



## Board of County Commissioners

1801 27th Street, Vero Beach, Florida 32960  
Telephone: (772) 567-8000 FAX: 772-778-9391

January 16, 2018

Indian River Lagoon National Estuary Program  
Frank Sakuma, Chief Operating Officer  
[sakuma@irlcouncil.org](mailto:sakuma@irlcouncil.org)

Subject: **LETTER OF INTENT to apply for a RESTORATION PROJECT GRANT for:  
INDIAN RIVER COUNTY'S ROUND ISLAND OYSTER REEF PROJECT**

Dear Mr. Sakuma:

Indian River County intends to apply for a Restoration Project Grant for the above referenced habitat restoration project. In accordance with the Indian River Lagoon National Estuary Program's Request for Proposals Category 3: Citizen Engagement and Education Projects, we are providing the following information:

- **Requesting Organization Name and Contact Information for Project Lead**

*Requesting Organization:* Indian River County  
Public Works Coastal Engineering Division  
1801 27<sup>th</sup> Street  
Vero Beach, FL 32960

*Project Lead:* James Gray, Jr., Natural Resources Manager  
772-226-1344  
[jgray@ircgov.com](mailto:jgray@ircgov.com)

- **Participating Organizations or Institutions**

*Confirmed:* Rotary Sunrise Club and Indian River County Power Squadron  
*Possible:* Florida Department of Environmental Protection – Aquatic Preserves  
Keep Indian River Beautiful  
Coastal Connections, Inc. – Non Profit

- **Brief Summary of the Project and its Benefits to the Indian River Lagoon When Implemented**

Round Island Riverside Park is a large County owned park located in southern Indian River County. Amenities include ample parking, boat ramps and canoe launches, children's playgrounds, several picnic pavilions, and a lagoon observation boardwalk.

Indian River County intends to engage and educate the public on the importance of a healthy lagoon system by showcasing an oyster reef deployed within a public park. Through involvement of community volunteers and students, an oyster reef/living shoreline demonstration project will be constructed adjacent to a heavily utilized lagoon observation boardwalk within the County's Round Island Park.

Innovative educational signs and information will be developed to further highlight the project and surrounding ecosystem. The County intends to continue to showcasing the project through presentations and school interaction.

- **Project Funding Request, Major Expenses, and Anticipated Matching Funds**

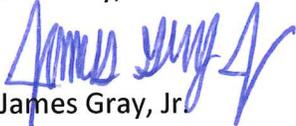
*Funding Request:* \$5,000 (50% of anticipated \$10,000 Project Costs) for project construction and signage

*Major Expenses:* Project education development and supplies

*Anticipated Matching Funds:* The County has received several hundred fully assembled oyster mats from Coastal Conservation Association. All other necessary matching funds will be provided by Indian River County.

If you have any questions, please feel free to call me at (772) 226 1344. Thank you for your time and attention.

Sincerely,



James Gray, Jr.  
Natural Resources Manager

**INDIAN RIVER COUNTY  
PUBLIC WORKS DEPARTMENT  
STORMWATER DIVISION**

1801 27<sup>th</sup> STREET  
VERO BEACH, FLORIDA 32960  
Phone: (772) 226-1562



January 10, 2018

Indian River Lagoon National Estuary Program  
Frank Sakuma  
[sakuma@irlcouncil.org](mailto:sakuma@irlcouncil.org)

Subject: **LETTER OF INTENT to apply for a RESTORATION PROJECTS  
GRANT for INDIAN RIVER COUNTY'S NORTH RELIEF CANAL  
MANAGED AQUATIC PLANT SYSTEM**

Dear Mr. Sakuma:

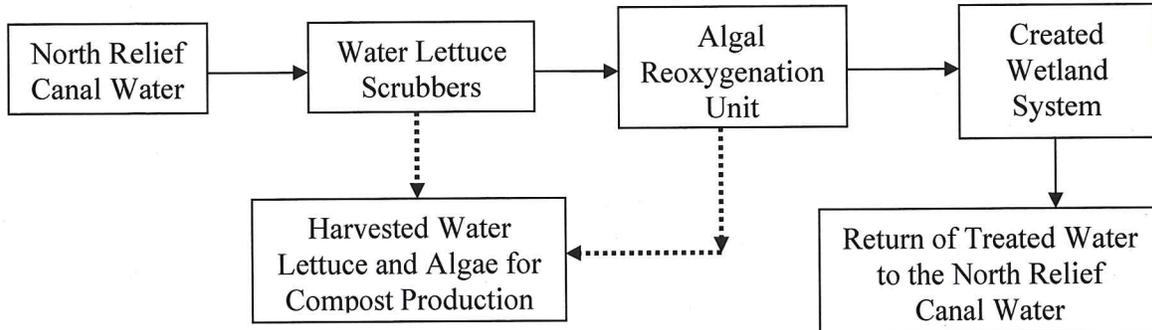
Indian River County intends to apply for a Restoration Projects Grant for the above referenced pollution reduction project. In accordance with the Indian River Lagoon National Estuary Program's Request for Proposals Category 1: Restoration Projects, we are providing the following information:

- **Requesting Organization Name and Contact Information for Project Lead**  
*Requesting Organization:* Indian River County  
Public Works Stormwater Division  
1801 27<sup>th</sup> Street  
Vero Beach, FL 32960  
*Project Lead:* Keith McCully, P.E.  
772-226-1562  
[kmccully@ircgov.com](mailto:kmccully@ircgov.com)
- **Participating Organizations or Institutions**  
*Confirmed:* None at this time  
*Possible:* St. Johns River Water Management District  
Florida Department of Environmental Protection  
Florida Legislature  
United States Environmental Protection Agency
- **Brief Summary of the Project and its Benefits to the Indian River Lagoon When Implemented**

The North Relief Canal (NRC) Managed Aquatic Plant System (MAPS) will protect the IRL from nitrogen and phosphorus discharges from the Indian River Farms Water Control District's North Relief Canal.

A year-long pilot plant study on NRC water indicates that the most efficient nutrient

reduction treatment train to reduce nitrogen and phosphorus will consist of water lettuce scrubbers that will remove the majority of the nutrients and settable suspended solids from the water, followed by an algal treatment unit for additional nutrient polishing and reoxygenation. This may be followed by a created wetland to offer additional detention time that may assist in removing organic forms of nitrogen and phosphorus that are typically not easily removed by plants. A simplified flow schematic of the envisioned system follows:



Our review of the pilot plant data indicates the NRC MAPS should achieve the following estimated nutrient reductions based on harvested biomass:

- TN removal = 8,600 pounds/year
- TP removal = 1,500 pounds/year.

Pilot plant results indicate the design NRC MAPS flow rate should be around 12 million gallons pumped into the system over a twelve-hour period. The pumping system will be a variable speed system to allow operational flexibility during varying environmental conditions.

- **Project Funding Request, Major Expenses, and Anticipated Matching Funds**

*Funding Request:* \$250,000 for project construction

*Major Expenses:* Construction costs

*Anticipated Matching Funds:* The County anticipates it will receive over \$2,000,000 in matching funds from SJRWMD, FDEP/EPA, and the Florida legislature. All other necessary matching funds will be provided by Indian River County.

If you have any questions, please call me at (772) 226-1562. Thank you for your time and attention.

Sincerely,

W. Keith McCully, P.E.  
Indian River County Stormwater Division

**INDIAN RIVER COUNTY  
PUBLIC WORKS DEPARTMENT  
STORMWATER DIVISION  
1801 27<sup>th</sup> STREET  
VERO BEACH, FLORIDA 32960  
Phone: (772) 226-1562**



January 10, 2018

Indian River Lagoon National Estuary Program  
Frank Sakuma  
[sakuma@ircouncil.org](mailto:sakuma@ircouncil.org)

Subject: **LETTER OF INTENT to apply for a SCIENCE AND INNOVATIVE TECHNOLOGIES PROJECTS GRANT for INDIAN RIVER COUNTY'S NORTH RELIEF CANAL MANAGED AQUATIC PLANT SYSTEM**

Dear Mr. Sakuma:

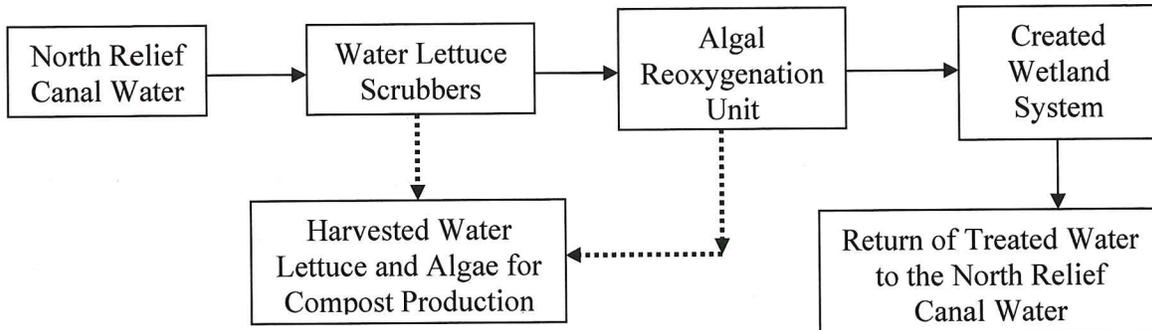
Indian River County intends to apply for a Science and Innovative Technologies Projects Grant for the above referenced pollution reduction project. In accordance with the Indian River Lagoon National Estuary Program's Request for Proposals Category 2: Science and Innovative Technologies Projects, we are providing the following information:

- **Requesting Organization Name and Contact Information for Project Lead**  
*Requesting Organization:* Indian River County  
Public Works Stormwater Division  
1801 27<sup>th</sup> Street  
Vero Beach, FL 32960  
*Project Lead:* Keith McCully, P.E.  
772-226-1562  
[kmccully@ircgov.com](mailto:kmccully@ircgov.com)
- **Participating Organizations or Institutions**  
*Confirmed:* None at this time  
*Possible:* St. Johns River Water Management District  
Florida Department of Environmental Protection  
Florida Legislature  
United States Environmental Protection Agency
- **Brief Summary of the Project and its Benefits to the Indian River Lagoon When Implemented**

The North Relief Canal (NRC) Managed Aquatic Plant System (MAPS) will protect the IRL from nitrogen and phosphorus discharges from the Indian River Farms Water Control District's North Relief Canal.

A year-long pilot plant study on NRC water indicates that the most efficient nutrient

reduction treatment train to reduce nitrogen and phosphorus will consist of water lettuce scrubbers that will remove the majority of the nutrients and settleable suspended solids from the water, followed by an algal treatment unit for additional nutrient polishing and reoxygenation. This may be followed by a created wetland to offer additional detention time that may assist in removing organic forms of nitrogen and phosphorus that are typically not easily removed by plants. A simplified flow schematic of the envisioned system follows:



Our review of the pilot plant data indicates the NRC MAPS should achieve the following estimated nutrient reductions based on harvested biomass:

- TN removal = 8,600 pounds/year
- TP removal = 1,500 pounds/year.

Pilot plant results indicate the design NRC MAPS flow rate should be around 12 million gallons pumped into the system over a twelve-hour period. The pumping system will be a variable speed system to allow operational flexibility during varying environmental conditions.

- **Project Funding Request, Major Expenses, and Anticipated Matching Funds**

*Funding Request:* \$50,000 for project construction

*Major Expenses:* Construction costs

*Anticipated Matching Funds:* The County anticipates it will receive over \$2,000,000 in matching funds from SJRWMD, FDEP/EPA, and the Florida legislature. All other necessary matching funds will be provided by Indian River County.

If you have any questions, please call me at (772) 226-1562. Thank you for your time and attention.

Sincerely,

W. Keith McCully, P.E.  
Indian River County Stormwater Division