly, effectively and at lower cost than traditional regulatory approaches is well documented.

Water quality credit trading can benefit both businesses and the environment. With the passage of the expanded water quality credit trading program, Florida businesses have another mechanism to meet the numeric nutrient criteria and total maximum daily loads taking effect. In 2019, the EPA announced that it would modernize the agency’s water quality trading policies to leverage emerging technologies and facilitate broader adoption of market-based programs.

The challenges for Florida and the Indian River Lagoon will be to work with our regulated and unregulated partners to structure a water quality trading program that meets a number of important criteria: Develop a credit-based financial system that explicitly ties water quality restoration investments to quantified and desired outcomes; develop a consistent methodology to evaluate each restoration project in terms of credits, benefits and costs; consider all costs of restoration for the lifetime of the project, not just construction; and understand the market forces (that guide opportunity for P3 efforts and environmental impact bonds) that would drive a successful program. Pennsylvania, Virginia and the District of Columbia have well established water quality trading programs in place. Maryland has initiated a nutrient credit trading program. The state of Florida should explore opportunities to develop a framework for water
quality credit trading that supports TMDL and BMAP compliance and accelerates clean water outcomes. Nutrient credit trading is an option recognized in the IRL CCMP (2019). This option should be specifically explored for the Indian River Lagoon.

**FLORIDA STATE AGENCY ANNUAL BUDGETS**
Annual Budgets of Florida’s State Agencies are funded by a variety of sources including general revenues, taxes and fees and trust fund transfers. Each of Florida’s state agencies develop annual budget requests that consider both recurring and non-recurring needs and expenditures.

Agencies often issue competitive Requests for Proposals for specific projects that fall outside of the expertise or capacity of agency staff. Although interagency communication and cooperation is excellent, priorities vary from agency to agency and opportunities for greater synergies and shared investments represent opportunities to advance statewide priorities and initiatives. Pursuant to the IRL Council Interlocal Agreement of 2015, the IRL Council receives $250,000 from the Florida Department of Environmental Protection (FDEP) through its annual budget request process.

Increasing funding for competitive local cost-share projects can provide a powerful incentive for communities to move forward with local investments for water and habitat restoration projects. In addition to paying for restoration activity through new or expanded state revenue streams, the other option is to increase regulation by transferring the obligation to regulated entities. With TMDLs and BMAPs or Reasonable Assurance Plans (RAPs) already adopted and in progress for much of the Indian River Lagoon, a greater return on investment would be to work with regulated stakeholders to improve efficiencies, shorten timeframes for compliance, and expand monitoring to track and evaluate progress.

**STATE REVOLVING FUNDS**
Florida’s State Revolving Fund (SRF) is made up of three programs - Clean Water State Revolving Fund, Drinking Water State Revolving Fund, and State Revolving Fund Management. Both the Clean Water and the Drinking Water SRF Programs are funded through money received from federal grants as well as state contributions. These subsidized loans then “revolve” through the repayment of previous loans and interest earned and can reduce total investment costs over the 20-year horizon. While these programs offer loans, grant-like funding is also available for qualified small, disadvantaged communities, which reduces the amount owed on loans by the percentage that the community qualifies. Therefore, favorable interest rates make this program a high return on investment value for local municipalities. It should be noted that in 2020, the IRL received $18 million of a total of $212 million in Tiers I-III approvals. Funding primarily advanced wastewater treatment facilities, central wastewater collection and wastewater system rehabilitation. Each program is briefly described below with links to more information.

- **Clean Water State Revolving Fund (CWSRF)** Program provides low-interest loans to local governments to plan, design, and build or upgrade wastewater, stormwater, and nonpoint source pollution prevention projects. Certain agricultural best management practices may also qualify for funding. Discounted assistance (e.g., very low interest rates, grants, etc.) for small communities is available. Interest rates on loans are below market rates and vary based on the economic wherewithal of the community.

- **Drinking Water State Revolving Fund (DWSRF)** Program provides low-interest loans to local governments and private utilities to plan, design, and build or upgrade drinking water systems. Discounted assistance (e.g., very low interest rates, grants, etc.) for disadvantaged communities is available. Interest rates on loans are below market rates and vary based on the economic wherewithal of the community.
The SRF Management Program supports the Drinking Water SRF and Clean Water SRF programs by writing loan agreements, reviewing financials, approving procurement, processing disbursements, and managing billing. Generally, local governments (city and county) and special districts are eligible loan sponsors. The first step in the process for SRF funding, both Clean Water and Drinking Water SRF, is the submission of a Request for Inclusion form, which can be submitted any time during the year. The information in the form is used to establish a project’s eligibility for funding, including any principal forgiveness, and priority score which is then used for placement on the funding list (“priority list”) at the next quarterly public meeting (held the second Wednesdays of August, November, February, and May). Projects are funded, in order of their priority score, until funds are exhausted. Once on the funding list, the process for applying for the loan may begin. As with other programs, the IRLNEP is available to assist local communities with technical support and grant writing support.

STATE AGENCY FUNDING OPPORTUNITIES

Florida Department of Environmental Protection

- The Florida Forever Program and its predecessor, Florida’s Preservation 2000 have been Florida’s premier conservation land buying programs for the past four decades. Florida Forever is a blueprint for conserving natural resources and renewing Florida’s commitment to conserve the state's natural and cultural heritage. Since the inception of the Florida Forever program in July 2001, the state has purchased more than 818,616 acres of land for a little over $3.1 billion. Select State land acquisitions are coordinated through the FL Division of State Lands; other programs funded by Florida Forever are administered by other agencies (e.g., Florida Communities Trust).

- Beach Management Funding Assistance Program accepts funding requests from Florida local governments each fiscal year.

- Coastal Partnership Initiative program was developed to promote the protection and effective management at the local level of Florida’s coastal resources. The Florida Coastal Management Program makes NOAA funds available on a competitive basis to eligible local governments. Eligible local governments are defined as Florida’s 35 coastal counties and all municipalities within their boundaries that are required to include a coastal element in their local comprehensive plan. Florida’s public colleges and universities, regional planning councils, national estuary programs and nonprofit groups also may apply if an eligible local government agrees to participate as a partner.

- Federal Clean Water Act Section 319(h) Funding for control of water pollution from nonpoint sources is managed by the FDEP Nonpoint Source Management Program. Nonpoint source pollution, unlike pollution from industrial and sewage treatment plants, comes from many diffuse sources, including stormwater. The program administers both the Federal Clean Water Act Section 319(h) Grants (“319 Grants”) and the State Water-quality Assistance Grants (“SWAG”). The goal of these grants is to reduce nonpoint source pollution from land use activities. Total funding amounts available each year in these two grant programs depends on Federal and state appropriations (usually around $8 - $9 million).

- The Stan Mayfield Working Waterfronts grant program (funded by the Florida Forever program) was created by the 2008 Legislature and is administered by Florida Communities Trust. Grant funds are used to acquire a parcel(s) of land directly used for the purposes of the commercial harvest of marine organisms or saltwater products by state-licensed commercial fishermen, aquaculture practitioners, or business entities, including piers,
wharves, docks, or other facilities operated to provide waterfront access to licensed commercial fishermen, aquaculture practitioners, or business entities. Funds may also be used for the acquisition of a parcel(s) of land used for exhibitions, demonstrations, educational venues, civic events, and other purposes that promote and educate the public about economic, cultural, and historic heritage of Florida’s traditional working waterfronts, including the marketing of the seafood and aquaculture industries.

- Florida Recreation Development Assistance Program (FRDAP) is a competitive, reimbursement grant program that provides financial assistance for acquisition or development of land for public outdoor recreation. Eligible participants include all county governments, municipalities in Florida and other legally constituted local governmental entities with the responsibility for providing outdoor recreational sites and facilities for the public. FRDAP expenditures improve community access and appreciation (including underserved areas) and can thereby increase support for other investment in the CCMP. These are modest grants and often do not lend themselves to land acquisition. However, community access to the IRL is critical to IRL restoration and stewardship. Recreational access and use of the resource cultivate long term community support.

- Similar to FRDAP, the Recreational Trails Program is a federally funded competitive grant program that provides financial assistance to agencies of city, county, state or federal governments, and organizations, approved by the state, or state and federally recognized Indian tribal governments, for the development of recreational trails, trailheads, and trailside facilities. The program is administered in FDEP's Land and Recreation Grants Section within the Division of State Lands.

Florida Department of Agriculture and Consumer Services (FDACS)

- The Rural and Family Lands Protection Program is an agricultural land preservation program designed to protect important agricultural lands through the acquisition of permanent agricultural land conservation easements. Such easements preclude development for the duration of the agreement and thereby can avoid new nutrient loadings from wastewater or stormwater attributable to non-agricultural use. Originally created in 2001 with the passage of the Florida Rural and Family Lands Protection Act, the program acquires development rights to help ensure the future of agriculture in the state. The program recognizes that a thriving rural economy with a strong agricultural base and viable rural communities is essential to Florida’s future.

- The Florida Endangered and Threatened Plant Conservation Program originated in 1992 to work toward the recovery of federally listed endangered and threatened plant species in Florida. This program is open to any individual or non-federal institution planning to conduct a project to conserve federal- and state-regulated rare plants. These projects are funded on an annual basis only, and multi-year projects have no guarantee of successive funding. No projects may occur on federal lands. The program is funded through grants from the U.S. Department of Interior, Fish and Wildlife Service (USFWS) under Section 6 of the U.S. Endangered Species Act. The program issues small grants commonly ranging from $1,000 to $20,000 per year. These grants are given as 75:25 matching funds. Each project is responsible for acquiring the project’s match (25%) for the federal funds (75%).

- Florida Energy Technology Cost Share Program — Efficiency and Renewable Improvements in Commercial Aquaculture (ERICA). The Florida Department of Agriculture and Consumer Services (FDACS) developed the ERICA program to increase energy efficiency, reduce energy usage, and lower operating costs at commercial aquaculture facilities in Florida.
grant program is designed to provide grant reimbursement for technologies that significantly increase energy efficiency and renewable energy for eligible commercial aquaculture facilities and farms located in Florida. Qualified applicants are those applicants who are certified under Section 597.004, Florida Statutes, and have a physical presence in the state of Florida. The applicant must maintain certification throughout the project implementation and the one-year energy data collection period. Where successfully leveraged, this cost-share program could be a significant factor in restoring the scale and stature of the shellfish industry in the IRL. Energy efficiency may be undertaken jointly with water quality improvement technology, which in turn supports the habitat or conditions for aquaculture.

St. Johns River Water Management District

The St. Johns River Water Management District offers several cost-sharing programs throughout the year for projects that assist in creating sustainable water resources, provide flood protection and enhance conservation efforts. Funding may be available for local governments, agricultural interests, and other entities.

- District-wide Cost Share Program. The district accepts applications for cost-share funding for projects that benefit the district’s core missions. The typical deadline is in February of each year.

- Rural Economic Development Initiative and Innovative Projects Cost Share Program is open to all applicants with an innovative project or for REDI communities with projects (including O&M) that benefit one of the four district core missions with a maximum request of $500,000. The SJRWMD is an agency partner within the REDI program.

REDI communities are disadvantaged economically with an employment base dominated by traditional agriculture or resource-based industries and a population of 25,000 or less. REDI communities may also be unincorporated federal enterprise communities, or an incorporated rural city that is not located in a designated rural county. As of July 12, 2019, the following are REDI-designated communities in the IRL watershed: Fellsmere and Pierson.

Innovative Projects in Florida that will be considered for funding within this program use emerging or proven technology in a unique way to provide alternative water supply quantities or to expand available quantities to offset groundwater withdrawal, to improve water quality, or to otherwise improve the water resources of the district in support of the core missions. The typical deadline for REDI/Innovative Projects is in February of each year.

- The District’s Agricultural Cost-Share Program engages farmers, growers, and ranchers in the shared goals of water conservation and reduction of nutrient run-off. Projects eligible for funding include but are not limited to: Irrigation system retrofits; Soil moisture and climate sensor telemetry; Rainwater harvesting; Sub-irrigation drain tile; Tailwater recovery and reuse; Soil mapping with variable rate fertilizer application; and Expanded waste storage. Cost-share could be up to 75 percent, not to exceed $250,000 annually, of the design, construction, and implementation costs for approved projects. A MIL (Mobile Irrigation Lab) evaluation is recommended for submittal with the application but is not required. Applications are typically due by March.
South Florida Water Management District
For nearly two decades, the SFWMD has provided funding to local governments, special districts, utilities, homeowners associations, water users and other public and private organizations for stormwater, alternative water supply and water conservation projects that are consistent with the agency’s core mission.

- The SFWMD Cooperative Funding Program offers grant support through a single streamlined program that provides partnership opportunities and financial incentives to implement local projects that complement regional flood control, restoration, water quality and water supply efforts. Interested participants should subscribe with the SFWMD to be notified as grant funding opportunities arise.
  https://visitor.r20.constantcontact.com/manage/optin?v=001qMk_r0X4SLBZu_wloDY8yIW26U9nTa61kZlsDygh0svRaE3EnV0FvzdvHqpNCuj47_S3fP6fia9QseTVg_1JH_WBOx_TPxB0PeXrGVu2TB%3D.

Florida Fish and Wildlife Conservation Commission
FFWCC provides grants for numerous programs as funding becomes available. A summary of fish and wildlife grants is provided at: https://myfwc.com/conservation/special-initiatives/fbci/grant-opportunities/. Some examples relevant to the IRL include:

- Derelict Vessel Grant. Pursuant to sections 206.606 and 376.15, F.S., FFWCC has established a program to provide grants to local governments for reimbursement for the removal of derelict vessels from the public waters of the state. The program is funded by an appropriation from the Florida Legislature. https://myfwc.com/boating/grants-programs/dereilict-vessel/.

- Florida’s State Wildlife Grants Program is supported by the federal State and Tribal Wildlife Grants Program, which provides annually appropriated funding to every state and territory. This is a matching grants program, which provides financial support for projects that address conservation needs identified in the State Wildlife Action Plan.

- The Harmful Algal Bloom (HAB) Grant Program was first offered in FY 2020-2021 as part of the formation of the Florida HAB Task Force. First year grant funding supported projects that addressed priority recommendations of the HAB Task Force. Year 1 grants focused on projects that focused on enhancing research and communication related to Red Tide (Karenia brevis) blooms. https://myfwc.com/research/redtide/taskforce/grant/.

LEGISLATIVE BUDGET REQUESTS
In each session of the Florida Legislature, individual special projects are funded based on demonstrated needs, unique opportunities, public support, or political interest. Many are worthy projects with significant beneficial impacts. Some may not have strong return-on-investment value. To leverage the full benefits from legislative appropriations to specific projects, legislative budget requests should be accompanied by a detailed scope of work and financial analysis. For broad appropriations, making funds available through competitive grants programs should be the preferred process.

FLORIDA SPECIALTY LICENSE PLATES
Florida offers over 120 different specialty license plates for various organizations in support of the causes they represent. 23 support environmental causes or state agency conservation programs. In addition to the Indian River Lagoon specialty plate, several plates contribute to IRL restoration, conservation or stewardship (Save the Manatee, Sea Turtle, Discover Florida’s Oceans, Protect Wild Dolphins, etc.). Money raised from the sale of most license plates goes directly to the sponsor organization. With some plates,
funds are distributed through competitive grant programs. Details regarding fund distribution, administrative policies and fund-use restrictions are pursuant to enabling legislative language for each specialty license plate.

Annual sales vary from plate to plate. Plate sales histories suggest that revenues tend to flatten or decline relative to advertising investment levels and age of plate design. Administration of the Indian River Lagoon specialty license plate was transferred from the SJRWMD to the IRL Council during the 2021 Florida Legislative Session. Revenues from Volusia, Brevard and Indian River County will be applied to projects in the IRLNEP Program. Revenues from St. Lucie and Martin Counties are passed through to the SFWMD for projects in St. Lucie, Martin, and Palm Beach Counties. Historically, the IRLNEP has received approximately $125,000 annually from IRL plate sales in Volusia, Brevard, and Indian River County. In FY 2022, the IRL Council will roll out new artwork for the plate and implement a strategic marketing campaign to increase plate sales and revenues.
APPENDIX EXHIBIT “C”
Local Municipality Funding Opportunities Beyond the NEP

The 7 counties and 38 incorporated cities within the IRL watershed and the additional Volusia County cities within the IRL-Halifax planning boundary extension are all impacted directly and indirectly by IRL water quality declines. Inadequate transportation, stormwater and wastewater infrastructure have become common outcomes of chronic underinvestment. For small and financially challenged communities, the scope of the needs routinely exceeds their financial capacity. To compound the problem, rapid population growth and coastal development continue. Regulations and impact fees are not sufficient to offset impacts. Local government comprehensive plans have not kept pace with smart development changes and opportunities. Traditional market forces, such as those bolstering demand for large-lot, single family housing, continue to make smart growth changes difficult to implement. The costs of underinvestment in infrastructure maintenance and upgrades have reached a point for many local communities that local funding mechanisms alone will not effectively address the backlog of projects and scope of needs.

Public partnership with leveraged and shared funding, municipal bonds, and for some local governments, innovative public-private partnerships, represent strategic pathways to address the backlog of infrastructure improvement needs and upgrade infrastructure to support new growth and the new demands of 21st century sustainable and resilient communities. Communities that fail to upgrade infrastructure will ultimately feel the impacts associated with water quality declines, increased vulnerabilities, infrastructure failures and lost competitiveness.

LOCAL FUNDING OPTIONS

- **Local Ad Valorem Taxes** are based on the assessed value of real estate or personal property. These are levied by local jurisdictions, such as counties or school districts for a wide range of purposes. Basic ad valorem supports "general revenue" in most municipality budgets, so opportunities to apply funds for specific IRL purposes may be limited. Municipal Service Taxing Units (MSTU) are funded separately by supplemental ad valorem taxes.

  The five counties comprising the IRL currently have millage rates below the statutory maximum and in principle could be elevated to raise ad valorem revenues to support the CCMP. However, the Florida Legislature has capped the maximum yearly increase in accordance with the change in the per capita Florida personal income (s. 200.001(8)(i), F.S.). In 2019, if 100 percent of the allowable increase in millage were adopted by majority vote in each county (including Palm Beach County) and dedicated wholly to the CCMP, up to an additional $55 million could be generated for the IRL. This amount drops to about $23 million without Palm Beach County, which has very little property in the IRL watershed. Over 20 years even the lower amount yields about $456 million based upon a one-time increase in millage. References: Section 125.01(1)(q), Florida Statutes, allows a county to create municipal service taxing or units for the provision of enumerated services and "other essential facilities and municipal service[s]."

- **Non-Ad Valorem Special Assessments**

  Municipal Service Benefit Units (MSBU) are funded by the collection of special assessments or charges that fund a public service. The tool is flexible: it can be applied to commercial or industrial property only, or it can include residential land uses. Tax rates can be constant or can vary over time. MSBUs are funded through separate charges, assessments or fees – and are not based on property value. As examples, MSBUs have been funded instead based on linear (roadway) frontage, lot size, impervious surface, etc.
• **Wastewater Utility Fees**

There are over 4,100 active wastewater facilities regulated by the Department of Environmental Protection (DEP). Approximately 2,100 of these facilities are classified as industrial and approximately 2,000 as domestic wastewater. Approximately one-third of Florida's population uses on-site sewage treatment and disposal (septic tanks) to treat their wastewater.

Sewage spills are a common problem facing communities in Florida. According to Saintano (2020) between 2015 and March 2020, there were 13,984 reported sewage spills in the state, based on data obtained from FDEP and confirmed by the agency. During this period approximately 1,658,165,304 gallons of sewage were spilled in Florida, after initial recovery efforts were completed. These wastewater treatment plant failures are not uncommon along the IRL. In 2021, FDEP ordered the City of Titusville to pay $200,000 in penalties for a pipe break at their Osprey sewer plant north of Sand Point Park. The plant had a recent history of falling out of state compliance. The December 2020 spill leaked 7.2 million gallons of raw sewage into ponds that flow to the Indian River Lagoon.

Wastewater treatment plants (both public and private) represent a major source of nutrients and pollutants that enter the IRL through ground and surface waters. These pollutant loads are associated with the management of both biosolids and reclaimed water. Within the state and the IRL region, some wastewater treatment plants have yet to attain advanced wastewater treatment standards. Some are operating at full capacity. Many suffer from aging and inadequate infrastructure at both the treatment plant as well as the pipe distribution system. In 2020, the Florida Legislature passed the Clean Waterways Act. The Act increased fines against utilities that spill sewage and requires annual reports to the Governor and lawmakers on all such spills. Ultimately, upgrades to wastewater treatment infrastructure (including conversion from septic to centralized sewer) will require local municipalities to evaluate the current condition of their wastewater infrastructure and reconsider rates and revenue needs to attain and sustain a minimum of advanced wastewater treatment standards as Florida's population grows.

• **Discretionary Sales Tax**

Florida’s state sales tax rate is 6%. Individual Florida counties may impose a sales surtax called discretionary sales surtax or local option county sales tax. The counties use the funds to pay for local authorized projects. Discretionary sales surtaxes apply to all transactions subject to the state sales and communications services taxes. Nine types of local discretionary sales surtaxes are authorized in Florida Statutes, including local government infrastructure. References: Sections 212.054 and 212.055, Florida Statutes.

• **Gas tax.** The federal government levies tax on every gallon of gasoline sold in the United States. The State of Florida also levies a tax. Counties can increase their fuel taxes through what’s called an “additional local option.” County governments are authorized to levy up to 12 cents of local option fuel taxes in three separate levies on fuel sold within the county. These funds are intended to support roads and transportation, but stormwater management (i.e., water quality of runoff) associated with roadway improvements are eligible expenditures. References: Sections 206.87(1)(b), 206.87(1)(c), 336.021, and 336.025, Florida Statutes.

• **Tourist Development Tax** (also referred to as tourist tax, bed tax, or resort tax) is a 5% charge on the revenue from rentals of six months or less. Florida law allows counties to impose local option transient rental taxes on rentals or leases of accommodations in hotels, motels, apartments, rooming houses, mobile home parks, RV parks, condominiums, or timeshare resorts for a term of six months or less. Depending on a county’s eligibility, the maximum tax rate varies from a minimum of 3% to a maximum of 6%. TDTs play a vital role in Florida counties’ promotion of
tourism in their areas. Over the years, the Legislature has added more and more authorized uses of this revenue. In 1977, the Legislature passed the Local Option Tourist Development Act, which allowed counties to levy a one or two percent sales tax on "transient rentals"—hotels, motels, resorts, or any other living accommodation for a term of six months or less. The proceeds could be used: 1) to promote and advertise tourism in Florida, nationally, and internationally; 2) to acquire, construct, improve, operate, and maintain publicly owned convention centers, sports stadiums and arenas, coliseums, or auditoriums; and 3) to fund convention bureaus, tourist bureaus, and tourist information centers. Since then, four other levies have been enacted: an additional one percent TDT, two separate one percent Professional Sports Franchise Facility Taxes, and a one percent High Tourism Impact Tax. There are now five TDTs that raise just over $1 billion for local tourism promotion. Depending on a county's eligibility, tax rates vary from a minimum of three percent to a maximum of six percent. Most of Florida's 67 counties levy some combination of TDTs. Over time, the authorized uses of TDT revenue have expanded to include zoos; beach park facilities; beach, channel, estuary, or lagoon improvements; erosion control; restoration of lakes and rivers; fishing piers; nature centers; auditoriums operated by non-profits; emergency medical and law enforcement services (coastal counties); and professional sports franchise and spring training facilities. Counties may also use TDTs for major capital improvements, including land acquisition, for public facilities including transportation, sewer, solid waste, drainage, potable water, and pedestrian facilities, if they are "needed to increase tourist-related business activities." Not all the above uses are available to all counties.

- **Convention Development Tax.** Volusia County is authorized to levy convention development taxes on transient rental transactions. Generally, the revenues may be used for capital construction of convention centers and other tourist-related facilities as well as tourist promotion; however, the authorized uses vary according to the levy. Three of the five statutorily available levies apply to separate taxing districts in Volusia County (Special District, Special, and Subcounty Convention Development Taxes). The combined effect is a countywide tax of 3% of the total amount charged for transient rental transactions.

- **Other Local Option Taxes.** These include Local Option Food and Beverage Taxes and Municipal Resort Taxes; however, local governments within the IRL are not currently eligible to impose these and authorizing legislation would be required. As an example of potential revenues, Miami-Dade County's 2% Food and Beverage tax raised $8.4 million in FY2018 and $5.5 million in FY2019.

- **New Tourist Taxes/Fees.** The IRLNEP could advocate for authorization to impose new taxes or fees that would be dedicated wholly to implementing the CCMP. These could be time-limited, potentially resolving a political concern. An "IRL visitation fee" could be attached to all non-resident enplanements at Daytona and Melbourne airports (total passengers of about 580,000 annually). For the sake of discussion, assume half of these trips are non-resident (residents already support the CCMP through taxes); a modest fee of $10 per trip (and built into ticket pricing) would yield about $58 million over 20 years with no growth in the number of travelers. Similar charges could be crafted for non-resident automobile rentals from the IRL region. In sum, visitors could be assessed reasonable charges for the benefits received from a healthier IRL. A local willingness-to-pay study may define the most appropriate rates, but literature values and actual rates deployed elsewhere may be used to establish a base rate per person.

An increase in existing user fees is another option that would not require new authorizations. Boat ramps (day use), dry-dock storage, recreational trails, and the like could have dedicated fees attached. Collection could be a challenge and capture of all potential revenue may be unlikely. However, a persistent communication campaign about the IRL and its funding needs may be sufficient to secure a high participation rate.
Technical Memorandum

To: Duane DeFreese, Ph.D.
From: Valerie Seidel
Date: 10/12/2021
Subject: Pro Forma Analysis, Strategy for Funding CCMP

The Balmoral Group has reviewed the IRL CCMP, and Technical Report No 1, Strategies for Financing Indian River Lagoon Restoration and Long-Term Stewardship. In addition, we have reviewed prospective significant revenue streams (federal, state, and local government sources and private or public/private sources), and their alignment with the IRLNEP priority areas. The review confirms that funding needs to accomplish the CCMP approximate $5 billion over 20 years, or an average of approximately $250 million a year.

Based on research of available sources and using professional judgment, we have prepared two reasonable financial pro forma scenarios for CCMP funding: a “Low Scenario” approach and a “High Scenario” approach. The low scenario assumes lower bound estimates and lower likelihoods of funding at the line item level for all funding sources reviewed. The high scenario reflects the yearly funding that is available, but which would require political commitment both to access and to maintain for the duration of the CCMP. The Pro Forma analysis is summarized in Table 1 by funding source and in Table 2 by CCMP priority area.

Table 1. Annual Average Funding Availability by Source ($ millions)

<table>
<thead>
<tr>
<th>Funding Source</th>
<th>Annual Funding Capacity Low Scenario</th>
<th>Annual Funding Capacity High Scenario</th>
</tr>
</thead>
<tbody>
<tr>
<td>Federal government</td>
<td>$ \ 263.19</td>
<td>$ \ 430.44</td>
</tr>
<tr>
<td>State government</td>
<td>$ \ 6.56</td>
<td>$ \ 75.52</td>
</tr>
<tr>
<td>Local government</td>
<td>$ \ 569.99</td>
<td>$ \ 1,650.49</td>
</tr>
<tr>
<td>Public-private partnerships</td>
<td>$ \ 2.90</td>
<td>$ \ 8.60</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>$ \ 842.64</strong></td>
<td><strong>$ \ 2,165.05</strong></td>
</tr>
</tbody>
</table>
Table 2. Annual Average Funding Availability by CCMP Priority Area Category ($ millions)

<table>
<thead>
<tr>
<th>CCMP Priority Area</th>
<th>Annual Funding Capacity Low Scenario ($E6)</th>
<th>Annual Funding Capacity High Scenario ($E6)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stormwater</td>
<td>$359.75</td>
<td>$916.28</td>
</tr>
<tr>
<td>WWTFs and Septic Systems</td>
<td>$341.69</td>
<td>$897.85</td>
</tr>
<tr>
<td>Habitat Restoration</td>
<td>$22.24</td>
<td>$104.85</td>
</tr>
<tr>
<td>Muck Removal and Navigation</td>
<td>$5.11</td>
<td>$77.48</td>
</tr>
<tr>
<td>Citizen Engagement</td>
<td>$16.96</td>
<td>$33.19</td>
</tr>
<tr>
<td>Monitoring and Research</td>
<td>$21.89</td>
<td>$39.40</td>
</tr>
<tr>
<td>Capital Construction</td>
<td>$75.01</td>
<td>$96.00</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>$842.65</strong></td>
<td><strong>$2,165.05</strong></td>
</tr>
</tbody>
</table>

In sum, even conservatively, there are funding resources totaling more than $840 million per year to address the CCMP tabulated funding needs. If 30 percent of these resources were routinely captured under the Low Scenario, or 12 percent under the High Scenario, the CCMP needs could be reliably achieved. These funds, however, are not assured and rely in part on non-local sources, some of which are competitive (e.g., federal grants).

Local sources (the counties, municipalities and the water management districts) have immediate connections – and responsibilities – to the IRL and the CCMP. Table 3 summarizes the IRL’s current and projected regional revenues by local funding source (see also Appendix A, Tables A-1 through A-4).

Table 3. Annual Average Revenues by Local Funding Source

<table>
<thead>
<tr>
<th>Local Funding Source</th>
<th>Current Condition Projected Average Revenues ($ millions per year)</th>
<th>Conservative Scenario Projected Additional Revenues ($ millions per year)</th>
<th>Accelerated Scenario Projected Additional Revenues ($ millions per year)</th>
</tr>
</thead>
<tbody>
<tr>
<td>County Property Taxes</td>
<td>$902.88</td>
<td>$330.05</td>
<td>$981.44</td>
</tr>
<tr>
<td>City Property Taxes</td>
<td>$171.59</td>
<td>$62.72</td>
<td>$264.04</td>
</tr>
<tr>
<td>WMD Property Taxes</td>
<td>$46.32</td>
<td>$73.15</td>
<td>$142.38</td>
</tr>
<tr>
<td>County Sales Taxes</td>
<td>$103.66</td>
<td>$62.12</td>
<td>$196.24</td>
</tr>
<tr>
<td>Save IRL Fund</td>
<td>$ 0.00</td>
<td>$24.45</td>
<td>$48.90</td>
</tr>
<tr>
<td>American Rescue Plan</td>
<td>$ 0.00</td>
<td>$17.50</td>
<td>$17.50</td>
</tr>
<tr>
<td><strong>Totals</strong></td>
<td><strong>$1,224.46</strong></td>
<td><strong>$569.99</strong></td>
<td><strong>$1,650.49</strong></td>
</tr>
</tbody>
</table>

Proposed CCMP Needs
(annual average):

| Surplus (Gap) | $319.99 | $1,400.49 |

2
The critical finding from Table 3 is that the expected growth in local property and sales taxes alone is more than sufficient to meet the proposed funding needs of the CCMP (at ~$250 million per year), provided that any increases in ad valorem receipts or county infrastructure sales taxes are directed largely or solely to the CCMP. Recognizing that local governments will have increasing needs of their own, in principle, if 78 percent of the expected growth in local ad valorem and sales taxes were targeted broadly on CCMP needs the funding objective could be met.

Specifically, the largest streams of local government revenue are county and municipal ad valorem. Table 3 assumes no increase in millages for either level of government, but does reflect the revenue impacts over time under two scenarios: (1) a flat 3% rate of growth in taxable value and (2) the rates of growth in taxable value experienced during 2016-2019, respectively for the five counties and the ten largest municipalities. The Conservative scenario reflects the constraint imposed on ad valorem by the Save Our Homes provision and assumes little to no new development; the Accelerated scenario captures the most recent trends in total taxable value, regardless of the Constitutional cap on residential taxation.

The two other sources of local funding that support CCMP initiatives include the county-wide infrastructure surcharge (local option sales tax) and the water management district ad valorem. In the case of the local option sales tax, each county was evaluated with respect to its current tax level, a conservative scenario bringing all counties up to 0.5% and an accelerated scenario where all would impose a 1% surcharge. Growth in taxable sales was based on recent population data, which avoided the effects of COVID-19 during 2020 and any changes in tax rates. The rates of population growth are conservative relative to taxable sales.

The two water management districts have rolled back their respective millages over time. For this analysis, the district millages are raised back (incrementally over 5 years) to their 2009 levels and then maintained at these levels through 2040. As with the counties and cities, the growth in the tax base was 3% for the Conservative Scenario and a composite of recent (higher) rates for the Accelerated Scenario. Prospective revenues at the water management districts are the least among the four sources of local taxes. However, under the Accelerated Scenario these revenues constitute one-half of the CCMP funding needs.

The Conservative Scenario identifies an average growth in annual revenues above the 2020 baseline of about $570 million from all sources. While a significant portion of this amount would be absorbed by inflation of most existing county-level programs, the net increase remains significant. The Accelerated Scenario, arguably more reflective of real growth in the IRL, generates more than $1.6 billion above the 2020 baseline annually.

\[1\] Indian River County already assesses the maximum of 1%.

3
• Conservatively, if 47% of the projected increment in local ad valorem and sales taxes were applied to the IRL, the expected average annual cost of the CCMP could be met.

• Under the less conservative model, if 16% of the projected increment in local ad valorem and sales taxes were applied to the IRL, the average annual cost of the CCMP could be met.

Potential Cost Savings

Under either scenario, successful implementation of technological advances can improve restoration efficiencies and endpoints. Such advances can reduce costs or reduce the time required for an environmental outcome (e.g., greater removal of pollutants per dollar spent or more acres of habitat acquired and protected more quickly). As an example of prospective savings, if improved pollutant control efficiencies reduced life-cycle costs (capital, operating and replacement costs) by just 1% annually, the cost reduction over the 20-year horizon of the CCMP would approach $450 million. Recognizing more aggressive technological advances, such as those realized over the past decade in 3-D printing, solar energy, digital technology and even agricultural equipment, intentional DARPA-like investment in innovation could realize order of magnitude savings – such that a 10% annual reduction in cost could potentially cut the restoration costs in half, shaving $2.8 billion off the bill. Given the statewide nature of increasingly dangerous (and costly) water quality issues, there would appear to be ample justification for investments to reduce costs and spur innovation in this field.

In sum, local funds alone could successfully support the CCMP, diminishing reliance upon external state, federal and private dollars. To the extent that non-local funds are successfully obtained, the demand on local taxes can be lessened, freeing these funds for other local priorities and needs.

While ample funding resources exist to meet, on average, the CCMP goal of $250 million per year, the concept of the IRLNEP as a partnership (“One Lagoon, One Community, One Voice”) in securing and allocating the funds among the CCMP priorities requires political commitment, planning, coordination and a shared understanding that such investment benefits all.

Summary of Expected Funding

Table 4 summarizes the expected funding to support the goal of approximately $250 million per year. At a total of $4.71 billion, a deficiency of about $288 million over the 20 year horizon of the CCMP is indicated, i.e., an average of about $14.4 million per year.

2 DARPA= Defense Advanced Research Projects Agency, a research and development agency of the U. S. Defense Department responsible for the development of emerging technologies for use by the military.
Table 4. Pro Forma - Expected CCMP Funding

<table>
<thead>
<tr>
<th>LOCAL SOURCES (FL Discretionary Infrastructure Sales Tax)</th>
<th>PROJECTED TOTAL REVENUES WITH TARGET OF $5 BILLION ($ millions)</th>
<th>NOTES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Volusia County $0.005 for 20 years</td>
<td>$101.9</td>
<td>From Tech Memo Table A-4, increase from 0% to 0.5%, adjusted to 10% based on geography of IRL watershed within County</td>
</tr>
<tr>
<td>Brevard - SOIRL ($0.005 for 10 years -2016-2026)</td>
<td>$244.5</td>
<td>Brevard County SOIRL webpage shows $489M over 10 years; assume 5 years remaining</td>
</tr>
<tr>
<td>Brevard - SOIRL 2.0 ($0.01) <em>&quot;penny for 20&quot;</em></td>
<td>$978.0</td>
<td>Assume double the revenues from 2016-2026 for the following 20 years</td>
</tr>
<tr>
<td>Indian River County $0.01 for 20 years</td>
<td>$204.6</td>
<td>No new revenues, Indian River County already at maximum of 1%. Allocate based on average expenditures of 33% of sales tax revenues on IRL-related needs.</td>
</tr>
<tr>
<td>St. Lucie County $0.005 for 20 years</td>
<td>$386.4</td>
<td>From Tech Memo Table A-4, increase from 0% to 0.5%</td>
</tr>
<tr>
<td>Martin County $0.01 for 20 years</td>
<td>$447.4</td>
<td>From Tech Memo Table A-4, increase from 0% to 1.0%</td>
</tr>
<tr>
<td></td>
<td><strong>$2,362.8</strong> SUM OF LOCAL INFRASTRUCTURE SALES TAX</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>LOCAL SOURCES (County Ad Valorem)</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Volusia County</td>
<td>$20.3</td>
<td>From Tech Memo Table A-1, adjusted to 25% based on geography of IRL watershed within County and assumes 5% of increment is dedicated to IRL</td>
</tr>
<tr>
<td>Brevard County</td>
<td>$152.7</td>
<td>From Tech Memo Table A-1; assumes 5% of increment is dedicated to IRL</td>
</tr>
<tr>
<td>Indian River County</td>
<td>$63.8</td>
<td>From Tech Memo Table A-1; assumes 5% of increment is dedicated to IRL</td>
</tr>
<tr>
<td>St. Lucie County</td>
<td>$94.1</td>
<td>From Tech Memo Table A-1; assumes 5% of increment is dedicated to IRL</td>
</tr>
<tr>
<td>Martin County</td>
<td>$146.8</td>
<td>From Tech Memo Table A-1; assumes 5% of increment is dedicated to IRL</td>
</tr>
<tr>
<td></td>
<td><strong>$477.8</strong> SUM OF LOCAL PROPERTY TAX</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>STATE SOURCES</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>FL Land &amp; Water Funds (2016 Constitutional Amendment (sunset 2036)</td>
<td>$500.0</td>
<td>Statewide estimate conservatively $785M/yr, less $305M/yr in statutory allocations; at $25M/yr, $500M over 20 yrs (approximately 5%)</td>
</tr>
<tr>
<td>Annual state appropriation of $25 million for 10 years through FDEP for water infrastructure improvements</td>
<td>$250.0</td>
<td>Reoccurring funding, annual DEP appropriations, incuding resiliency and water infrastructure improvements going forward</td>
</tr>
<tr>
<td>Federal Clean Water Act Section 319(b) and State Water-quality Assistance Grant (SWAG)</td>
<td>$13.2</td>
<td>Based on combined total funding ~$10 million/yr and 6.6% of appropriations to IRL based on population</td>
</tr>
<tr>
<td></td>
<td><strong>$763.20</strong> SUM OF SELECT STATE SOURCES</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>WATER MANAGEMENT DISTRICT AD VALOREM</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>St. Johns River Water Management District ad valorem increase collected and dedicated to IRL</td>
<td>$271.2</td>
<td>Ramp up to pre-rollback rate for IRL-adjacent counties only; 25% of marginal revenue dedicated to IRL</td>
</tr>
<tr>
<td>South Florida Water Management District ad valorem increase collected and dedicated to IRL</td>
<td>$211.6</td>
<td>Ramp up to pre-rollback rate for IRL-adjacent counties only; 25% of marginal revenue dedicated to IRL</td>
</tr>
<tr>
<td></td>
<td><strong>$482.8</strong> SUM OF WATER MANAGEMENT DISTRICT AD VALOREM</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>FEDERAL SOURCES</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>IRL National Estuary Program</td>
<td>$20.0</td>
<td>Current status based on annual RFP program (NEP 3250)</td>
</tr>
<tr>
<td>2021-2022 Federal infrastructure package for National Estuary Program proposed by Senate at $132 million (total) per NEP (over 5 years)</td>
<td>$4.7</td>
<td>Based on Senate version of the IJIA shared among all NEPs; House version in discussion at this time</td>
</tr>
<tr>
<td>EPA Sewer Overflow and Stormwater Reserve Municipal Grants Program</td>
<td>$2.4</td>
<td>2.7% of Federal program allocation to FL and 6.66% of allocation to IRL based on population</td>
</tr>
<tr>
<td></td>
<td><strong>$27.1</strong> SUM OF SELECT FEDERAL SOURCES</td>
<td></td>
</tr>
</tbody>
</table>

| TOTAL ESTIMATED REVENUE                                | $4,133.6                                                    |       |

<table>
<thead>
<tr>
<th>ADJUSTMENTS TO PROPOSED CCMP IMPLEMENTATION COSTS</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Disruptive technology that reduces wastewater/septic total costs by 30% (1.5% per year)</td>
<td>$271.7</td>
<td>From Table 5 CCMP Strategy &amp; Finance Tech Report, WWTFs and Septic Systems total costs projected to be $905.5M</td>
</tr>
<tr>
<td>Disruptive technology that reduces stormwater total costs by 25% (1.25% per year)</td>
<td>$175.9</td>
<td>From Table 5 CCMP Strategy &amp; Finance Tech Report, Stormwater Treatment Systems total costs projected to be $703.4M</td>
</tr>
<tr>
<td>Efficiencies that reduce muck removal and navigation total costs by 20% (1.0% per year)</td>
<td>$151.1</td>
<td>From Table 5 CCMP Strategy &amp; Finance Tech Report, Muck Removal total costs projected to be $755.4M</td>
</tr>
<tr>
<td></td>
<td><strong>COMPOSITE TOTAL RESOURCES</strong> $4,712.3</td>
<td></td>
</tr>
</tbody>
</table>

The disparity between available funding under either of the Scenarios and Table 4 is tied to the highly conservative assumptions laid out under the Notes, where for example only 5% of increment in the local ad valorem and 25% of the water management district millage adjustments are allocated to the IRL. Minor increases in either of these resources would readily exceed the indicated shortfall.
Appendices and Notes on Methodology

Appendix A provides further details on funding from two local sources: ad valorem (general revenue) and the local option sales tax (infrastructure surcharge). Appendix B addresses the prospective funding from all sources, federal, state and local;

Table 1 and Table 2 (above) are derived from Appendix A (i.e., cross walked and summed by the several columns of information) and provide both a low funding scenario as well as a high funding scenario for each of the various types of projects (stormwater, habitat restoration, etc.). This information was determined through reviewing federal, state, local, and private partnership funding opportunities and by calculating a probable potential funding based on factors such as number of projects currently in the IRL, geographic location, typical funding that goes to the IRL, etc. Among the federal sources, CERP funding committed to the IRL appears under both the High and Low scenarios; all other programs are assigned based on probability of application.

Data reported in Appendix A was obtained through the Florida Department of Revenue, including current millage at the County, Municipal and Water Management District levels and detailed local option tax information. The list of 10 municipalities is not comprehensive for the IRL and was intended to be an indicator of additional property tax opportunity and as such, the estimated revenues are conservative (e.g., in Brevard, Rockledge and Merritt Island were not included). For estimates based on ad valorem, only taxable property values were used. Using 2020 baseline data, revenue projections were developed for 2021-2040 using two scenarios of growth in taxable value: The Low scenario was capped at 3% (i.e., linked to the Save Our Amendments provisions) while the High scenario reflected the most recent rates of growth (2017-2020), which was greater than 3% in all instances. In addition, for the water management districts, district millages were adjusted to match pre-recession rates (2009) with incremental increases over the first five years of the projection (through 2025) and remaining constant thereafter.

Net increases in ad valorem revenues were calculated by subtracting current revenues (no growth in taxable value) from the average revenues during 2021-2040 under each scenario. The average increment was determined by summing the projected annual revenues through 2040 and dividing by 20.

Appendix B provides the following information:

1) Funding program title and application to CCMP priority areas;
2) Approximate amount of total funding available annually;
3) The type of funding, such as funding authorization vehicle, loan, grant, matching grant, technical assistance, program, etc.;
4) The most likely potential funding capacity based on total program funding, including notes on the number of projects available, how often projects were awarded within the Florida/IRL region in the past, and other related criteria; and
5) Whether funding source was utilized in the Scenario 1 (Low) or Scenario 2 (High) revenue stream.
Supplemental information in Appendix B-1 (Federal sources) includes the type of funding program, notes on the funding data and how the probable funding was estimated (e.g., where applicable, multiplying the probability of funding based on program history by the current program funding), and links to program application webpages. Select assistance/technology programs were not designated for either Scenario.

Appendix B-4 provides projections for county infrastructure sales tax. The Low Scenario relies on increasing the sales tax to 0.5% in those counties not imposing the surcharge while the High Scenario employs the maximum rate of 1% in all counties. Projections of revenues under the current tax scheme are based on recent changes in taxable value, reflecting regional growth and consumer behavior. Net increases in sales tax revenues are calculated by subtracting the projected revenues from the average annual receipts (as calculated above for ad valorem) under each scenario.
APPENDIX A. Local Tax Resources

TABLE A-1 - County Property Taxes

<table>
<thead>
<tr>
<th>County</th>
<th>County General Millage</th>
<th>Projected Average County Millage Revenues ($ millions per year)</th>
<th>Growth Rate Taxable Value</th>
<th>Projected Additional Revenues per Year ($ millions)</th>
<th>Growth Rate Taxable Value</th>
<th>Projected Additional Revenues per Year ($ millions)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Brevard</td>
<td>0.0036929</td>
<td>208.89</td>
<td>3.00%</td>
<td>76.36</td>
<td>7.05%</td>
<td>239.79</td>
</tr>
<tr>
<td>Indian River</td>
<td>0.0035475</td>
<td>87.31</td>
<td>3.00%</td>
<td>31.92</td>
<td>5.57%</td>
<td>71.08</td>
</tr>
<tr>
<td>Martin</td>
<td>0.0067618</td>
<td>200.85</td>
<td>3.00%</td>
<td>73.42</td>
<td>4.07%</td>
<td>107.36</td>
</tr>
<tr>
<td>St. Lucie</td>
<td>0.0042077</td>
<td>128.76</td>
<td>3.00%</td>
<td>47.07</td>
<td>6.84%</td>
<td>141.24</td>
</tr>
<tr>
<td>Volusia</td>
<td>0.0054500</td>
<td>277.07</td>
<td>3.00%</td>
<td>101.28</td>
<td>8.42%</td>
<td>421.96</td>
</tr>
<tr>
<td><strong>TOTALS</strong></td>
<td></td>
<td>902.88</td>
<td></td>
<td>330.05</td>
<td></td>
<td>981.44</td>
</tr>
</tbody>
</table>

TABLE A-2 – Select Municipal Property Taxes

<table>
<thead>
<tr>
<th>County</th>
<th>County General Millage</th>
<th>Projected Average County Millage Revenues ($ millions per year)</th>
<th>Growth Rate Taxable Value</th>
<th>Projected Additional Revenues per Year ($ millions)</th>
<th>Growth Rate Taxable Value</th>
<th>Projected Additional Revenues per Year ($ millions)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Edgewater</td>
<td>0.0067000</td>
<td>7.68</td>
<td>3.00%</td>
<td>2.81</td>
<td>12.24%</td>
<td>23.08</td>
</tr>
<tr>
<td>New Smyrna</td>
<td>0.0037421</td>
<td>16.38</td>
<td>3.00%</td>
<td>5.99</td>
<td>9.14%</td>
<td>28.63</td>
</tr>
<tr>
<td>Titusville</td>
<td>0.0072145</td>
<td>14.85</td>
<td>3.00%</td>
<td>5.43</td>
<td>6.05%</td>
<td>13.59</td>
</tr>
<tr>
<td>Cocoa</td>
<td>0.0059790</td>
<td>6.88</td>
<td>3.00%</td>
<td>2.52</td>
<td>8.98%</td>
<td>11.69</td>
</tr>
<tr>
<td>Cocoa Beach</td>
<td>0.0058294</td>
<td>12.76</td>
<td>3.00%</td>
<td>4.66</td>
<td>7.57%</td>
<td>16.35</td>
</tr>
<tr>
<td>Melbourne</td>
<td>0.0068685</td>
<td>38.97</td>
<td>3.00%</td>
<td>14.24</td>
<td>9.12%</td>
<td>67.88</td>
</tr>
<tr>
<td>Palm Bay</td>
<td>0.0078378</td>
<td>36.62</td>
<td>3.00%</td>
<td>13.39</td>
<td>9.51%</td>
<td>68.54</td>
</tr>
<tr>
<td>Vero Beach</td>
<td>0.0025000</td>
<td>7.94</td>
<td>3.00%</td>
<td>2.90</td>
<td>5.90%</td>
<td>7.01</td>
</tr>
<tr>
<td>Ft. Pierce</td>
<td>0.0069000</td>
<td>18.71</td>
<td>3.00%</td>
<td>6.84</td>
<td>6.38%</td>
<td>18.52</td>
</tr>
<tr>
<td>Stuart</td>
<td>0.0050000</td>
<td>10.81</td>
<td>3.00%</td>
<td>3.95</td>
<td>5.55%</td>
<td>8.74</td>
</tr>
<tr>
<td><strong>TOTALS</strong></td>
<td></td>
<td>171.59</td>
<td></td>
<td>62.72</td>
<td></td>
<td>264.04</td>
</tr>
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</table>
### TABLE A-3 – Water Management District Property Taxes

<table>
<thead>
<tr>
<th>County</th>
<th>Current WMD Millage</th>
<th>Projected Average WMD Millage Revenues ($ millions per year)</th>
<th>Proposed WMD Millage Increase (over 5 years)</th>
<th>Projected Additional Revenues ($ millions per year)</th>
<th>Proposed WMD Millage Increase (over 5 years)</th>
<th>Projected Additional Revenues ($ millions per year)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Brevard</td>
<td>0.0002287</td>
<td>12.94</td>
<td>0.00003742</td>
<td>17.61</td>
<td>0.0004158</td>
<td>37.08</td>
</tr>
<tr>
<td>Indian River</td>
<td>0.0002287</td>
<td>5.63</td>
<td>0.00003742</td>
<td>7.66</td>
<td>0.0004158</td>
<td>12.72</td>
</tr>
<tr>
<td>Martin</td>
<td>0.0002675</td>
<td>7.95</td>
<td>0.00007130</td>
<td>15.79</td>
<td>0.0006240</td>
<td>19.99</td>
</tr>
<tr>
<td>St. Lucie</td>
<td>0.0002675</td>
<td>8.19</td>
<td>0.00007130</td>
<td>16.27</td>
<td>0.0006240</td>
<td>31.34</td>
</tr>
<tr>
<td>Volusia</td>
<td>0.0002287</td>
<td>11.63</td>
<td>0.00003742</td>
<td>15.82</td>
<td>0.0004158</td>
<td>41.25</td>
</tr>
<tr>
<td><strong>TOTALS</strong></td>
<td></td>
<td><strong>46.32</strong></td>
<td></td>
<td><strong>73.15</strong></td>
<td></td>
<td><strong>142.38</strong></td>
</tr>
</tbody>
</table>

### TABLE A-4 – County Infrastructure Surcharge

<table>
<thead>
<tr>
<th>County</th>
<th>Current Infrastructure Surcharge</th>
<th>Projected Average Infrastructure Sales Tax Revenues ($ millions per year)</th>
<th>Proposed Infrastructure Surcharge</th>
<th>Projected Additional Revenues ($ millions per year)</th>
<th>Proposed Infrastructure Surcharge</th>
<th>Projected Additional Revenues ($ millions per year)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Brevard</td>
<td>0.5%</td>
<td>52.68</td>
<td>0.5%</td>
<td>0.00</td>
<td>1.0%</td>
<td>52.68</td>
</tr>
<tr>
<td>Indian River</td>
<td>1.0%</td>
<td>31.66</td>
<td>1.0%</td>
<td>0.00</td>
<td>1.0%</td>
<td>0.00</td>
</tr>
<tr>
<td>Martin</td>
<td>0.0%</td>
<td>0.00</td>
<td>0.5%</td>
<td>11.19</td>
<td>1.0%</td>
<td>22.37</td>
</tr>
<tr>
<td>St. Lucie</td>
<td>0.5%</td>
<td>19.32</td>
<td>0.5%</td>
<td>0.00</td>
<td>1.0%</td>
<td>19.32</td>
</tr>
<tr>
<td>Volusia</td>
<td>0.0%</td>
<td>0.00</td>
<td>0.5%</td>
<td>50.93</td>
<td>1.0%</td>
<td>101.86</td>
</tr>
<tr>
<td><strong>TOTALS</strong></td>
<td></td>
<td><strong>103.66</strong></td>
<td></td>
<td><strong>62.12</strong></td>
<td></td>
<td><strong>196.24</strong></td>
</tr>
</tbody>
</table>
## APPENDIX B. External Resources

### Appendix B-1: Federal Program Funding

<table>
<thead>
<tr>
<th>Funding Program</th>
<th>Stormwater</th>
<th>WWTFS and Septic Systems</th>
<th>Habitat Restoration</th>
<th>Macro Removal and Navigation</th>
<th>Citizen Engagement and Monitoring and Research</th>
<th>Capital Construction</th>
<th>Approximate Funding Available</th>
<th>Likely Funding</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Comprehensive Everglades Restoration Plan (CERP)</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>$ 200,000,000.00</td>
<td>$ 16,666,667</td>
<td>Of the twelve recent CERP projects, 1 is in the IRL. A series of planning studies is underway to develop the next generation of ecosystem restoration projects as part of the Comprehensive Everglades Restoration Plan (CERP)</td>
</tr>
<tr>
<td>American Waters Resources Act (AWIA)/Water Resources Development Act (WRDA).</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>$ 67,400,000.00</td>
<td>$ 4,023,881</td>
<td>WRDA bills authorize water resources studies and projects and set policies for navigation, flood control, hydropower, recreation, water supply and emergency management for the U.S Army Corps of Engineers. Section 403 covers project for hurricane and storm damage reduction in Fort Pierce, St. Lucie County Florida. Estimated at $337M from 2020-2025, around $67M a year. Probability is 4/67 counties</td>
</tr>
<tr>
<td>America’s Water Infrastructure Act (AWIA)</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>$ 2,015,200,000.00</td>
<td>n/a</td>
<td>Vehicle for authorizing water projects to be studied, planned, and developed by the Corps; Section 301 provides priority consideration for IRL among others; best able to address urgent, emerging, and challenging issues that threaten the ecological and economic well-being of [coastal areas] estuaries of national significance. Estimated at $10,076M from 2021-2025; around $2B a year.</td>
</tr>
<tr>
<td>Clean Water State Revolving Fund Program</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
<td>X</td>
<td>X</td>
<td>$ 686,500,000.00</td>
<td>$ 51,621,028</td>
<td>*Florida CWSRFs provided $5 billion in loan funds since its inception in 1989; pulled all Clean Water Funded projects from map; divided total cost of $375,972,524 by $5B - about 8% of funding went to projects in IRLNEP area; In last 5 years = $1.1 billion for clean water projects, $273 million for drinking water projects - average about $686,500,000 a year</td>
</tr>
</tbody>
</table>

**Scenario 1** | **Scenario 2**

- Yes
- No
<table>
<thead>
<tr>
<th>Funding Program</th>
<th>Stormwater</th>
<th>WWTPs and Septic Systems</th>
<th>Habitat Restoration</th>
<th>Muck Removal and Navigation</th>
<th>Citizen Engagement</th>
<th>Monitoring and Research</th>
<th>Capital Construction</th>
<th>Approximate Funding Available</th>
<th>Likely Funding</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>EPA - Sewer Overflow and Stormwater Reuse Municipal Grants Program</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
<td>1,809,000.00</td>
<td>108,000</td>
<td>Announced $67 million as of April 2021. Eligible entities may fund projects that support development and implementation of NEP CCMP. Florida has 4 NEPS. According to formula, Florida will receive 2.7% allocation from this program. 2.7% * 67M. Probability is 4/67 counties</td>
</tr>
<tr>
<td>EPA - Urban Waters Small Grants Program (UWSG).</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
<td>6,600,000.00</td>
<td>5,739</td>
<td>Individual awards can be up to $60,000. Since 2012, program has awarded grants to 114 organizations across the country for a total of $6.6M. No organization in Florida has been a recipient. Assumed 1/50 for states, 1/23 for counties in Florida probability</td>
</tr>
<tr>
<td>FEMA - Flood Mitigation Assistance (FMA) Grant Program</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
<td>897,435.90</td>
<td>37,135</td>
<td>$210M in Federal Funding available as of 2019. Of the 234 entries, 145 were selected for further review. 17 of entries were Florida and 6 of 17 were identified for further review.</td>
</tr>
<tr>
<td>FEMA - Building Resilient Infrastructure and Communities (BRIC)</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
<td>500,000,000.00</td>
<td>434,783</td>
<td>Cost share is required for all sub applications funded under this program. Generally, the cost share for this program is 75 percent federal / 25 percent non-federal. $500M in BRIC funding is available. Assumed 1/50 for states, 1/23 for counties in Florida probability</td>
</tr>
</tbody>
</table>

**Scenario 1**
- No

**Scenario 2**
- Yes
<table>
<thead>
<tr>
<th>Funding Program</th>
<th>Stormwater</th>
<th>WWTFs and Septic Systems</th>
<th>Habitat</th>
<th>Restoration and Navigation</th>
<th>Citizen Engagement and Monitoring and Research</th>
<th>Capital Construction</th>
<th>Approximate Funding Available</th>
<th>Likely Funding</th>
<th>Notes</th>
<th>Scenario 1</th>
<th>Scenario 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>HUD - Community Development Block Grant (CDBG) Program - Mitigation Program</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>$16,000,000,000.00</td>
<td>$63,241,107</td>
<td>Congress appropriated $16 billion in CDBG funds in February 2018 specifically for mitigation activities. 11 Grantees listed with deadlines for them, 23 counties in Florida.</td>
<td>no</td>
<td>yes</td>
<td></td>
</tr>
<tr>
<td>NOAA - Community-Based Restoration Program</td>
<td></td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
<td>$4,000,000.00</td>
<td>$62,933</td>
<td>NOAA will not accept proposals with a NOAA federal funding request of less than $75,000 or more than $3 million over a three-year award period; Majority of projects are restoration projects. 50 out of 3,178 restoration projects were in the IRL area. Awarded over 1 to 3 years</td>
<td>yes</td>
<td>no</td>
<td></td>
</tr>
<tr>
<td>NOAA - Sea Grant</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>$200,000.00</td>
<td>$18,667</td>
<td>Florida currently has its Biennial Research Competition grant available through Sea Grant. A 50% match is required. On average Florida Sea Grant funds 7-9 projects and receives 75 LOI. Will match up to $100K for 2 years</td>
<td>no</td>
<td>yes</td>
<td></td>
</tr>
<tr>
<td>NOAA - Coastal Resilience Grant Program - National Coastal Resilience Fund</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>$804,347.83</td>
<td>$93,938</td>
<td>From 2015-2020 NOAA received 411 proposals, and funded 48 projects on November 17, 2020, the National Fish and Wildlife Foundation (NFWF) and the National Oceanic and Atmospheric Administration (NOAA) announced $37 million to fund 46 projects under the 2020 National Coastal Resilience Fund. Programs funded include those checked. WWTFs and Muck Removal not listed in recently funded grants</td>
<td>yes</td>
<td>no</td>
<td></td>
</tr>
<tr>
<td>Funding Program</td>
<td>Stormwater</td>
<td>WWTFs and Septic Systems</td>
<td>Habitat Restoration</td>
<td>Muck Removal and Navigation</td>
<td>Citizen Engagement</td>
<td>Monitoring and Research</td>
<td>Capital Construction</td>
<td>Approximate Funding Available</td>
<td>Likely Funding</td>
<td>Notes</td>
<td></td>
</tr>
<tr>
<td>---------------------------------------------------------------------------------</td>
<td>------------</td>
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<td>---------------------</td>
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<td>----------------</td>
<td>-------</td>
<td></td>
</tr>
<tr>
<td>US DEPT AGR - Urban and Community Forestry (UCF) Challenge Cost Share Program</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td>$</td>
<td>$1,000,000.00</td>
<td>$3,685</td>
<td>$1M in grant funds are available to address two grand categories (change year to year). 2019 saw 5 awards. All grant funds must be matched at least equally (dollar for dollar); 59 states and US territories. (5/59)/23 counties. Florida's urban forest value is $1.9 billion <a href="https://public.tableau.com/views/USUrbanForestStatisticsValuesandProjections/USUrbanForestStatisticsValuesandProjections?showVizHome=no">https://public.tableau.com/views/USUrbanForestStatisticsValuesandProjections/USUrbanForestStatisticsValuesandProjections?showVizHome=no</a></td>
<td></td>
</tr>
<tr>
<td>US DEPT AGR - Conservation Stewardship Program</td>
<td></td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td>$</td>
<td>$2,282,000.00</td>
<td>$14,000</td>
<td>Assist producers in protecting grazing land uses; conserving and improving soil, water and wildlife resources; and achieving related conservation values by conserving eligible land through grassland conservation contracts. $18/per acre each year for 5-year contract. Minimum annual payment of $1500, capped at $40,000 yearly. Nearly 7% of all farm and ranch land nationwide is involved in program. All private agricultural land, including cropland, pasture, and rangeland, is eligible to enroll in CSP. Applications are ranked based on conservation in place at time and ability to increase natural resource and environmental benefits.</td>
<td></td>
</tr>
<tr>
<td>US DEPT AGR - Environmental Quality Incentives Program</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td>$</td>
<td>$1,750,000.00</td>
<td>$31,500</td>
<td>NRCS provides agricultural producers with financial resources and one-on-one help to plan and implement improvements, or what NRCS calls conservation practices. In Florida, the following priorities guide EQIP application selection: Water Quality Degradation, Insufficient Water, Soil Health, Plant and Animal Health, Inadequate Habitat for Fish and Wildlife. Payments of up to $450,000 are made to participants after an EQIP plan/practice is constructed and/or measures have been carried out.</td>
<td></td>
</tr>
<tr>
<td>Funding Program</td>
<td>Stormwater</td>
<td>WWTFs and Septic Systems</td>
<td>Habitat</td>
<td>Muck Removal and Navigation</td>
<td>Citizen Engagement</td>
<td>Monitoring and Research</td>
<td>Capital Construction</td>
<td>Approximate Funding Available</td>
<td>Likely Funding</td>
<td>Notes</td>
<td></td>
</tr>
<tr>
<td>-----------------</td>
<td>------------</td>
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<td>------------------</td>
<td>-----------------------------</td>
<td>----------------</td>
<td>-------</td>
<td></td>
</tr>
<tr>
<td>USFWS — The National Coastal Wetlands Conservation Grant Program</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>$27,000,000.00</td>
<td>$1,636,364</td>
<td>Grants of up to $1 million to coastal and Great Lakes states, as well as U.S. territories to protect, restore and enhance coastal wetland ecosystems and associated uplands. The U.S. Fish and Wildlife Service is awarding more than $27 million to support 33 projects in 14 coastal states to protect, restore or enhance almost 28,000 acres of coastal wetlands and adjacent upland habitats under the National Coastal Wetlands Conservation Grant Program. 2 of the 33 projects are in Florida. All have cost share/match of around 50%</td>
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</tr>
</tbody>
</table>

Scenario 1 | Scenario 2 |
### Appendix B-2: State Program Funding

<table>
<thead>
<tr>
<th>Funding Program</th>
<th>Storm water</th>
<th>WWFFs and WWTFs</th>
<th>Stormwater Monitoring and Research</th>
<th>Monitoring &amp; Research</th>
<th>Capital Construction</th>
<th>Award &amp; Midpoint Notes</th>
<th>Likely Funding</th>
<th>Scenario 1</th>
<th>Scenario 2</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Water and Land Conservation Constitutional Amendment</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>$50,000.00</td>
<td>$50,000.00</td>
<td>yes</td>
<td>yes</td>
<td>Dedicates 33 percent of net revenue from the existing excise tax on documents to the Land Acquisition Trust Fund. A third of the revenues collected by the Florida documentary stamp tax were to be directed towards water and land conservation efforts over a 20-year period; 7.6% or $50 million must be appropriated each year from land acquisition trust fund for projects dedicated to the conservation and management of IRL; grants for sewer system connection projects and discharge management projects must require a minimum 50% local match; FY2019-2020 actual deposits for documentary stamp tax *1/3 of the tax *0.076 has to go to IRL projects OR A minimum of the lesser of 7.6 percent or $50 million shall be appropriated annually for spring restoration, protection, and management projects; eligible every year for 20 years</td>
</tr>
<tr>
<td>South Florida Water Management District</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>$500,000.00</td>
<td>$500,000.00</td>
<td>yes</td>
<td>yes</td>
<td>The IRL is represented by two WMDs, the South Florida Water Management District and the St. Johns River Water Management District. Pursuant to the IRL Council Inter-local Agreement of 2015, the IRL Council receives $500,000 annually from each WMD.</td>
</tr>
<tr>
<td>St. Johns River Water Management District</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>$500,000.00</td>
<td>$500,000.00</td>
<td>yes</td>
<td>yes</td>
<td>The IRL is represented by two WMDs, the South Florida Water Management District and the St. Johns River Water Management District. Pursuant to the IRL Council Inter-local Agreement of 2015, the IRL Council receives $500,000 annually from each WMD.</td>
</tr>
<tr>
<td>Additional tax - proposed</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>$3,783,541.52</td>
<td>no</td>
<td>yes</td>
<td>In 2020 poll by Florida Atlantic University, College of Business - Overall, 62% of Floridians polled - said they were willing to pay $2 per month beyond current levels to help pay for projects to clean up Florida waterways. Took $2 <em>0.62</em>population of Florida<em>1/5 (for max) estuaries; for min - multiply $2</em>0.62<em>population of Florida</em>(5/60 - waterways in Florida)</td>
</tr>
<tr>
<td>Table Title</td>
<td>Column 1</td>
<td>Column 2</td>
<td>Column 3</td>
<td>Column 4</td>
<td>Column 5</td>
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<tr>
<td>Commercial Aquaculture - Current</td>
<td></td>
<td>$2,708.53</td>
<td>$135.43</td>
<td>Increased oyster reef area offers opportunity for commercial reef leases to aquaculture operators. Annual lease payments in turn provide revenue to support further reef restoration; bottom lease fee is $17.73 per acre and fraction of an acre for fee + surcharge; water column lease is $43.45 per acre and fraction of an acre for fee + surcharge. 7 individual leases in Volusia (2.834 + 2.657 + 16.938 + 2.436 + 5.006 + 4.582), 1 in Brevard (4.947), 7 in Indian River (1.223 + 5.002 + 5.003 + 5.002 + 6.661 + 16.179 + 9.079), 0 in St. Lucie, 0 in martin, 1 in palm beach (0.994 ac). Acreage * bottom lease fee for min; acreage * water column fee for max</td>
<td>no</td>
<td>yes</td>
<td></td>
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</tr>
<tr>
<td>Florida Fishing and Hunting Licenses - Current</td>
<td>$45,135,687.</td>
<td>$2,256,784.35</td>
<td>The 2016 USFWS National Survey of Fishing, Hunting, and Wildlife-Associated Recreation revealed that over 103 million U.S. residents 16 years and older participated in wildlife-related recreation. (in Florida 2020 total gross cost hunting license - $6,873,110; Florida fishing; license: $38,513,377) - all money goes to Fish and Wildlife Commission - but could be prioritized to IRL (in Florida 2019 for gross cost hunting license - $6,869,393.00; fishing - 38,015,494)</td>
<td>no</td>
<td>yes</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Wallop-Breaux Act - Current</td>
<td>$22,000,000.</td>
<td>$1,100,000.</td>
<td>Florida receives more than $22 million annually via disbursements under the Wallop-Breaux Act. Some of these funds are for boating safety, but the majority is deployed for public access and aquatic natural resource management. While the monies are for statewide use (including freshwater), the IRL could be legislatively designated as a priority, even if time-limited, for these funds. ; likely capacity assumes a 5% priority fee to IRL</td>
<td>no</td>
<td>yes</td>
<td></td>
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<tr>
<td>Funding Program</td>
<td>Stormwater</td>
<td>WWTPs and Nonpoint</td>
<td>Habitat Restoration</td>
<td>Mud and Muck Removal and Navigation</td>
<td>Citizen Monitoring and Research</td>
<td>Capital Construction</td>
<td>Award</td>
<td>Midpoint</td>
<td>Likely Funding</td>
<td>Notes</td>
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<tr>
<td>Beach Management Funding Assistance Program</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>$8,719,181.04</td>
<td>accepts funding requests from Florida local governments each fiscal year. (2 critically eroded areas in Brevard (41.2 miles total), 3 critically eroded areas in Volusia (21 miles total), 3 critically eroded areas in Indian River (15.7 miles total), 3 eroded areas in St. Lucie (7.6 miles total), 3 critically eroded areas in Martin County (18.4 miles), 8 critically eroded areas in palm beach (33.6 miles); state has 422.7 miles of critically eroded beaches - Indian river counties = 137.5 - used this as max, min is 1/2 of this; Since 1998, the Florida Legislature has dedicated more than $932 million of the Ecosystem Management and Restoration Trust Fund, Land Acquisition Trust Fund, and General Revenue for beach management. Of this, nearly $109 million was appropriated specifically for hurricane recovery projects. ((931-109 million)/23 years)*137.5/422.7</td>
</tr>
<tr>
<td>Coastal Partnership Initiative program</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td></td>
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<td></td>
<td></td>
<td>$35,000.00</td>
<td>was developed to promote the protection and effective management at the local level of Florida’s coastal resources. The Florida Coastal Management Program makes NOAA funds available on a competitive basis to eligible local governments. Eligible local governments are defined as Florida’s 35 coastal counties and all municipalities within their boundaries that are required to include a coastal element in their local comprehensive plan; Financial awards are a minimum of $10,000, and awards are limited to no more than $60,000 for construction projects, habitat restoration, invasive plant removal or land acquisition; and no more than $30,000 for planning, design and coordination activities; 4/5 grants awarded in 2019-2020 from IRL</td>
</tr>
</tbody>
</table>

Scenario 1: no  yes  
Scenario 2: no  yes
### Federal Clean Water Act Section 319(h) Funding

<p>| Total funding amounts available each year in these two grant programs depends on Federal and state appropriations (usually around $8 - $9 million). Clean Water Act Section 319(h) funds are provided only to designated state and tribal agencies to implement their approved nonpoint source management programs. State and tribal nonpoint source programs include a variety of components, including technical assistance, financial assistance, education, training, technology transfer, demonstration projects, and regulatory programs; The federal Section 319(h) Grant can help fund abandonment of septic tanks and connections to sewer, but a local government or Water Management District (WMD) would have to apply for the grant; out of 20 projects that were listed, 4 were in IRL; cannot locate total fund max/min assumed 5% of total appropriations for max, 2.5% for min; assumed 8mil min and 9mil max per year total |
|---|---|---|---|---|
| Federal Clean Water Act Section 319(h) Funding | x | x | x | x | $325,000.00 | $65,000.00 | no | yes |</p>
<table>
<thead>
<tr>
<th>Funding Program</th>
<th>Stormwater</th>
<th>WWTF and Septic</th>
<th>Habitat Restoration</th>
<th>Citizen</th>
<th>Monitoring and Research</th>
<th>Capital Construction</th>
<th>Award</th>
<th>Midpoint</th>
<th>Likely Funding</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stan Mayfield Working Waterfronts grant program</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td></td>
<td></td>
<td>$65,625.00</td>
<td>$1,640.63</td>
<td>Grant funds are used to acquire a parcel(s) of land directly used for the purposes of the commercial harvest of marine organisms or saltwater products by state-licensed commercial fishermen, aquaculture practitioners, or business entities, including piers, wharves, docks, or other facilities operated to provide waterfront access to licensed commercial fishermen, aquaculture practitioners, or business entities; Grant funds will be used to acquire a parcel(s) of land directly used for the purposes of the commercial harvest of marine organisms or saltwater products by state-licensed commercial fishermen, aquaculture practitioners, or business entities, including piers, wharves, docks, or other facilities operated to provide waterfront access to licensed commercial fishermen, aquaculture practitioners, or business entities. The funds may also be used for the acquisition of a parcel(s) of land used for exhibitions, demonstrations, educational venues, civic events, and other purposes that promote and educate the public about economic, cultural, and historic heritage of Florida's traditional working waterfronts, including the marketing of the seafood and aquaculture industries. ($105M*.025) · 0 counties in IRL had land acquisition projects for approval 2020-2021, min probability is therefore 0, max is 5</td>
<td>yes</td>
</tr>
<tr>
<td>Florida Recreation Development Assistance Program (FRDAP)</td>
<td></td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td>$125,000.00</td>
<td>$40,625.00</td>
<td>competitive, reimbursement grant program that provides financial assistance for acquisition or development of land for public outdoor recreation; The creation of the Stan Mayfield Working Waterfronts Florida Forever grant program by the 2008 Florida Legislature acknowledges the importance of the traditional seafood harvesting and aquaculture industries in Florida; out of 40 &quot;priority&quot; projects in 2021-2021, 19 are from counties within IRL (since 12 out of 19 are from Palm Beach, used 7/40 and 19/40 and midpoint for probability)</td>
<td>no</td>
</tr>
<tr>
<td>Recreational Trails Program</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td></td>
<td></td>
<td></td>
<td>$700,000.00</td>
<td>$30,434.78</td>
<td>The Recreational Trails Program is a federally funded competitive grant program that provides financial assistance to agencies of city, county, state or federal governments, and organizations, approved by the state, or state and federally</td>
<td>no</td>
</tr>
<tr>
<td>Program Type</td>
<td>Priority Project</td>
<td>Budget</td>
<td>Objectives and Details</td>
<td></td>
<td></td>
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<tr>
<td>Rural and Family Lands Protection Program</td>
<td>x</td>
<td>$74,000.00</td>
<td>Agricultural land preservation program designed to protect important agricultural lands through the acquisition of permanent agricultural land conservation easements; RFLPP easements allow landowners to continue to work the lands, keep the property on the tax role, and remain agriculturally sustainable; $11.3 million for the acquisition of perpetual agriculture conservation easements; out of 152 awards from 2018, 8 are in IRL</td>
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<tr>
<td>Florida Endangered and Threatened Plant Conservation Program</td>
<td>x</td>
<td>$10,500.00</td>
<td>These projects are funded on an annual basis only, and multi-year projects have no guarantee of successive funding; These grants are given as 75:25 matching funds. Each project is responsible for acquiring the project's match (25%) for the federal funds (75%).</td>
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<tr>
<td>Florida Energy Technology Cost Share Program</td>
<td>x</td>
<td>$17,500.00</td>
<td>Efficiency and Renewable Improvements in Commercial Aquaculture (ERICA). The Florida Department of Agriculture and Consumer Services (FDACS) developed the ERICA program to increase energy efficiency, reduce energy usage, and lower operating costs at commercial aquaculture facilities in Florida; 5 out of 26 aquaculture use zones are in IRL</td>
<td></td>
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</tr>
<tr>
<td>Funding Program</td>
<td>Stormwater</td>
<td>WWTPs and Septic</td>
<td>Habitat Restoration</td>
<td>Muck Removal and Drainage</td>
<td>Citizen Engagement</td>
<td>Monitoring and Research</td>
<td>Capital Construction</td>
<td>Award Midpoint</td>
<td>Likely Funding</td>
<td>Notes</td>
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</tr>
<tr>
<td>SJRWMD - District Wide Cost Share Program</td>
<td>x</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>$1,500,000.00</td>
<td>$208,333.33</td>
<td>The district accepts applications for cost-share funding for projects that benefit the district’s core missions. The typical deadline is in February of each year.; 5/36 priority projects were in IRL</td>
<td>no</td>
</tr>
<tr>
<td>SJRWMD - Agricultural Cost-Share Programs</td>
<td>x</td>
<td>x</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>$125,000.00</td>
<td>$6,250.00</td>
<td>engages farmers, growers, and ranchers in the shared goals of water conservation and reduction of nutrient run-off; Projects eligible for funding include, but are not limited to, the following (please note that high tunnels will not be considered for funding): Irrigation system retrofits, Soil moisture and climate sensor telemetry, Rainwater harvesting, Sub irrigation drain tile, Tail water recovery and reuse, Soil mapping with variable rate fertilizer application, Expanded waste storage</td>
<td>yes</td>
</tr>
<tr>
<td>SFWMD - Cooperative Funding Program</td>
<td>x</td>
<td>x</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>$578,000.00</td>
<td>$326,290.32</td>
<td>grant support through a single streamlined program that provides partnership opportunities and financial; 11 projects in St. Lucie County, 3 projects in Martin, 7 projects in palm beach out of 31 total eligible projects</td>
<td>no</td>
</tr>
<tr>
<td>FFWCC - Derelict Vessel Grant</td>
<td></td>
<td></td>
<td>x</td>
<td></td>
<td></td>
<td></td>
<td>$500,000.00</td>
<td>$25,000.00</td>
<td>FFWCC has established a program to provide grants to local governments for reimbursement for the removal of derelict vessels from the public waters of the state; No applicant shall be eligible for more than 25 percent of the funding available in a fiscal year during the first half of that year</td>
<td>yes</td>
</tr>
<tr>
<td>FFWCC - Florida's State Wildlife Grants Program</td>
<td></td>
<td>x</td>
<td></td>
<td>x</td>
<td></td>
<td></td>
<td>$155,854.50</td>
<td>$51,951.50</td>
<td>Supported by the federal State and Tribal Wildlife Grants Program, which provides annually appropriated funding to every state and territory. This is a matching grants program, which provides financial support for projects that address conservation needs identified in the State Wildlife Action Plan; 1/3 projects in an IRL county</td>
<td>no</td>
</tr>
<tr>
<td>FFWCC - The Harmful Algal Bloom (HAB) Grant Program</td>
<td></td>
<td>x</td>
<td></td>
<td>x</td>
<td></td>
<td></td>
<td>$163,452.00</td>
<td>$4,086.30</td>
<td>FWC’s Fish and Wildlife Research Institute’s newly established Harmful Algal Bloom (HAB) Grant Program is excited to announce the funding of three proposals that address red tide communications and advancing technologies for real time detection of Karenia brevis; offers annual competitive grants</td>
<td>yes</td>
</tr>
</tbody>
</table>
Florida Specialty License Plates | x | x | $125,000.00 | $125,000.00 | yes | yes
---|---|---|---|---|---|---

The Indian River Lagoon specialty license plate is currently administered through the SJRWMD. Revenues from Volusia, Brevard and Indian River County are passed through the SJRWMD to the IRL Council for use in the IRLNEP Program.

### Appendix B-3: P3 Funding Examples

<table>
<thead>
<tr>
<th>Name</th>
<th>Stormwater</th>
<th>WWTFs and Septic Systems</th>
<th>Habitat Restoration</th>
<th>Muck Removal and Navigation</th>
<th>Citizen Engagement</th>
<th>Monitoring and Research</th>
<th>Capital Construction</th>
<th>Award Midpoint</th>
<th>Likely Funding</th>
<th>Notes</th>
<th>Scenario 1</th>
<th>Scenario 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lafourche Parish LA - Wetland Restoration Project - Environmental Impact Bond</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>$40,000,000.00</td>
<td>$2,000,000.00</td>
<td>Quantified Ventures worked with the Environmental Defense Fund (EDF) and the State of Louisiana Coastal Protection and Restoration Authority (CPRA) to develop an outcomes-based financing approach to fill capital gaps for critical coastal wetland restoration projects in the state’s 2017 Coastal Master Plan; Quantified Ventures is an outcomes-based capital firm that drives transformative health, social, and environmental impact; a $30 million to $50 million pilot investment transaction to demonstrate the feasibility of an EIB for financing wetland restoration</td>
<td>no</td>
<td>yes</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>DC Water and Sewage Authority - Environmental Impact Bond</td>
<td>x</td>
<td>x</td>
<td>$25,000,000.00</td>
<td>$1,250,000.00</td>
<td>In 2017, the District of Columbia Water and Sewage Authority (DC Water) issued the first-ever EIB to finance 20 acres of green infrastructure projects for stormwater management. This $25 million bond issuance, which was bought by Goldman Sachs and Calvert Impact Capital, provided a template for outcomes-based investments in environmental projects. QV, a partner on this project, helped coordinate the DC Water transaction and is now evaluating possible EIB transactions across the United States</td>
<td>yes</td>
<td>no</td>
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<tr>
<td>Name</td>
<td>Stormwater</td>
<td>WWFFs and Septic Systems</td>
<td>Habitat Restoration</td>
<td>Muck Removal and Navigation</td>
<td>Citizen Engagement</td>
<td>Monitoring and Research</td>
<td>Capital Construction</td>
<td>Award Midpoint</td>
<td>Likely Funding</td>
<td>Notes</td>
<td>Scenario 1</td>
<td>Scenario 2</td>
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<tr>
<td>Hampton VA - Fight Flooding - Environmental Impact Bond</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>X</td>
<td>$12,000,000.00</td>
<td>$600,000.00</td>
<td>The $12 million bond closed on December 2, 2020, and will finance the construction of three nature-based projects that will help slow, store, filter, and redirect stormwater in low- to moderate-income communities in Hampton; Hampton’s three critical projects are expected to add more than 8.6 million gallons of storage capacity for stormwater that would otherwise contribute to flooding and polluted runoff in the Newmarket Creek watershed, a key environmental, economic, and transportation corridor.</td>
<td>no</td>
</tr>
<tr>
<td>Atlanta GA - Urban &amp; Coastal Resilience - Environmental Impact Bond</td>
<td>X</td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td>X</td>
<td>$14,000,000.00</td>
<td>$700,000.00</td>
<td>The $14 million municipal bond, backed by Atlanta DWM’s Water and Wastewater Enterprise Revenues, financed six green infrastructure projects in neighborhoods within the Proctor Creek watershed, which include a combination of bioretention cells in public parks, stormwater bump-outs in the right-of-way, and larger floodplain, wetland, and stream restoration projects.</td>
<td>no</td>
</tr>
<tr>
<td>Yuba Project Forest Resilience Bond - Forest Resilience Bond</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>X</td>
<td>$4,000,000.00</td>
<td>$200,000.00</td>
<td>This collaboration – among the USFS, the National Forest Foundation (NFF), the state of California, Yuba Water, and investors – is facilitated through the FRB Yuba Project I LLC (LLC). The LLC operates as a Special Purpose Vehicle (SPV) and serves as the debt issuer. The LLC mitigates the financial risks of all parties to the project to the greatest extent possible.</td>
<td>yes</td>
</tr>
</tbody>
</table>
IWR Council-IWRNLP Workforce Analysis

INTRODUCTION
The success of National Estuary Programs is based on the ability of a program to convene and sustain a Management Conference that represents a diverse range of watershed stakeholders and partners. For the Indian River Lagoon, that connected leadership includes scientists, resource managers, policy makers, business leaders, community leaders, and citizens with a shared dedication to IRL conservation, restoration and stewardship.

The creation of the IRL Council as an independent special district of Florida in 2015 by Interlocal Agreement reset the structure and trajectory of the 25-year IRLNLP. The focus of the new One Lagoon – One Community – One Voice mission of the IRLNLP was to expand the leadership, participation and investments of local communities along the IRL by leveraging the Congressional authority of and federal investment in a National Estuary Program to implement restoration and stewardship action recommendations identified by the IRLNLP Management Conference in the IRL Comprehensive Conservation and Management Plan (CCMP) – Looking Ahead to 2030 (adopted by the IRL Council in 2019).

Over the past 6 years, the IRL Council/IWRNLP staff has operated as a small 3- to 4-person team of full-time employees (FTEs). The growing operational demands of the IRLNLP and historic opportunities to expand extramural funding through competitive grants for projects and programs require that the IRL Council evaluate our current workforce capacity to sustain and grow the effectiveness and value of the program to our stakeholders, partners and communities.

ABOUT THIS PLAN
The size and capacity of the IRL Council/IWRNLP workforce was an issue of discussion and some EPA concern during the 2016 five-year Performance Evaluation. This workforce analysis responds to those EPA concerns and reflects a long-standing discussion among IRL Council staff to evaluate the needs for program growth that would deliver the best return on investment to the program, our partners and the Lagoon community.

This workforce analysis and recommendation is presented as a staff proposal for consideration by the IRL Council Board of Directors in advance of budget planning for FY 2023. The IRL Council staff seek guidance from the IRL Council Board of Directors to shape the future structure of the IRLNLP and development of the FY 2023 tentative budget, which will be discussed in detail and adopted by the Board at the February 2022 quarterly Board of Director’s meeting. By Florida statutes, the tentative budget for FY 2023 must be adopted on or before March 1, 2022. The final FY 2023 budget
must be adopted on or before June 1, 2022. The FY 2023 EPA Work Plan and budget must be submitted to EPA on or before June 1, 2022.

IRL COUNCIL/IRLNEP WORKFORCE ANALYSIS

Strategic Direction of the IRL Council and IRLNEP
The IRLNEP CCMP identified 32 Vital Signs for IRL health with action recommendations to advance restoration, recovery and stewardship (Figure 1).

The strategic direction of the program over the next decade will be to deliver high productivity and quality programs with a focus on these 32 vital signs. Many, if not all, vital signs require a high level of engagement with our local city, county and organizational partners. With 7 counties, 38 incorporated cities, and over a dozen unincorporated towns and communities within the IRL watershed, active community engagement at the local level overwhelms the capacity of existing staff. At present, all IRL Council staff are responsible for a range of important responsibilities that span multiple job descriptions.
Current Talent and Workforce Assessment

The current IRL Council staff of four FTE’s deliver a strong foundation for program implementation. The IRLNEP has matured over the past 6 years to emerge as a high functioning and performing National Estuary Program. With program expansion and delivery, each member of the team is working above full capacity. This is a workforce situation that is unsustainable over a long period of time. Figure 1 shows an organizational chart for the program as it currently exists.

IRLNEP Organization Chart and Current Workload Distribution

The following list provides job titles and abbreviated workload descriptions for current IRL Council/IRLNEP staff. As a result of its small staff size, the IRL Council/IRLNEP staff operate as a distributed leadership team rather than in a hierarchical leadership structure. Leadership is often shared among members of the team based upon expertise in particular focus areas and situations. Decisions are usually made on a consensus basis versus a single decision maker in a “command and control” hierarchical position. Ultimately, the Executive Director has final decision authority for day to day administrative and program decisions.

Executive Director (ED)
The ED functions as the executive administrator of the program with broad executive-level responsibilities including: strategic visioning and planning; program management at all levels; financial planning and oversight; direct communications with members of the Board of Directors and their alternates; direct communications with members of the IRLNEP Management Conference; policy and program coordination and compliance with the U.S. EPA; intergovernmental and interagency affairs at local, state, regional and federal levels; liaison with elected officials at all levels of government; liaison with community and industry leaders; and provision of senior scientist oversight on all IRLNEP documents. As the program’s senior scientist, the Executive Director must stay current with scientific literature and research relevant to IRL restoration and stewardship. The Executive Director ensures that the IRLNEP operates with a strong Management Conference structure as envisioned in Section 320 of the Clean Water Act. All major policies, program activities, and annual budgets are reviewed by the Management Conference advisory committees before staff and Management Conference recommendations are presented to the IRL Council Board of Directors for consideration and adoption.
Deputy Director and Chief Communications Officer (CCO)
The Deputy Director functions as an executive team leader and provides support as needed to the Executive Director. Deputy Director responsibilities can span all aspects of program administration and delivery. The Deputy Director provides direct staff supervision to IRL Council staff members. In addition to these administrative duties, the Deputy Director also serves as the Chief Communications Officer (CCO) for the IRL Council/IRLNEP. The CCO oversees all aspects of public relations for the IRL Council/IRLNEP. This includes both internal and external communications. The CCO develops and distributes all internal announcements within the IRLNEP Management Conference, including oversight for developing and distributing agenda and meeting packages with the Administrative Coordinator. The CCO develops, reviews and distributes all written publications, such as newsletters, the IRLNEP Annual Report, the IRL Annual Calendar, video presentations, planning documents and other collaterals for special projects or events. The CCO supervises IRL Council contractors for the strategic delivery of the IRLNEP website (www.onelagoons.org), all social media, video production and any external publications. The CCO also delivers talks for community groups, local governments and non-profit organizations; sits on the advisory committees for external county organizations and non-profit groups; manages the annual IRL Envirothon; and interacts with teachers throughout the IRL Region.

Chief Operations Officer (COO)
The COO is in charge of planning and overseeing all the operations, facilities and equipment management, projects, and financial activities. The COO works closely with the Executive Director and Deputy Director to create an annual work plan and budget each year that align with the program mission and priorities. That process requires preparation of a tentative budget that is reviewed and adopted by the IRL Council Board of Directors on or before March 1 and a final budget that is reviewed and adopted by the IRL Council Board of Directors on or before June 1 of each fiscal year. The COO coordinates all aspects of financial oversight of the IRL Council, budget development, budget management, and management of all IRL Council contracts. The COO provides supervisory oversight for the IRLNEP annual request for proposal (RFP) process. The COO serves as the contract developer, working with legal counsel for all contracts awarded funding each year. On average, the number of contracts that the COO manages each year exceeds 30 contracts. The COO is the point of contact for public records. The COO develops the EPA annual work plan each year for submission to EPA on or before June 1. The COO works closely with EPA Region 4 and Headquarters staff to ensure compliance with all EPA policies, procedures and reporting. The COO provides on-water boat support for projects as needed. The COO oversees all human resource issues for the IRL Council/IRLNEP and works closely with contracted support services at Special District Services, for invoicing, payroll, and audit and Torcivia, Donlon, Goddeau & Rubin, P.A. for legal services.

Administrative Coordinator (AC)
The Administrative Coordinator will provide meeting and event planning, coordination and communication; manage agendas and travel plans; support the Chief Operating Officer in records organization and management of the small grants program and ongoing projects; and support a variety of IRLNEP-funded programs. Primary job responsibilities include: Performing internal communications as point of contact for Management Conference members, boards and committees; Plans and schedules meetings and events; Develops meeting agendas and presentations; Develops meeting packages and provides documentation for quarterly meetings; Serves as recording secretary at board meetings and conferences, taking and distributing official minutes and fulfilling requests for meeting information as needed; Communications
support as assigned. The AC also assists the COO with maintaining and organizing public records, ADA compliance for all documents that are placed on-line; managing the small grants program, invoice tracking, and other project management functions for ongoing IRLNEP projects as assigned. In addition, the AC provides support to the CCO in the form of copywriting, social media support, light design work, management of webinars and virtual platforms, and ongoing projects as assigned.

In addition to these FTE positions, the IRL Council added a contracted GIS Coordinator position in FY 2021 and FY 2022. This position is supported by grant funds from an innovation and technology harmful algal bloom (HAB) grant award by the Florida Department of Environmental Protection. This position will terminate at the end of the grant period in 2023 or as funds are exhausted.

When viewed in comparison with other NEPs throughout the national network, the IRLNEP is understaffed based on the size of the watershed and the urgent water quality and habitat restoration needs of the estuary (Table 1).

Table 1. Comparison of IRLNEP to other National Estuary Programs

<table>
<thead>
<tr>
<th>Program</th>
<th>Area (Sq. Mi.)</th>
<th># Staff</th>
<th># Interns or Contract</th>
</tr>
</thead>
<tbody>
<tr>
<td>Morro Bay National Estuary Program</td>
<td>77</td>
<td>8</td>
<td></td>
</tr>
<tr>
<td>San Juan Bay Estuary Program</td>
<td>93</td>
<td>7</td>
<td>19</td>
</tr>
<tr>
<td>Sarasota Bay Estuary Program</td>
<td>198</td>
<td>6</td>
<td></td>
</tr>
<tr>
<td>Maryland Coastal Bays Program</td>
<td>295</td>
<td>10</td>
<td></td>
</tr>
<tr>
<td>Delaware Center for the Inland Bays</td>
<td>315</td>
<td>14</td>
<td></td>
</tr>
<tr>
<td>Peconic Estuary Partnership</td>
<td>433</td>
<td>6</td>
<td></td>
</tr>
<tr>
<td>Barnegat Bay Partnership</td>
<td>663</td>
<td>7</td>
<td></td>
</tr>
<tr>
<td>Buzzards Bay National Estuary Program</td>
<td>685</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>Piscataqua Region Estuaries Partnership</td>
<td>1,086</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>Casco Bay Estuary Partnership</td>
<td>1,215</td>
<td>4</td>
<td></td>
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<tr>
<td>Tillamook Estuaries Partnership</td>
<td>1,852</td>
<td>9</td>
<td>3</td>
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<tr>
<td>Narragansett Bay Estuary Program</td>
<td>2,078</td>
<td>4</td>
<td>2</td>
</tr>
<tr>
<td>Massachusetts Bays National Estuary Program</td>
<td>2,310</td>
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<tr>
<td>Santa Monica Bay National Estuary Program</td>
<td>2,437</td>
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<td>Tampa Bay Estuary Program</td>
<td>2,638</td>
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<td></td>
</tr>
<tr>
<td><strong>Indian River Lagoon National Estuary Program</strong></td>
<td><strong>2,640</strong></td>
<td><strong>4</strong></td>
<td><strong>1</strong></td>
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<tr>
<td>Mobile Bay National Estuary Program</td>
<td>3,672</td>
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<tr>
<td>Lower Columbia Estuary Partnership</td>
<td>4,260</td>
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<tr>
<td>Galveston Bay Estuary Program</td>
<td>4,855</td>
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<tr>
<td>San Francisco Estuary Partnership</td>
<td>5,158</td>
<td>13</td>
<td></td>
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<tr>
<td>Coastal and Heartland National Estuary Partnership</td>
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<td>1</td>
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<tr>
<td>Partnership for the Delaware Estuary</td>
<td>6,766</td>
<td>22</td>
<td></td>
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<tr>
<td>Barataria-Terrebonne National Estuary Program</td>
<td>6,965</td>
<td>10</td>
<td></td>
</tr>
</tbody>
</table>
Workforce Observations from Table 1:

- IRLNEP is one of only 5 NEPs with a staff of 4 FTEs. Within this group, the IRLNEP has the largest watershed.
- The 5 NEPs with the smallest watersheds operate with staff sizes of 6 – 14.
- The 5 NEPs with the largest watersheds operate with staff sizes of 11 – 53.

Additional Considerations:

- The IRL Council is an independent and stand-alone host agency for the IRLNEP. The IRLNEP meets and exceeds the EPA matching requirements for an NEP because of annual investments from the IRL Council pursuant to the 2015 Interlocal Agreement as amended.
- The IRL Council appropriates a substantial amount of its available annual revenues to local cost-share projects identified via a competitive RFP process. The resulting contracts for these projects require extensive staff oversight, project management, and reporting.
- Unlike some NEPs, the IRLNEP is not nested in an existing government agency or university that can provide significant in-kind staff and operational support. The IRL Council and staff continue to operate the IRLNEP with very low overhead compared to other public agencies.
- The IRLNEP is one of the only NEPs in the nation with a comprehensive restoration project list that will be updated and prioritized with direct participation of our stakeholders and partners.
- After a decade of recurring seasonal harmful algal blooms (HABs), extensive loss of seagrasses, and resulting wildlife mortality events, the IRL could be considered one of the most threatened estuaries in North America. The ability of the IRLNEP to address the scale of these problems will require new revenues and expanded staff.

IRL Council Workforce Delivery

Addressing Program Needs and Leveraging Funding Opportunities

Successful and highly productive NEP programs all have a common characteristic – the capacity to work closely and consistently with the Management Conference and diverse groups of stakeholders, partners, communities and citizens to implement the program’s vision, mission and goals. For sustained success, those interactions require development of personal relationships based on common vision, mutual respect and trust.

IRL Council staff have identified two priorities for program growth and success that represent essential cornerstones required to deliver action recommendations of the IRL CCMP – Looking Ahead to 2030. These two priorities are:
1. Providing expanded lagoon-wide, data-driven information with full GIS mapping capabilities to our stakeholders and partners to help inform IRL restoration planning, project development and decision-making.

2. Expanding the external communication capacity of the IRLNEP to connect, communicate, and collaborate with our 7 watershed counties, 38 incorporated cities, multiple unincorporated towns, and 1.6 million residents through active and continuous participation in local meetings, outreach events, development of shared resources and common messaging. The following are specific outcomes expected from that increased capacity.

   - Expand IRLNEP leadership, visibility and engagement at the local community level with special focus on communicating and connecting with small, rural, under-represented, and environmental justice communities.

   - Expand IRLNEP education and outreach to target audiences including youth activities and active participation in local community events, workshops and seminars. Increased efforts will yield benefits in increased public awareness and program visibility and will generate continuing support for the projects and programs being implemented to improve water and habitat quality and protect wildlife and human health.

   - Expand efforts to support and showcase our local community partners as they develop and implement Lagoon-Friendly policies and infrastructure improvement projects (human-built and natural). Planning and prioritizing actions that deliver coastal community resilience and adaptation strategies to climate change and sea level rise are high priorities. Additionally, working directly with our partners will enhance the IRLNEP's ability to message effectively across the region, add capacity as resources are developed and shared, improve public awareness of efforts underway to remediate Lagoon issues, and combat the common misconception that little effort is being expended to bring the Lagoon back to a healthy state.

   - Expand direct engagement by IRLNEP staff with the IRL community of habitat restoration practitioners at a local level to improve sharing of new knowledge and identification of best practices to improve restoration outcomes. This includes active staff engagement with and support of the 4 Regional Restoration Centers (Marine Discovery Center, Brevard Zoo and proposed Aquarium, FAU-Harbor Branch Oceanographic Institute, and Florida Oceanographic Society) and the many organizations that work at the local level to implement projects focused on water quality improvements, habitat restoration, species recovery, and public awareness.
Proposal for IRL Council Board of Director’s Consideration

Expand IRLNEP Organizational Structure

Proposed Position Descriptions with Specific Deliverables:

GIS Coordinator/Scientist Job Responsibilities and Duties: This is a high-level science, technical and administrative position involving coordinating, planning, organizing, and directing GIS activities and initiatives for the IRLNEP. The GIS Coordinator is responsible for providing technical expertise and supervision of day-to-day implementation and operation of the GIS within the context of IRLNEP programs, projects and policy directives. The GIS Coordinator plans and coordinates GIS activities, manages GIS vendor contracts, plans and organizes system development, and delivers lagoon-wide GIS maps and graphic products needed by the IRLNEP and program partners. The GIS Coordinator reports directly to the Executive Director. Knowledge, skill, and experience requirements for the GIS Coordinator position include:

- A Master of Sciences degree and 3-5 years of GIS work-related experience. Preference will be given to candidates that have worked on water quality data and harmful algal bloom data that come from multiple sources and vary in their spatial and temporal scales.
- Experience with water quality databases, data formatting and data processing for access in GIS as well as data QA/QC.
- Ability to work collaboratively with a variety of stakeholders including IRLNEP staff, agencies, elected officials, local governments, environmental groups, and academic organizations.
- Ability to work independently and oversee multiple projects simultaneously.
- Develops, prints and distributes maps from GIS software programs as needed by the IRLNEP and partners.
- Communicates and coordinates with IRL data collectors, user organizations, and agency GIS personnel to integrate data sets from multiple data collectors.
- Oversees and provides technical guidance regarding activities associated with implementation, operation, and enhancement of the GIS program.
- Coordinates and monitors contracts with GIS hardware, software, data conversion, and other providers of GIS products and services.
- Establishes procedures to eliminate redundant processes, determine appropriate levels of accuracy, the vertical integration of layers and the integration of more accurate data with existing databases.
- Conducts research and development of new GIS related products and procedures.

**Community Engagement Coordinators.** The Community Engagement Coordinators (CECs) will serve as “on the ground” IRLNEP representatives at the local community level. Through active participation in community events, meetings, citizen engagement events, seminars and workshops, the Community Engagement Coordinators will create and sustain partnerships by providing enhanced communication, cooperation, coordination and technical support. CECs will work a 40-hour week which will include some weekends and/or evening hours to participate with and attend local IRL events, festivals, symposia, meetings and workshops. CEC’s will work directly with IRLNEP partner organizations and members of the Citizen Advisory Committee within the counties they represent and work to help identify prospective local CAC members for IRL Council Board consideration when vacancies exist. CECs will expand IRLNEP outreach with a special focus on building connections and relationships with minority, underrepresented and environmental justice communities via churches, community centers, universities, companies, and social outlets.

Knowledge, skill and experience requirements for the CEC position include:

- Bachelor's degree or an equivalent combination of three years’ experience.
- Experience in community relations, preferably in environmental science and coastal conservation, working with underrepresented or minority communities, or other intergovernmental or community relations experience.
- Knowledge about the IRL and its environmental challenges.
- Experience working with a variety of target audiences and Lagoon user groups.
- Knowledge about the IRLNEP and IRL communities is required.
- Excellent written and verbal communication skills.
- Exceptional public speaking and event planning skills.
- Be well-disciplined, flexible and adaptable, with a public servant mindset and excellent customer service skills.
- Ability to work effectively in a creative, innovative and intellectual environment.
- Exceptional attention to detail and commitment to follow-through.
- Expert knowledge of Word, Excel and PowerPoint.
IRL COUNCIL POLICY DOCUMENT

IRL Council Leadership Transition

ADOPTED NOVEMBER 29, 2021
IRL COUNCIL BOARD OF DIRECTORS
Goal of the Policy
Senior leadership succession is an often overlooked and underappreciated organizational planning activity, until an emergency occurs. The goal of this policy document is to provide specific policy guidance for the IRL Council Board of Directors to implement an orderly process for executive leadership change that ensures a smooth transition of leadership and seamless continuation of the work of the IRL Council and IRLNEP. The policy document provides specific process guidance to address two leadership transition scenarios: 1. Sudden unplanned leadership loss; and 2. Strategically planned leadership transition.

IRL Council Board Policies
This policy document is in alignment with existing IRL Council policy documents and previous actions taken by the IRL Council Board of Directors. Article 3.1 of the IRL Council Bylaws state that:

“The Board of Directors may appoint and exercise supervisory authority over an Executive Director. If the Board of Directors does so, it shall conduct the Executive Director’s performance review on an annual basis and establish compensation. The Executive Director shall carry out policy as established by the Board of Directors and shall also perform the duties associated with the day-to-day management of the Council.”

No IRL Council policy guidance that is currently in place addresses the specific process that the IRL Council would apply to appoint an Executive Director or to replace an Executive Director in response to the unplanned loss or death of an Executive Director or as a strategic longer-term leadership transition planning effort.

The Executive Director serves at the pleasure of the IRL Council Board of Directors pursuant to an “Employment Agreement”. That agreement addresses terms and conditions related to termination with cause, termination without cause, and voluntary resignation of the employee.

In 2020, the IRL Council took a first step towards leadership succession planning by identifying a Deputy Director position for the organization. On November 6, 2020, the IRL Council Board of Directors authorized the Executive Director to extend signature authority on behalf of the IRL Council to the Deputy Director as needed. That authority was extended by a written Memorandum to the IRL Council Board of Directors and legal counsel on March 23, 2021 (Memorandum attached herein, Appendix Exhibit “A”). The authority remains in effect until it is rescinded.

The following sections provide general policy and process guidance for the smooth and seamless transition of Executive Director leadership.

IRL Council Process to Respond to an Emergency Leadership Change
In the event of an unexpected and unplanned loss of the Executive Director, the following process shall take place:

1. The Deputy Director will immediately become the acting director of the IRL Council and IRLNEP with full support of the IRL Council Board of Directors. No IRL Council Board action is required. If the Deputy Director is unavailable or unwilling to assume the duties of the Acting Director, the Chief Operating Office is next in line for appointment to Acting Director. That action and transfer of signature authority would require a meeting and specific actions by the IRL Council Board of Directors.

2. The Deputy Director will contact the IRL Council Legal Counsel and Chair of the Board of Directors by emergency phone call and as soon as possible to communicate the situation.

3. The Deputy Director will work with Legal Counsel and Chair of the Board of Directors to implement the following course of action:
   - A written Memorandum will be sent to all Board members and alternates providing details about the situation that necessitated the leadership change. The Memorandum shall be in full compliance of Florida Sunshine Laws.
   - The Chair of the IRL Council Board of Directors will place the leadership transition issue on the next regularly scheduled quarterly Board meeting.
   - If the next regularly scheduled Board meeting is scheduled beyond a 30-day time frame, the Chair of the IRL Council Board of Directors has sole discretion to schedule an emergency Board meeting.
   - At a minimum, the agenda for the meeting (regular or emergency) will address the following issues that require Board consideration and action:
     - Financial compensation for the Deputy Director who is serving as the Acting Executive Director. Compensation should cover the full time that the Deputy Director serves as the Acting Director. The amount of compensation should be decided by mutual agreement between the IRL Council Board of Directors and the Employee.
     - Development of a strategy and process to identify and name a new Executive Director. Two options are available to the Board: 1. Hire from within the IRL Council organization; or 2. Launch an external search for a new Executive Director.
     - If an external search is launched, the Board of Directors should encourage qualified IRL Council staff members to submit applications for consideration. Courtesy interviews should be extended to all qualified internal candidates that apply.
     - Update and finalize the job description for the Executive Director (a draft job description for the Executive Director is enclosed herein).
- Instruct legal counsel for the IRL Council to serve as the Board representative for all transition activities to avoid potential conflicts with staff that might be interested in applying for the position.

- Establish a process for candidate review with a timeline for completion and authorize the IRL Council legal counsel to advertise the position and collect applicant packages for Board ranking and review.

**Process to Guide a Strategic Leadership Transition**

In the event that an Executive Director announces his/her intent to resign voluntarily or retire, the following process will ensure a smooth and seamless leadership transition.

- The current Executive Director contract agreement requires a 45-day written notice in advance of the termination date. During the 45-day period, IRL Council at their discretion, may require employee to cease or limit the work performed on IRL Council matters, during which time employee is entitled to such regular compensation as is due under this Agreement until the effective date of the resignation. If IRL Council restricts Executive Director activities during the transition, the IRL Council will provide written direction to the Executive Director to define reasonable and specific outcomes and expectations that provide the greatest benefits to the program during the transition period.

- Recognizing that 45 days may be insufficient time to structure a smooth leadership transition, the IRL Council Board of Directors should work closely with the Executive Director to provide as much time as needed to implement an effective and efficient leadership change. That transition should include, but not be limited to the following actions:
  - The Board of Directors works closely with the Executive Director to resolve any time sensitive or urgent issues before the new Executive Director begins employment.
  - The outgoing Executive Director prepares staff and the office for the upcoming transition.
  - Legal Counsel works with the Executive Director (as needed) to prepare an Executive Director job application package, process and timeline for Board consideration and adoption.
  - Legal Counsel serves as the Board representative for all transition activities to avoid potential conflicts with staff that might be interested in applying for the position.

**Leadership, Experience and Skills for IRL Council Executive Director**

A job description for the Executive Director position is provided below. This information can be used by the IRL Council and staff to help guide development and release of a job announcement when needed. The Executive Director position of the IRL Council and IRLNEP is a senior-level executive and management position with a high level of public visibility, responsibility and organizational consequence. The Executive Director serves at the pleasure of the IRL Council Board.
The Executive Director is the public representative of the IRL Council Board of Directors and the IRLNEP.

At a minimum the Executive Director should have the following qualifications:

- A graduate degree in environmental policy, environmental sciences, environmental engineering, environmental law, coastal conservation, regional planning or coastal policy. Candidates with a Ph.D. degree should have a minimum of six years of progressively responsible experience in successfully directing an environmental and natural resource management program with high visibility. Candidates with a M.S. degree should have a minimum of ten years of progressively responsible experience in successfully directing an environmental and natural resource management program with high visibility.

Executive Director Skills, Knowledge and Experience

- Proven organizational, analytical and administrative skills.
- Experience in program management in including project management, finance, budgeting, and personnel management.
- Experience with successful fundraising in support of one, or more, federal, state, or private programs.
- Strong leadership and motivational skills to provide clear direction and keep the board and the program on track and accomplishing its goals.
- Excellent oral and written communications skills - ability to communicate effectively with and build consensus among diverse groups, committees and individuals with varying opinions.
- Demonstrated ability to readily grasp the scientific and technical basis for the program’s goals and actions as identified in the Comprehensive Conservation and Management Plan (CCMP).
- Demonstrated ability to communicate complex concepts to policy makers, law makers, the public, and the media in easily understood terms.
- Background in IRL science and ecosystem management, with knowledge of local conditions, history, principles of estuarine ecology, and the factors affecting water quality in the Indian River Lagoon.
- Understanding of and experience with Florida and its political landscape.
- Experience in preparing successful grant applications and with implementing diverse and stable funding sources for those programs.

Executive Director Responsibilities

**Administration and Financial**

- Ensures the efficient and fiscally responsible operation of the IRL Council and the IRLNEP.
- Provides leadership, supervision and appropriate oversight of IRL Council staff, technical projects, public education and outreach initiatives, and all program administration functions.
- Shapes and implements the program’s finance strategy through development of an annual budget, EPA Work Plan, and IRLNEP business plan.
- Identifies, develops, secures, and sustains funding sources from governmental and private sources to implement the IRLNEP.
• Provides fiscal oversight and accountability and maintains controllable expenditures within budget.
• Cultivates and sustains an effective, efficient, productive, healthy and safe work environment for employees.
• Leads by example as part of a diverse team of a professional and competent employees and volunteers.
• Ensures compliance with the terms of various grants and contracts; oversee implementation of the program’s operating procedures and personnel policies and recommend appropriate amendments to those procedures and policies; and serve on boards and committees that further the efforts of the IRL Council partners to restore and protect the lagoon.
• Cultivates active engagement and diverse representation within the IRLNEP Management Conference.
• Provides oversight on the process for issuing competitive Requests for Proposals (RFPs) to ensure that the proposal review process is clearly defined, objectively delivered and financially transparent.

**Science and Innovation**

• Oversees the technical quality and accuracy of all IRL Council and IRLNEP documents.
• Promotes scientific excellence and technical innovation as a hallmark of the program.
• Serves as a ambassador for the IRLNEP with the business community and industry.

**EPA Compliance and CCMP Implementation**

• Ensures a high level of program excellence and compliance to Section 320 Clean Water Act Congressional authorization and EPA policies for National Estuary Programs.
• Oversees implementation and updating of the IRL CCMP by directing program office activities and Management Conference engagement.
• Oversees the preparation and implementation of the EPA annual work plan and budget in accordance with EPA guidelines.
• Documents the actions of IRL Council partners in implementing the CCMP.

**Community Education Outreach**

• Elevates and maintains the profile of the IRLNEP to increase the commitment to, and investment in, Indian River Lagoon management and restoration activities.

**Intra and Intergovernmental Communication and Coordination**

• Communicates effectively with boards, committees, funding partners, media, and stakeholders to keep stakeholders and partners informed of progress toward lagoon restoration goals and impediments to progress.

**On-Boarding a New Leader – The First 90 Days**

A new Executive Director will be pulled in multiple directions the first weeks of new employment. If the new Executive Director is not familiar with the Indian River Lagoon, EPA-NEP policies and procedures, or IRL local communities, the ability to “hit the ground running” may be challenging.
The actions of IRL Council staff and the Board of Directors will be very important in the first 90-days. The following on-boarding actions will facilitate a smooth leadership transition for the new Executive Director, the IRL Council Board of Directors, and staff:

- The new Executive Director and Chair of the IRL Council Board of Directors meet with IRL Council staff and designated Chairs of the Advisory Committees and Management Board for introductions and orientation meetings.

- Staff will provide a written briefing package to the new Executive Director that will include, but not be limited to: List of IRL Council staff, job descriptions, Brief bios and full contact information; Current program budget (detailed); EPA Work Plan; IRLNEP Business Plan; List of active projects and contracts; List of time-sensitive actions required of the new Executive Director over the first 90 days; IRL Council Legislative Priorities for Fiscal Year; and most recent IRLNEP Annual Report.

- All Board members and alternates meet individually with the new Executive Director in advance of the first regularly scheduled quarterly Board meeting.

- IRL Council Board members schedule an introduction of the new Executive Director at their respective commission, council or governing board meetings.
APPENDIX
Exhibit “A”
Signature Authority

IRL COUNCIL MEMORANDUM

DATE: April 15, 2021
TO: IRL Council Board of Directors
FROM: Duane De Freese, IRL Council Executive Director
COPY: IRL Council Staff, Glen Torcivia, Legal Counsel, Special District Services
SUBJECT: IRL Council Signature Authority

Pursuant to authorization provided by the IRL Council Board of Directors at the November 6, 2020 meeting, I am extending signature authority to Kathy Hill, IRL Council Deputy Director. This extension of signature authority is effective immediately. This action is to ensure we respond effectively and efficiently providing IRL Council signature for contract and financial documents. This will not change our current protocol to have at least two independent reviews of documents by staff, legal and/or Special District Services as appropriate. Kathy will review and sign documents when I am not available. This authorization will remain in effect until it is rescinded by another memorandum.

As most of you know, I have been in remission from Non-Hodgkin’s Lymphoma after treatments since 2018. Unfortunately, my NHL has relapsed. I have begun new rounds of treatments at Moffit Cancer Center that will include two visits for 4-day immuno-chemotherapy. I am currently at Moffitt this week for the second round of treatments and working online each day. If all goes well, these treatments will be followed by a transplant that will require an extended hospital stay of perhaps one month, followed by temporary relocation to Tampa for several weeks after the transplant to monitor recovery. The good news is that this type of cancer is treatable and curable thanks to new cancer treatment innovations. Advanced notice - I still have an extended surf trip vacation planned for end of year.

Our staff and I will continue to work closely as a team to make sure that we conduct business as usual and remain on schedule delivering our FY 2021 business plan. Thankfully, we have
become very proficient as a team with remote working. I will continue to work through this process and will take my available PTO as needed. I don’t plan to stop or slow down my work schedule. I am always available by email, text or mobile phone (ddefreese@irlcouncil.org/321.313.0764).

Thank you for your continuing leadership and support. It’s your IRL Council vision, leadership and continued Interlocal Agreement annual investment that serves as a foundation for the IRLNEP Management Conference and our CCMP. I mentioned to a citizen today that our CCMP is the only lagoon-wide, long term, non-regulatory restoration plan that has been certified by the EPA at a national level and received federal funding. It’s the glue that holds our One Lagoon – One Community – One Voice Mission together.
Federal

• Support full appropriation of funds authorized by Congress in 2021 for the NEP in Section 320 Clean Water Act. Support Association of National Estuary Programs request of a minimum of $1 million per NEP annually. Support continued funding for the Coastal Watersheds Grants Program and other competitive grants programs available to NEPs through the EPA.

• Support funding for water infrastructure improvements in the bipartisan infrastructure bill with a focus on securing funding to the National Estuary Program that supplements annual funding authorized and appropriated through Section 320.

• Support expanded and expedited funding for groundwater contamination that pose a direct threat to human and wildlife health.

• Support full appropriations for the America’s Water Infrastructure Act (AWIA) previously known as the Water Resources Development Act (WRDA). Explore opportunities with partners for new IRL projects in WRDA.

• Expand and expedite funding for Everglades Restoration and IRL South projects.

• Work with partners to explore opportunities to develop federal projects for IRL wastewater infrastructure improvement projects.

• Expand federal funding for harmful algal blooms and seagrass research, monitoring and mitigation projects.

• Support expanded and new funding for innovative technology research, development and application.

Support legislative policies that strengthen IRL water quality protections, support comprehensive water quality monitoring, build coastal resilience, catalyze innovative technology development, promote connected leadership for estuary and ocean stewardship, and improve interagency communication, coordination, collaboration and efficient use of public funds.
IRL Council Federal Legislative Priorities 2022

Support legislative policies that strengthen IRL water quality protections, support comprehensive water quality monitoring, build coastal resilience, catalyze innovative technology development, promote connected leadership for estuary and ocean stewardship, and improve interagency communication, coordination, collaboration and efficient use of public funds.

State of Florida
• Support continued funding of the IRL Council pursuant to the 2015 Interlocal Agreement.
• Expand funding for IRL specific competitive cost-share projects administered by FDEP, FWC, SJRWMD and SFWMD that focus on:
  - **Wastewater**: Upgrades of wastewater treatment plants to a minimum of advanced wastewater treatment standards. Septic to sewer conversions or septic system upgrades to advanced septic. Septic system inspections.
  - **Stormwater**: Stormwater infrastructure improvements (including urban stormwater improvements and large, regional dispersed water management projects on both public and private lands).
  - **Coastal Resilience**: Living shoreline restoration to prevent erosion and coastal flooding.
  - **Legacy pollutants**: Reduction or removal of legacy pollutants that impact water quality and threaten human or wildlife health (includes muck dredging and management, groundwater contamination sites, and physical impediments to natural water flow).
  - **Habitat Restoration**: Habitat restoration projects with sufficient monitoring to determine project performance. Priorities include seagrasses, filter feeders, living shorelines and natural infrastructure to improve coastal resiliency and habitats that support economically valuable recreational and commercial fisheries and species of concern.
  - **Innovation and Technology**: Support expanded and new funding for innovative technology research, development, pilot projects and scaled applications as appropriate.
2022 Meeting Calendar

Board of Directors’ meetings are held on Fridays at Sebastian City Hall from 9:30 - 12:30 p.m.
- February 11, 2022
- May 13, 2022
- August 5, 2022
- November 18, 2022

Citizens’ Advisory Committee meetings are held on Thursdays at Sebastian City Hall from 1:30 - 4:30 p.m.
- February 10, 2022
- May 12, 2022
- August 4, 2022
- November 17, 2022

STEM, Management Board and Financial Subcommittee meetings are held on Tuesdays at Up the Creek Farms in Grant-Valkaria on the following dates:
- February 8, 2022
- May 10, 2022
- August 2, 2022
- November 15, 2022

9:00 - 10:00 a.m.
Financial Subcommittee
10:15 - 1:00 p.m.
Management Board
1:30 - 4:30 p.m.
STEM Advisory Committee