



Agenda Report

2725 Judge Fran Jamieson
Way
Viera, FL 32940

Consent

F.18.

8/30/2022

Subject:

Approval, Re: Tourist Development Council (TDC) FY 2022-2023 Tourism + Lagoon Grant Program grant recommendations

Fiscal Impact:

FY 2022-2023: Total funding of \$939,343 from the TDC Beach Improvement fund # 1442-293100.

Dept/Office:

Tourism Development Office

Requested Action:

It is requested the Brevard County Board of County Commissioners approve the Tourist Development Council FY 2022-2023 TDC Tourism + Lagoon Grant Program recommendations for funding for 10 projects:

1. Derelict Vessel Removal-Brevard County Natural Resources; Boating & Waterways, \$49,300
2. Innovative Solutions for Protecting our Public Spaces-Marine Resource Council, \$49,999
3. New Swell Mangrove Restoration and Outreach Project-Sea Redwine, \$37,266
4. Satellite Beach Adopt-A-Canal-City of Satellite Beach, \$49,999
5. Restoration of native clam communities in the Indian River Lagoon for improved water quality and economic resiliency-University of Florida Whitney Laboratory. \$49,100
6. Samsons Island Submerged Lands Restoration, Phase 3-City of Satellite Beach, \$49,839
7. Titusville Causeway Multi-trophic Shoreline Stabilization and Resiliency Action Project, Phase 2c.- Brevard County Natural Resources, \$250,000
8. Brevard County Oyster Restoration-Brevard Zoo, \$113,840
9. Restoring Seagrass for Improved Natural Resilience-Brevard County Natural Resources, \$250,000
10. KBB Flex Team North Banana River Drive Litter Removal-Keep Brevard Beautiful, \$40,000

Further, based on the facts specified for each grant, by approving this agenda item, the Board will make the following legislative findings: (1) the Indian River Lagoon is an estuary with multiple public access points for tourism purposes and a long history of use by tourists, and (2) each project specifically improves, maintains, re-nourishes, restores, protects or assists with erosion control in either the Indian River, the Banana River, or the Mosquito Lagoon (all part of the Indian River Lagoon); and (3) each project is authorized purpose for the expenditure of Tourist Development Tax revenue under section 125.0104(5)(a)5, Florida Statutes and section 102119(4)(a) of the Brevard County Code of Ordinances.

Additionally, it requested that the Tourism Development Office Director be authorized to negotiate and sign all necessary grant agreements and related documents upon County Attorney Office, Risk Management and Purchasing Services approval and authorize the County Manager to execute necessary budget change requests

Summary Explanation and Background:

These FY 2022-2023 Tourism + Lagoon Grant Program projects are verified by the County Attorney's Office to be viable projects to receive support with Tourist Development Tax dollars per State Statute and local ordinance. Reimbursable grant awards are available to support projects that benefit tourism on the Space Coast and promote the health of the Indian River Lagoon. These Tourism + Lagoon Grant Program projects are approved and supported through the Beach Improvement Committee plan.

The Beach Improvement Committee at their July 18, 2022 meeting, and the Tourist Development Council at their July 27, 2022 meeting, voted unanimously to recommended the Board to approve the (10) projects, out of 14 submitted, listed below.

Derelict Vessel Removal

Brevard Country Natural Resources; Boating & Waterways

\$49,300

Description of Project. Brevard County is constantly combating the abandonment of vessels within our Indian River Lagoon system. Once left deserted and/or discarded within our waterways, the remnants of these vessels become debris that is a hazard to recreation, navigation and the environment. This Derelict Vessel Removal project, at seven locations spanning from Micco in South Brevard to Hwy 520 and the Port Canaveral area in North Brevard, will be an immediate improvement to the health of the IRL and a positive impact to local tourism. This project will improve recreational access and restore waterway habitat through vessel debris removal at waterway destination areas. Our project goals directly align with the TDC Tourism & Lagoon Grant Program goals of improved Waterway Destinations & Access and Habitat Restoration.

Innovative Solutions for Protecting our Public Spaces

Marine Resource Council

\$49,999

Description of Project. The project location is at the Lagoon House, a city of Palm Bay owned property located on a highly traveled and visible section of U.S. Highway 1 in the heart of Florida's Space Coast and overlooking the Indian River Lagoon. The proposed project is the continuation of a 1,000-foot-long living shoreline restoration demonstration site which has received previous support from the TDC. The project has already dramatically altered the once ravaged xeric mixed canopy hammock bluff. The property is home to the Ted Moorhead Lagoon House, which houses MRC headquarters, an environmental learning center, and is a welcome center for the Indian River Lagoon National Scenic Byway. It is home to a shell midden, forested trails, lagoon overlooks including a 100-foot boardwalk, native plant and low impact development demonstrations, a pond with a native shoreline demonstration, and more. In partnership with the City of Palm Bay, MRC is engineering the site to develop it into a fully accessible, world-class regional destination, featuring its various demonstration showcases and to grow its significance as an environmental learning experience and destination. Funding this proposal will continue to help bring seagrasses back while protecting the City of Palm Bay public shoreline. This site is an emerging, and with continued support, a great educational and wildlife viewing destination for

tourists, restoration professionals, and local residents. It will be a natural solution in helping our seagrasses to return while improving the lagoon's water quality, enhancing wildlife habitat, and adding eco-tourism value to the important economic flow resulting from an estimated 11.1 million annual lagoon visitors. The initial phase of this project was funded by the TDC in 2019 and performed exceptionally well, accreting several feet of horizontal and vertical sediment, stabilizing the nearby sediments well enough for seagrass to grow, and attracting abundant wildlife including benthic filter feeders, fish, and birds. MRC has been monitoring this initial phase for three years in partnership with a volunteer drone pilot and other partners.

New Swell Mangrove Restoration and Outreach Project

Sea Redwine

\$37,266

Description of Project. This proposed project aims to leverages both creativity and community connections to 1) institute high profile restoration in collaboration with waterfront business owners to change the paradigm of incompatibility of mangroves and business and 2) demonstrate restoration in areas once considered too difficult to restore due to shoreline armoring with novel techniques to plant armored shoreline areas with the overall result being increased mangrove coverage and a change in perspective of waterfront businesses and mangrove co-existence. Ecosystems services such as erosion protection, habitat creation for fish and other wildlife, water quality improvement, and nutrient storage, have tremendous ecological value, which translates to economic value when aquatic resources provide recreation, aesthetics, and opportunities for tourism. In the Indian River Lagoon (IRL) ecosystem, the need for living shorelines, specifically mangrove habitat expansion, has been identified by the IRL Council and prioritized as a top-tier restoration activity due to its documented improvements to both ecosystem and economy. Combined, these benefits to both the lagoon and our community views will enhance the tourism experience in Brevard County.

Satellite Beach Adopt-A-Canal

City of Satellite Beach

\$49,999

Description of Project. The proposed Adopt-A-Canal Program is the first of its kind within the state, inspired by programs that focus on businesses adopting a local canal to clean. This program takes a multifaceted approach to encourage waterfront residents to become actively engaged in water quality improvements within their own canals. Through a six-pronged approach the City of Satellite Beach hopes to build a program that is reproducible in municipalities throughout the county and state. The proposed project will be composed of several tasks that are relevant to reduction of impacts to local canals, the Banana River and the Indian River Lagoon (IRL). By selecting a pilot canal the City of Satellite Beach will be able to initiate the City-wide program through outreach, hands on education, and baseline metrics. The City will obtain qualitative measures through surveys (pre, during, and post) and engagement during the one-year pilot, as well as quantitative measures with data collected via water testing, reef monitoring, native plant photos, wildlife surveys, and ecotour participation. The City of Satellite Beach has 255 waterfront homes along the west side, that are either on a canal or directly on the Banana River. There is approximately 30,506 linear feet of waterfront residential properties, and an additional 2,156 linear feet of canals on City owned property. With anthropogenic disturbances such as muck, lack of permeable surfaces, fertilizers, and pet waste the

degradation of the Indian River Lagoon has become a major concern for residents and tourism. Along with residential canals and riverfront property the City has canals that feed directly into the Banana River. Desoto Park has a small finger canal that is the winter home for hundreds of manatees. The City owned canals off Cassia Blvd. and Jamaica Blvd. are home to several species of aquatic turtles and are the fresh water source for resident gopher tortoises. These canals feed to the IRL so City staff will be adding the components of the project to these canals. The City has chosen the Chevy Chase canal to be the location of the pilot Adopt-A-Canal Program. The impetus being that the canal is wide, and the end of the canal has a City owned easement. Residents along this canal have been supportive with the City, stakeholders, and partners using the canal in past environmental programs.

Restoration of native clam communities in the Indian River Lagoon for improved water quality and economic resiliency

University of Florida Whitney Laboratory

\$49,100

Description of Project. Restoration of impacted clam populations is a critical step towards restoring the IRL to a macrophyte dominated ecosystem, as existed prior to the onset of major harmful algal blooms in 2011 (IRL Consortium, 2015; Philips et al. 2015). As water filtration is a significant ecosystem service provided by these organisms and a critical link to IRL recovery, bivalve population restoration has become a primary objective in restoration planning (see IRL Council- Habitat Restoration Priorities). We assert that natural selection pressures from algal blooms and related hypoxia events have favored phenotypes (genetic varieties) with significant genetic resistance to these stressors. Hence, repatriation of native, surviving genotypes of bivalves will immediately improve water quality and clarity and contribute to the recovery of seagrasses in the IRL. The primary goal of this proposed restoration activity is to continue our ongoing clam restoration activities in the IRL by repatriating hardy varieties of native clam species, known now as the "IRL Super Clam" that we have already successfully collected and spawned in our hatchery at the UF Whitney Laboratory on scales that provide for reproductive success. We have chosen to utilize high profile locations; adjacent to Kelly Park West boat ramp off 528 and the causeway boat ramps off of 520. These locations attract both local fishermen, recreators and tourists alike and thus are good locations for educating the public about the value of filter feeders in the IRL ecosystem and how we are working to restore them to their once bountiful populations. There are suitable planting areas proximate to both of these boat ramps, and as such both planting activities and the planned informational kiosks constructed onsite will be both educational and a persistent reminder that restoration activities of all kinds are underway in a massive effort to restore the lagoon. As both of these boat ramps and associated parks serve an estimated 500+ people per day, the number of local and visiting public that will be exposed to this work is significant. Further, being in popular places also ensures our project is a recognizable feature, where a series of these sites have been added each year since 2018, the most impactful of which is located at River Rocks restaurant in Rockledge where our first kiosk was installed in 2019 with help from the TDC. The TDC has funded this program two times previously with great success and we are employing an even more aggressive outreach campaign with this year's program enhancements to continue the restoration work and broaden our outreach campaign.

Samsons Island Submerged Lands Restoration, Phase 3
City of Satellite Beach

\$49,839

Description of Project. The project is located at Latitude 28.10'54.00 and Longitude -80.36'50.00. This is the western side of Samsons Island, a 52-acre nature preserve in the IRL. The preserve is owned and maintained by the City of Satellite Beach. The project location for monitoring component of SISLR Phase 3 will be the same project site as Phases 1 and 2. This will also be the main highlight during the city eco-tour. The Samsons Island Submerged Lands Restoration (SISLR) project Phase 3 will address multiple problems facing the lagoon.

One is the size of the Indian River Lagoon (IRL) itself, where the 156-mile length of the IRL makes it difficult to know where large scale restoration projects should be implemented. Another is a lack of personal connection to the IRL where residents and visitors alike do not have a clear understanding of what is being done in the community by concerned residents and scientists to restore the Lagoon. There is an immediate need to quantify the success of the SISLR project over time to confirm that the work done in Phases 1 and 2 are repeatable. There is also a need to continue monitoring the survivorship and growth of the seagrasses, clam and oyster planted, dispersed, and recruited inside the project site in Phase 2. It is equally important to share the data we collect from the project with scientists and the community. To do that, we need to collect data over time using the same standards and methods of the permitting agencies, state agencies, universities, nonprofits, and others that have previously and are currently collecting data on similar projects across the IRL. This monitoring, data collection and reporting will be one component of SISLR Phase 3. The second component of SISLR Phase 3 is a frequent eco-tour that communicates the lagoon and community benefits of the SISLR Project Phases 1, 2, and 3, as well as other lagoon restoration projects in the vicinity. A robust monitoring program tied to an eco-tour benefits the community. Today, the need for both public education and restoration is urgent.

Titusville Causeway Multi-trophic Shoreline Stabilization and Resiliency Action Project, Phase 2c.**Brevard County Natural Resources****\$250,000**

Description of Project. For decades the south eastern shoreline along the Titusville Causeway has been exposed to erosion. This has negatively impacted the Indian River Lagoon (IRL) in this area, including the recreational use of this public access to the lagoon. The eastern Titusville Causeway has experienced this erosion, and the current strategy for protection of this important shoreline is not sustainable nor effective. Efforts to protect the shoreline along the County Causeways, have commonly used concrete rubble along the shoreline. This strategy has not reduced sand erosion and ultimately results in an unsafe and unpleasant scenario for recreational use. The TDC awarded funding for a Feasibility Study and also for the permitting and design of this project. The placement of Wave Attenuation Devices (WADs) can feasibly prevent any more destabilization during typical rain events and especially during another devastating storm like Irma. The installation and construction of WADs to protect the southern shoreline is sustainable and in addition will help promote ecological and recreational uses of this sandy shoreline beach and preserve the causeway as a recreational destination. Greater appeal to tourists results in higher tourism revenue. Once constructed it is anticipated that shoreline stabilization will reduce erosion and increased seagrass restoration in the Indian River Lagoon which provides habitat for a variety of estuarine wildlife including recreationally and commercially important fish, invertebrates and birds.

Brevard County Oyster Restoration**Brevard Zoo****\$113,840**

Description of Project. Brevard Zoo's Restore Our Shores program (ROS), has been involved in oyster and living shoreline restoration in the Indian River Lagoon since 2009 and has been a partner of MDC's Shuck & Share project since 2014. Since 2014, Brevard Zoo has recycled 5.6 million pounds of shell from local restaurants, an oyster shucking house, and various other vendors and festivals. This recycled shell has been used to support various oyster restoration projects in the Indian River Lagoon, including Brevard Zoo's Oyster Gardening project and the construction of over 60 oyster reefs in partnership with Brevard County Natural Resources Management Department. Over the last four years, Shuck & Share has gone from recycling from only one partner in Brevard to 24 and has expanded the shell pickup route to serve restaurants along the entire length of the county. Since August 2018, Brevard Zoo has collected 1 million pounds of shell from these restaurants with the help of Tourism + Lagoon grant funding. To accomplish oyster restoration in the IRL, a significant amount of recycled oyster shell is needed as project material. Twenty linear miles of oyster restoration is planned for Brevard County as part of the Save Our Indian River Lagoon Project Plan. This plan was passed in November 2016 by Brevard County voters and project construction funded through a half-cent sales tax. These planned oyster restoration projects will require a minimum of 16.7 million pounds of oyster shells over 10 years as shell substrate is the most widely used fundamental material for oyster restoration. Shortage of shell for oyster restoration projects is an issue nationwide as shell disposed of from restaurants most often ends up in the landfill, diverted for use in filling roads, or ground to supplement poultry diets. To meet the demand restoration projects have for shells, many states, counties, and NGOs in the Southeastern US operate robust shell recycling programs. Currently, Brevard Zoo's Restore Our Shores program is the only organization collecting oyster shell from area restaurants and seafood vendors in Brevard County. The Brevard Zoo requests \$113,840 for Shuck & Share to expand the project to a total of 30 recycling partners, increase reef building efficiency, and expand restaurant marketing and visitor engagement. This funding will support the direct costs of shell collection labor, shell collection materials, shell transport fees from facilities with high shell production, a skid-steer and trailer to move shell and materials to restoration sites, and marketing and event materials for restaurants and visitor engagement.

Restoring Seagrass for Improved Natural Resilience**Brevard County Natural Resources****\$250,000**

Description of Project. Thirty-thousand acres of seagrasses have been lost in the Indian River Lagoon. Modified nutrient cycling and destabilized sediments limit light necessary for seagrass growth by promoting algae blooms and resuspension. In 2020-2021 an unusual mortality event was documented for manatees in the region and attributed to emaciation from limited seagrass and macroalgae food availability (Florida Fish and Wildlife Conservation Commission). By planting a 1.5-acre area of seagrass, this project will contribute to restoration efforts of this critical habitat in the Indian River Lagoon. Seagrass meadows provide many ecosystem services, including attenuation of wave energy and providing food and nursery habitat for many fish species. This project will plant seagrass via multiple methods including herbivore exclusion cages and enhancements to the sediment to better understand how to successfully and efficiently augment seagrass recovery through

restoration efforts. The project is planned, subject to permitting, for 4522 Highway A1A, Melbourne Beach, Florida at a property owned by Brevard County and managed by the Environmentally Endangered Lands program. This site provides access for staging, deployment, and future monitoring of the seagrass planting. There are 10 acres available at this location for the 1.5 acres of seagrass planting and additional 0.5-acre control monitoring plots. The project is scalable to grant fund availability and permitting. Benthic surveys were conducted in September 2021, to assess any existing benthic resources (i.e. seagrass, macroalgae) and sediment and water depth suitability for seagrass planting. Water depths are within the range recommended for seagrass persistence (Morris et al. 2022), with appropriate sediment to support seagrass growth.

KBB Flex Team North Banana River Drive Litter Removal**Keep Brevard Beautiful****\$40,000**

Description of Project. Keep Brevard Beautiful (KBB) has existing contracts with the TDC and other government entities in Brevard County to remove litter from roadways along the Indian River Lagoon (IRL). Specifically, we have had a contract for several years with the TDC that provides for litter removal along four causeways, including SR 528. However, those contracts were constrained on frequency and didn't provide the flexibility for KBB to focus additional attention where needed in order to prevent or minimize litter entering the IRL and damaging the delicate ecosystem. Since the pandemic, there has been a significant increase in the number of visitors enjoying the IRL along the causeways, with a commensurate increase in litter left behind. This litter removal project will occur predominantly along North Banana River Drive on Merritt Island near the 528 Causeway but other problem spots along other causeways may be included, as needed. This road was chosen, because of its extremely high resident and tourist traffic, since it is adjacent to 528, a main artery. Litter along this stretch of road finds its way very quickly into the Banana River from both sides of the road and harms the fragile ecosystem of the IRL. KBB has focused much of its attention on keeping the beaches themselves clean and welcoming to tourists and residents and has done weekly cleanups along the causeways and in the rivers. However, we had not had the funding to ensure consistent litter removal to the level currently needed, given the significant increase in IRL usage until we were awarded last year's grant. This grant would allow us to continue our efforts to impact tourism and help the IRL. Based on our years of experience managing volunteer cleanups and dedicating staff where volunteers cannot satisfy the need, as well as litter removal in this area during the 2021-2022 grant cycle, we believe KBB will continue to succeed and make a significant impact.

Clerk to the Board Instructions:

Please return a memo of the Board's action to the Tourism Development Office and CAO.





Kimberly Powell, Clerk to the Board, 400 South Street • P.O. Box 999, Titusville, Florida 32781-0999

Telephone: (321) 637-2001
Fax: (321) 264-6972
Kimberly.Powell@brevardclerk.us

August 31, 2022

MEMORANDUM

TO: Peter Cranis, Tourism Development Office Director

RE: Item F.18., Approval of Tourist Development Council (TDC) FY 2022-2023 Tourism + Lagoon Grant Program Grant Recommendations

The Board of County Commissioners, in regular session on August 30, 2022, approved the TDC FY 2022-2023 TDC Tourism + Lagoon Grant Program recommendations for funding the following 10 projects:

- Derelict vessel removal - Brevard County Natural Resources, boating and waterways, \$49,300;
- Innovation solutions for protecting public spaces – Marine Resource Council, \$49,999;
- New Swell Mangrove Restoration and Outreach Project – Sea Redwine, \$37,266;
- Satellite Beach Adopt-a-canal – City of Satellite Beach, \$49,999;
- Restoration of native clam communities in the Indian River Lagoon for improved water quality and economic resiliency – University of Florida Whitney Laboratory, \$49,100;
- Samsons Island Submerged Lands Restoration, Phase 3 – City of Satellite Beach, \$49,839;
- Titusville Causeway Multi-trophic Shoreline Stabilization and Resiliency Action Project, Phase 2c. – Brevard County Natural Resources, \$250,000;
- Brevard County Oyster Restoration - Brevard Zoo, \$113,840;
- Restoring Seagrass for Improved Natural Resilience – Brevard County Natural Resources, \$250,000;
- KBB Flex Team North Banana River Drive Litter Removal – Keep Brevard Beautiful, \$40,000;

Further, based on the facts specified for each grant, by approving this Agenda Item, it will make the following legislative findings:

- The Indian River Lagoon is an estuary with multiple public access points for tourism purposes and a long history of use by tourists;
- Each project specifically improves, maintains, re-nourishes, restores, protects, or assists with erosion control in either the Indian River, the Banana River, or the Mosquito Lagoon (all parts of the Indian River Lagoon); and
- Each project is authorized purpose for the expenditure of Tourist Development Tax revenue under Section 125.0104(5)(a)5, Florida Statutes and Section 102119(4)(a) of the Brevard County Code of Ordinances;

Additionally, authorizes you to negotiate and sign all necessary grant agreements and related documents upon Risk Management, County Attorney's Office, and Purchasing Services approval; and authorized the County Manager to execute any necessary Budget Change Requests.

Your continued cooperation is always appreciated.

Sincerely,

BOARD OF COUNTY COMMISSIONERS
RACHEL M. SADOFF, CLERK


Kimberly Powell, Clerk to the Board

cc: County Attorney
County Manager
Risk Management
Finance
Budget

Tourism + Lagoon Grant Program
FY 2022 - 2023

Project Name	Organization Name	Judge #1 Julie Braga	Judge #2 Laurilee Thompson	Judge #3 Duane De Fresse	Judge #4 Ray Walton	Judge #5 Hunter Joslin	Judge #6 Mac Hunter McLouth	Judge #7 Charlie Venuto	Judge #8 Tom Williamson	Judge #9 Bob Musser	TOTAL points earned	Average (deleting the high/low)	Trimmed Mean	TOTAL score earned	Rank Order	TOTAL Project Cost	Funding Request - TDC	Proposed Funding	Match	Match %	Match % bonus points earned
Brevard County Oyster Restoration	Brevard Zoo	114	121	119	109	125	125	122	117	100	938	104.22	118.14	112.52	1	\$295,220	\$113,840	\$113,840	\$181,380	159%	20
Innovative Solutions for Protecting our Public Spaces	Marine Resource Council	105	108	98	92	110	110	109	97	78	802	89.11	102.71	97.82	2	\$67,999	\$49,999	\$49,999	\$18,000	36%	5
Restoration of native clam communities in Indian River Lagoon for improved water quality and economic resiliency	University of Florida Whitney Laboratory	101	106	99	93	105	110	110	95	90	808	89.78	101.29	96.46	3	\$71,100	\$49,100	\$49,100	\$22,000	45%	5
Shoreline Stabilization and Resiliency Action Project, Phase 2c	Natural Resources	84	94	98	107	91	120	100	106	106	822	91.33	100.29	95.51	4	\$3,820,856	\$250,000	\$250,000	\$250,000	100%	15
Derelict Vessel Removal	Natural Resources	99	84	98	85	96	105	105	105	102	780	86.67	98.57	93.88	5	\$49,300	\$49,300	\$49,300	\$0	0	0
Sampson's Island Submerged Lands Restoration, Phase 3	City of Satellite Beach	84	112	98	85	115	105	93	101	78	787	87.44	96.86	92.24	6	\$129,926	\$49,839	\$49,839	\$80,087	160%	10
Restoring Seagrass for Improved Natural Resilience	Natural Resources	78	101	102	98	93	114	117	84	85	794	88.22	96.71	92.11	7	\$500,000	\$250,000	\$250,000	\$250,000	100%	15
KBB Flex Team N. Banana River Drive Litter Removal	Keep Brevard Beautiful	99	75	99	88	96	80	98	96	96	728	80.89	93.29	88.84	8	\$40,000	\$40,000	\$40,000	\$0	50	0
Satellite Beach Adopt-A-Canal	City of Satellite Beach	95	95	81	67	100	115	111	73	73	715	79.44	89.71	85.44	9	\$80,946	\$49,999	\$49,999	\$30,947	67%	10
New Swell Mangrove Restoration and Outreach Project	Sea Redwine	90	107	95	78	98	105	82	73	78	716	79.56	89.43	85.17	10	\$64,900	\$47,400	\$37,266	\$17,500	37%	5
Cocoa Beach Pool Pavilion Kayak Launch	City of Cocoa Beach	102	68	97	NS	92	100	82	76	86	601	75.13	88.83	84.60	11	\$145,800	\$82,900	\$0	\$62,900	76%	10
Veteran's Memorial Park Interactive Signage	Merritt Island Re-development Association	90	91	84	61	103	80	87	77	65	738	82.00	82.00	78.10	12	\$44,000	\$44,000	\$0	\$0	0	0
Improving with Communication: Creating "Sam the Superclam" Book for Children	UCF Foundation	87	69	82	49	79	76	92	58	71	586	65.11	76.00	72.38	13	\$17,721	\$17,150		\$571	3%	0
The IRL Mural Project - Learning Through Art	Town of Melbourne Beach	59	60	72	39	47	75	71	35	38	496	55.11	55.14	52.52	14	\$49,000	\$49,000		\$0	50	0
																\$5,376,768		\$1,076,377	\$939,343	\$913,385	

Tourism + Lagoon Grant Program application 2022-2023

Response ID:7 Data

2. (untitled)

1. Section #1 - Applicant Information

What is the Project Title?

Derelict Vessel Removal 2022-23

3. (untitled)

2. Section #1 - Applicant Information

Contact Information

Organization Name

Brevard County, Boating & Waterways Program

First Name

Matt

Last Name

Culver

Job Title

Boating & Waterways Program Coordinator

Street Address

2725 Judge Fran Jamieson Way

Apt/Suite/Office

A219

City

Viera

State

Florida

Zip

32940

Country

Email Address

matt.culver@brevardfl.gov

Phone Number

3216332016

Fax Number

Mobile Phone

3214827970

Website URL

<http://www.brevardfl.gov/NaturalResources/BoatingAndWaterways/Home>

Website URL

4. (untitled)

3. **Section #1** - Applicant Information

Which best describes your organization....

Government

5. (untitled)

4. **Section #1** - Applicant Information

Do you have Partners for the project that are contributing funds, in-kind donations or labors?

No

6. (untitled)

Section #1 - Applicant Information

List Partner Organizations, their roles with the project and match amount. If you have more than (3) Partners please email Deborah at Deborah.Webster@VisitSpaceCoast.com.

7. (untitled)

5. **Section #2** - Project Specifics: (A.) Need and Urgency

What Indian River Lagoon (IRL) problem will the project address? Please clearly articulate the need for the project.

Brevard County is constantly combating the abandonment of vessels within our Indian River Lagoon system. Once left deserted and/or discarded within our waterways, the remnants of these vessels become debris that is a hazard to recreation, navigation and the environment. Our Vessel Debris Removal project, at six locations spanning from the 528 Causeway to Micco, will be an immediate improvement to the health of the IRL and a positive impact to local tourism. This project will improve recreational access and restore waterway habitat through debris removal at waterway destination areas. Our project goals align with the TDC Tourism & Lagoon Missions of Litter Control, Habitat Restoration, and Waterway Destinations & Access.

8. (untitled)

6. Section #2 - Project Specifics: (A.) Need and Urgency

Where is the project location? Please identify the project location, articulate why the location was chosen and why this location will achieve success.

This Vessel Debris Removal project is scheduled to remove sunken vessels at six locations in Brevard County, spanning from the 528 Causeway in the north to the Micco area in the south. Attachment 2 includes location maps and vessel details.

9. (untitled)

7. Section #2 - Project Specifics: (A.) Need and Urgency

Does the project enhance an important ongoing Tourism + Lagoon Grant Project (not routine maintenance)?

Yes

10. (untitled)

8. Section #2 - Project Specifics: (B.) Project Alignment with Tourism + Lagoon Grant Program mission

Please demonstrate how the project will have a positive impact on Brevard County tourism and cite the methodology used to quantify the success of the project.

This project will improve recreational access and restore waterway habitat through debris removal at waterway destination areas. Our project goals align with the TDC Tourism & Lagoon Missions of Litter Control, Habitat Restoration, and Waterway Destinations & Access. No less than 6 vessels will be removed by this project. The project will have immediate benefits to lagoon health, safety, and an improved visual impact to tourism.

11. (untitled)

9. Section #2 - Project Specifics: (B.) Project Alignment with Tourism + Lagoon Grant Program mission

Please demonstrate how the project will benefit the health of the Indian River Lagoon and cite the methodology used to quantify the success of the project.

This project will improve recreational access and restore waterway habitat through debris removal at waterway destination areas. Our project goals align with the TDC Tourism & Lagoon Missions of Litter Control, Habitat Restoration, and Waterway Destinations & Access. No less than 6 vessels will be removed by this project. The project will have immediate benefits to lagoon health, safety, and an improved visual impact to tourism.

12. (untitled)

10. Section #2 - Project Specifics: (C.) Project Deliverables and Outcomes (Please provide examples)

Please clearly describe the project deliverables - what will be provided at the completion of the project?

Our Vessel Debris Removal project, at six locations spanning from the 528 Causeway to Micco, will be an immediate improvement to the health of the IRL and a positive impact to local tourism. Photos of vessel removals along with dump tickets and contractor invoices will be provided at project completion.

13. (untitled)

11. Section #2 - Project Specifics: (C.) Project Deliverables and Outcomes (Please provide examples)

Describe what is being done, how, and by whom.

Brevard County maintains a continuing service contract with an approved derelict vessel removal contractor and has been working to remove derelict vessel from the County's waterways for over 14 years.

All work shall be conducted using all appropriate BPM's to prevent any turbidity/siltation/water quality violation. Additionally, appropriate FDEP erosion control and turbidity prevention measures shall be installed around the vessel/barge being used to remove the derelict vessel and around the perimeter of any upland staging area. All work shall avoid impacts to wetlands, mangroves, sea-grasses and any other critical/endangered habitats and creatures that may be encountered. All vessel debris will be disposed of at a Brevard County landfill facility.

14. (untitled)

12. Section #2 - Project Specifics: (D.) Project Readiness

Will your project be 'shovel ready' by October 1, 2022?

Yes

15. (untitled)

13. Section #2 - Project Specifics: (D.) Project Readiness

Is the design complete?

Yes

16. (untitled)

14. Section #2 - Project Specifics: (D.) Project Readiness

Please list required permits and provide status. You will be required to upload copies of permits (if they are available) and/or approval letters at the end of the application. If project must go to bid, state when the bid documents will be complete.

The project is exempt from permitting. State exemption criteria and a copy of the current derelict vessel bid/contract are included as part of Attachment 6. A one year contract extension is presently in place and an additional extension will be process later this year extending the contract until December 11, 2023.

17. (untitled)

15. Section #3 - Applicant Capacity and Performance

Clearly outline who the project team will be and their capability/expertise in implementing the successful completion of the project. NOTE: Letters of commitment from all funding partners must be submitted for Attachment #5.

Brevard County is constantly combating the dereliction and/or abandonment of vessels within the Indian River Lagoon system. Since 2007, the Brevard County Boating & Waterways Program has removed over 240 derelict and/or abandoned vessels from the County's waterways. This equates to over 770 tons of debris and over 300 gallons of fuel/oil removed. The Brevard County Boating & Waterways Program Coordinator will manage this project.

18. (untitled)

16. Section #3 - Applicant Capacity and Performance

Please provide examples of similar successful projects completed.

County personnel are experienced in managing vessel debris removal projects and have successfully completed several similar projects over the past 14 years. Related grant funded vessel removal projects include projects through the Florida Inland Navigation District, FL Fish & Wildlife, and the TDC (2018 & 2021).

19. (untitled)

17. **Section #3 - Applicant Capacity and Performance**

Indicate capacity to complete the project and meet grant reporting requirements.

County personnel are experienced in managing vessel debris removal projects and have successfully completed several similar projects over the past 14 years. Related grant funded vessel removal projects include projects through the Florida Inland Navigation District, FL Fish & Wildlife, and the TDC (2018 & 2021).

20. (untitled)

18. **Section #4 - Project Funding; Summary (A.) Leveraging with Matching Funds**

If project request is less than \$50,000, no match is required and there are no bonus points. There is a 5-point bonus for project requests less than \$50,000 if there is a match of more than 25%. There is a 10-point bonus for project requests less than \$50,000 if there is a match of more than 50%. If the project is over \$50,000 there must be a match. There is a 15-point bonus for project requests over \$50,000 if the match is 1:1. There is a 20-point bonus if the match is over 1.5:1.

Grant Request : \$49300
Total Project Cost : \$49300
Total Match : \$0

21. (untitled)

19.

ATTESTATION

I attest that I have full authority to execute this grant request and that all information in the grant application is true and correct. I further attest that I have read the guidelines and will comply with the requirements of the grant, if awarded.



Signature of: Matt Culver

22. (untitled)

20. **SPECIAL MESSAGE:**

You have now completed all of the application questions. The next slide is the space for you to upload the required (6) attachments to complete the application package.

Please label each attachment with the correct attachment number.

If you are not able to upload the required (6) attachments you must upload (6) documents (as placeholders) to complete the application and there must be an explanation in the space below.

It is mandatory that all applications are completed online and the required (6) attachments are submitted by uploading with the application or delivered to the Tourist Development Office by 9am on Wednesday, June 22, 2022. No late arrivals will be accepted.

The below text box may also be used to communicate anything that you need to tell us about your application. To be clear, you do need to enter some text as a placeholder to move on.

23. (untitled)

21. **Required Attachments:**

Please label each with appropriate Attachment number.

Label as Attachment (1) - Indian River Lagoon Watershed Map

Label as Attachment (2) - Project Boundary Map

Label as Attachment (3) - Project Timeline with Milestones and Deadlines

Label as Attachment (4) - Detailed Budget Table

Label as Attachment (5) - Letter(s) of Commitment from Funding Partner(s) if you have a match

Label as Attachment (6) - Copies of Permits (if available) and/or Letter(s) of Approval to demonstrate 'shovel ready' status

[Attachment_1.pdf](#)

[Attachment_2 - Location_Map.pdf](#)

[Attachment_3.pdf](#)

[Attachment_4.pdf](#)

[Attachment_5.pdf](#)

[Attachment_6.pdf](#)

24. Thank You!

New Send Email

Jun 09, 2022 10:39:04 Success: Email Sent to: Thank you for submitting your application for the Tourism + Lagoon Grant program. Your application has been completed and received. It will be reviewed by TDO staff for completeness and within (1) business day a follow-up email will be sent to you confirming the receipt of application and required attachments.

Tourism + Lagoon Grant Program application 2022-2023

Response ID:11 Data

2. (untitled)

1. Section #1 - Applicant Information

What is the Project Title?

Improving Restoration with Communication: Creating "Sam the Superclam" Book for Children

3. (untitled)

2. Section #1 - Applicant Information

Contact Information

Organization Name

University of Central Florida Research Foundation

First Name

Linda

Last Name

Walters

Job Title

Professor of Biology

Street Address

12201 Research Parkway

Apt/Suite/Office

Suite 501

City

Orlando

State

FL

Zip

32826-3246

Country

Email Address

linda.walters@ucf.edu

Phone Number

407-823-2148

Fax Number

Mobile Phone

407-443-6943

Website URL

sciences/ucf.edu/biology/ceelab

Website URL

4. (untitled)

3. **Section #1 - Applicant Information**

Which best describes your organization....

Academic Institution

5. (untitled)

4. **Section #1 - Applicant Information**

Do you have Partners for the project that are contributing funds, in-kind donations or labors?

No

6. (untitled)

Section #1 - Applicant Information

List Partner Organizations, their roles with the project and match amount. If you have more than (3) Partners please email Deborah at Deborah.Webster@VisitSpaceCoast.com.

7. (untitled)

5. **Section #2 - Project Specifics: (A.) Need and Urgency**

What Indian River Lagoon (IRL) problem will the project address? Please clearly articulate the need for the project.

Water quality is poor throughout the Indian River Lagoon (IRL), including in Brevard County. The goal of this project is to provide information to children, educators, and families on restoration of the hard clam *Mercenaria mercenaria* as it is one of the important ways that scientists, resource managers, and community members are embracing to improve water quality. This book will be freely available to all interested individuals and families to explain in appropriate detail the biology, ecology, loss, and now restoration of this bivalve and how this species positively impacts water quality. To our knowledge, no book designed for young audiences and their families exists on this topic. This book, to be made available in both hardcopy and digital form, will greatly expand knowledge on this topic throughout Brevard County and beyond

8. (untitled)

6. Section #2 - Project Specifics: (A.) Need and Urgency

Where is the project location? Please identify the project location, articulate why the location was chosen and why this location will achieve success.

The project location and boundaries are the entire Indian River Lagoon (and entire Brevard County) as shown on the IRL Watershed Maps provided in the attachments. The broader the impact of this book, the more it will help Brevard County achieve success in using education as a first step toward improving IRL water quality.

This project deliverable (children's book) will be distributed throughout Brevard County, via public schools, organizations that share science-based information (e.g., Indian River Lagoon National Estuary Program, Florida Fish and Wildlife Conservation Commission, etc.) and Brevard County Visitor Centers.

9. (untitled)

7. Section #2 - Project Specifics: (A.) Need and Urgency

Does the project enhance an important ongoing Tourism + Lagoon Grant Project (not routine maintenance)?

Yes

10. (untitled)

8. Section #2 - Project Specifics: (B.) Project Alignment with Tourism + Lagoon Grant Program mission

Please demonstrate how the project will have a positive impact on Brevard County tourism and cite the methodology used to quantify the success of the project.

Our new book, "Sam the Superclam," will be freely available at Brevard County Visitor's Centers as hardcopy and digital for residents and visitors. Books for children are like "gold" for many parents as a way to encourage both reading and positive

conservation attitudes in their children. Likewise, educators are always looking for accurate science content that is both engaging and accurate. It is surprising how many science-based children's books are not accurate and thus not appropriate for educators to use in both formal and informal settings.

To make the most impactful book possible, we work directly with scientists and educators/students to ensure accurate content that was age-appropriate. We will use the same protocol with this book to best benefit Brevard County residents and tourism (see protocol details in next question response). As it is widely known that the IRL is in trouble, this book will assure visitors that we all are working very hard to improve regional water quality.

We will track success of this project by tracking interest in the book. With the young children's book on microplastics funded by this program for 2021-2022, 2400 copies were delivered to Brevard County Visitor Centers to share. In addition, Walters paid for printing of 750 additional copies. Within 1 month of printing, she had already distributed 480 copies (64%) to teachers, colleagues, and families who had heard about the project via social media and friends. Requests continue to be received and books shared.

11. (untitled)

9. **Section #2 - Project Specifics: (B.) Project Alignment with Tourism + Lagoon Grant Program mission**

Please demonstrate how the project will benefit the health of the Indian River Lagoon and cite the methodology used to quantify the success of the project.

While many people know that the IRL is an "estuary in peril", few truly understand how scientists, agencies, and the community are working together to improve and restore water quality. This book will be freely available to all interested individuals and families to explain in appropriate detail the biology, ecology, loss, and now restoration of the clam *Mercenaria mercenaria* and how this species positively impacts water quality.

Success will be quantified by pre-post tests on the draft book given to K-5 students. The tests will provide critical information on comprehension and engagement. As with the previous book on microplastics, this step will assist us to edit book vocabulary, tone, and art to make the greatest impact.

12. (untitled)

10. **Section #2 - Project Specifics: (C.) Project Deliverables and Outcomes (Please provide examples)**

Please clearly describe the project deliverables - what will be provided at the completion of the project?

At the completion of this project, there will be a new children's storybook on IRL clam restoration entitled, "Sam the Superclam" for distribution with approximately 4000 hard copies printed plus a digital version available online through the UCF STARS Digital Repository. There will be an additional 4000 hard copies printed of our recently published children's storybook on microplastics entitled, "Please Keep Plastics Out of my Lagoon". All copies will be shared with K-12 educators, organizations that support coastal restoration, and Brevard County Visitor Centers.

13. (untitled)

11. **Section #2 - Project Specifics: (C.) Project Deliverables and Outcomes (Please provide examples)**

Describe what is being done, how, and by whom.

Dr. Walters will lead the text writing of this new book based on her knowledge of the IRL, bivalve restoration, and in collaboration with numerous scientists actively involved in clam restoration. Once initial draft is written, artist Owen Fasolas will produce draft sketches to complement the art. Next, Walters will share this draft text/art with a minimum of 10 restoration scientists, including individuals involved in clam restoration in the IRL. At the recent IRL Clam Workshop (April 2022), Dr. Todd Osborne, Dr. Lorae Simpson, and Ms. Olivia Escandell have all agreed to review draft book content.

Following the same protocol as the microplastics children's book, once the first science review is complete, Walters will edit text and Fasolas will turn sketches into "full art". With this new draft, Walters will share the revised draft with the restoration scientists for a second review as well as have a minimum of 10 educators review the book and share with their classes. Students will take an age-appropriate pre-post-test on book content as well as engagement. With this information, final text and art revisions will be completed.

The book will next be sent to the printers by Walters/Fasolas and then delivered to participating educators, scientists, and Brevard County Visitor Centers.

Writing for this book will begin on 1 October 2022, with completion within 12 months. Detailed timeline is provided as Attachment 3.

14. (untitled)

12. **Section #2 - Project Specifics: (D.) Project Readiness**

Will your project be 'shovel ready' by October 1, 2022?

Yes

15. (untitled)

13. **Section #2 - Project Specifics: (D.) Project Readiness**

Is the design complete?

Yes

16. (untitled)

14. **Section #2 - Project Specifics: (D.) Project Readiness**

Please list required permits and provide status. You will be required to upload copies of permits (if they are available) and/or approval letters at the end of the application. If project must go to bid, state when the bid documents will be complete.

No permits required.

17. (untitled)

15. **Section #3 - Applicant Capacity and Performance**

Clearly outline who the project team will be and their capability/expertise in implementing the successful completion of the project. NOTE: Letters of commitment from all funding partners must be submitted for Attachment #5.

The project team will be composed of Dr. Linda Walters and Mr. Owen Fasolas. This will be the eleventh children's storybook on marine conservation that Walters has led. She has 25+ years of knowledge about the Indian River Lagoon, water quality issues, conservation topics, and restoration efforts. Previous book topics have included invasive plant ecology, "aquarium dumping" of invasive animals, protecting threatened/endangered wading birds, describing the importance of living shorelines and sea level rise, among others. Walters has a wide network of friends and colleagues who are willing to conduct both science review and educator reviews of content; this will facilitate the timeline listed in Attachment 3.

Owen Fasolas is a trained digital graphic artist who has been the artist on the past four books with Dr. Walters. He has a keen sense of age-appropriate coastal art and has been a featured artist of the Florida Coastal Conservation Association.

Combined, Walters and Fasolas make a very strong team for developing a new book on clam ecology and restoration for the Indian River Lagoon.

18. (untitled)

16. **Section #3 - Applicant Capacity and Performance**

Please provide examples of similar successful projects completed.

To date, over 99,000 copies of books led by Dr. Walters have been distributed free to interested educators, libraries, and families. Hundreds of additional copies have been downloaded from STARS, the UCF Digital Repository.

To see examples of published books, please go to: <https://stars.library.ucf.edu/ceelabbooks/>

Titles and topics of similar successful projects completed by Walters and Fasolas include:

- 1) "Please Keep Plastics out of My Lagoon", published 2022, shares information for preschool age children and their families on microplastics and the problems with single-use plastics, as well as IRL biodiversity.
- 2) "Silent Takeover! Invasive Plants in Florida", published in 2020, shares information for middle school students, high school students, and adults on some of Florida's most problematic invasive plants, especially those in coastal areas.
- 3) "Beak and Seek: Hungry Birds Depend on Oyster Reefs", published in 2019, shares information for older elementary school students and their families on the diversity and ecology of threatened/endangered wading birds in the IRL that require intertidal oyster reefs for foraging grounds.

19. (untitled)

17. **Section #3 - Applicant Capacity and Performance**

Indicate capacity to complete the project and meet grant reporting requirements.

Dr. Walters plus artist Owen Fasolas completed their most recent book, "Please Keep Plastics out of My Lagoon", within 9 months documenting their capacity to complete this new project deliverable within 12 months. All reports were submitted on

time.

20. (untitled)

18. **Section #4** - Project Funding; Summary (A.) Leveraging with Matching Funds

If project request is less than \$50,000, no match is required and there are no bonus points. There is a 5-point bonus for project requests less than \$50,000 if there is a match of more than 25%. There is a 10-point bonus for project requests less than \$50,000 if there is a match of more than 50%. If the project is over \$50,000 there must be a match. There is a 15-point bonus for project requests over \$50,000 if the match is 1:1. There is a 20-point bonus if the match is over 1.5:1.

Grant Request : \$17,150

Total Project Cost : \$17,721

Total Match : \$571

21. (untitled)

19.

ATTESTATION

I attest that I have full authority to execute this grant request and that all information in the grant application is true and correct. I further attest that I have read the guidelines and will comply with the requirements of the grant, if awarded.

A handwritten signature in black ink, appearing to read "Emily Bennett", written over a white background.

Signature of: Emily Bennett

22. (untitled)

20. **SPECIAL MESSAGE:**

You have now completed all of the application questions. The next slide is the space for you to upload the required (6) attachments to complete the application package.

Please label each attachment with the correct attachment number.

If you are not able to upload the required (6) attachments you must upload (6) documents (as placeholders) to complete the application and there must be an explanation in the space below.

It is mandatory that all applications are completed online and the required (6) attachments are submitted by uploading with the application or delivered to the Tourist Development Office by 9am on Wednesday, June 22, 2022. No late arrivals will be accepted.

The below text box may also be used to communicate anything that you need to tell us about your application. To be clear, you do need to enter some text as a placeholder to move on.

23. (untitled)

21. Required Attachments:

Please label each with appropriate Attachment number.

Label as Attachment (1) - Indian River Lagoon Watershed Map

Label as Attachment (2) - Project Boundary Map

Label as Attachment (3) - Project Timeline with Milestones and Deadlines

Label as Attachment (4) - Detailed Budget Table

Label as Attachment (5) - Letter(s) of Commitment from Funding Partner(s) if you have a match

Label as Attachment (6) - Copies of Permits (if available) and/or Letter(s) of Approval to demonstrate 'shovel ready' status

[Attachment_1_IRLWatershedMapFINAL.pdf](#)

[Attachment_2_IRLProjectMapFINAL.pdf](#)

[Attachment_3_Timeline.docx](#)

[Attachment_4_DetailedBudgetTable_UCF.docx](#)

[Attachment_5_UCF_Letter_of_Commitment.pdf](#)

[Attachment_6_permits_and_letters.pdf](#)

24. Thank You!

New Send Email

Jun 15, 2022 10:56:44 Success: Email Sent to: Thank you for submitting your application for the Tourism + Lagoon Grant program. Your application has been completed and received. It will be reviewed by TDO staff for completeness and within (1) business day a follow-up email will be sent to you confirming the receipt of application and required attachments.

Tourism + Lagoon Grant Program application 2022-2023

Response ID:16 Data

2. (untitled)

1. Section #1 - Applicant Information

What is the Project Title?

Innovative Solutions for Protecting our Public Spaces

3. (untitled)

2. Section #1 - Applicant Information

Contact Information

Organization Name

Marine Resources Council

First Name

Caitlyn

Last Name

Savoia

Job Title

Deputy Director

Street Address

3275 Dixie Highway NE

Apt/Suite/Office

Office

City

Palm Bay

State

FL

Zip

32905

Country

Email Address

Caity@mrcl.org

Phone Number

321-725-7775

Fax Number

Mobile Phone

8137667266

Website URL

www.loveourlagoon.com

Website URL

4. (untitled)

3. **Section #1 - Applicant Information**

Which best describes your organization....

Non-Profit

5. (untitled)

4. **Section #1 - Applicant Information**

Do you have Partners for the project that are contributing funds, in-kind donations or labors?

Yes

6. (untitled)

5. **Section #1 - Applicant Information**

List Partner Organizations, their roles with the project and match amount. If you have more than (3) Partners please email Deborah at Deborah.Webster@VisitSpaceCoast.com.

Partner Organization Name (A) : IDEAS For Us

Partner Role (A) : Contribution

Match Amount (A) : 5000

Partner Organization Name (B) : Florida Oceanographic Society

Partner Role (B) : Labor

Match Amount (B) : 2,000

7. (untitled)

6. **Section #2 - Project Specifics: (A.) Need and Urgency**

What Indian River Lagoon (IRL) problem will the project address? Please clearly articulate the need for the project.

This project will directly address several problems associated with coastal estuaries like the Indian River Lagoon (IRL) including poor water quality, erosion of public lands, and wildlife degradation. The IRL is suffering from imbalances resulting from excessive nutrient pollution and a collapse of seagrass, the foundation of the ecosystem. Living shorelines that include natural vegetation and nearshore reefs naturally filter and buffer nutrient runoff from the land and oncoming energy from the water. Mangroves and shoreline grasses stabilize sediment, a crucial key to facilitating the return of seagrass. Living shorelines also have other benefits including nutrient absorption, erosion control, and shoreline energy reduction. Near-shore reefs are also home to a diverse array of wildlife including filter-feeder organisms like oysters, mussels, clams, barnacles, crabs, sea squirts, and many others that help solve IRL problems by cleaning the water and removing nutrients as they filter. Living shorelines that include both plants and near-shore reefs work synergistically to buffer and protect shorelines, propagate natural filtration, and improve water quality. Investing in living shorelines as a community is a strategic way to solve multiple lagoon issues while preserving the precious few waterfront public lands that are available to tourists.

In 2019, Marine Resources Council (MRC) partnered with the Tourism Development Council (TDC) to build the first phase of a large 1,000 foot permitted living shoreline project with multiple nearshore reefs along the shoreline of the Ted Moorhead Lagoon House, a City of Palm Bay tourism and education center. This location was chosen as it is public land accessible to all including tourists and also is the home office of MRC, a nonprofit organization dedicated to protecting the lagoon. The initial phase of this project performed exceptionally well, accreting several feet of horizontal and vertical sediment, stabilizing the nearby sediments well enough for seagrass to grow, and attracting abundant wildlife including benthic filter feeders, fish, and birds. MRC has been monitoring this initial phase for three years in partnership with a volunteer drone pilot and Florida Institute of Technology. Earlier in 2022, Florida Oceanographic Society also began monitoring the shoreline for seagrass since *Ruppia maritima* was observed here for the first time since permits were acquired for this project in 2018. The state and federal permits for this project have a five-year construction limitation which expire in 2023. MRC, in partnership with the City of Palm Bay, proposes funding for this project to support the deployment of more living reefs at this permitted living reef demonstration site. Funding this proposal will continue to help bring seagrasses back while protecting the City of Palm Bay public shoreline. This site is an emerging, and with continued support, a great educational and wildlife viewing destination for tourists, restoration professionals, and local residents. It will be a natural solution in helping our seagrasses to return while improving the lagoon's water quality, enhancing wildlife habitat, and adding eco-tourism value to the important economic flow resulting from an estimated 11.1 million annual lagoon visitors.

8. (untitled)

7. **Section #2 - Project Specifics: (A.) Need and Urgency**

Where is the project location? Please identify the project location, articulate why the location was chosen and why this location will achieve success.

The project location is at the Lagoon House, a city of Palm Bay owned property located on a highly traveled and visible section of U.S. Highway 1 in the heart of Florida's Space Coast and overlooking the Indian River Lagoon. It is archaeologically and geologically a fascinating spot as an ancient home to Ais Native Americans who utilized the site as a midden due to its naturally high sand ridge bluff with a 25-foot elevation. The proposed project is the continuation of a 1,000-foot-long living shoreline restoration demonstration site which has received previous support from the TDC. The project has already dramatically altered

the once ravaged xeric mixed canopy hammock bluff. The shoreline runs parallel to Ais) Lookout Point Park (named in honor of its native tribe), a City of Palm Bay public park, which is the 20-year headquarters of Marine Resources Council. In 2004, the shoreline was destroyed by hurricanes and was rebuilt as an exemplary living shoreline showcase that is featured on www.floridalivingshorelines.com with multiple different types of alternative shoreline options available for viewing. The property is home to the Ted Moorhead Lagoon House, which houses MRC headquarters, an environmental learning center, and is a welcome center for the Indian River Lagoon National Scenic Byway. It is home to an Ais shell midden, forested trails, lagoon overlooks including a 100-foot boardwalk, native plant and low impact development demonstrations, a pond with a native shoreline demonstration, and more. In partnership with the City of Palm Bay, MRC is engineering the site to develop it into a fully accessible, world-class regional destination, featuring its various demonstration showcases and to grow its significance as an environmental learning experience and destination. MRC routinely shares the results of its shoreline restoration with the public, who are astounded and intrigued. We are thrilled at the prospect of further advancing the restoration to accommodate our evolving fully-accessible campus of tomorrow.

9. (untitled)

8. Section #2 - Project Specifics: (A.) Need and Urgency

Does the project enhance an important ongoing Tourism + Lagoon Grant Project (not routine maintenance)?

Yes

10. (untitled)

9. Section #2 - Project Specifics: (B.) Project Alignment with Tourism + Lagoon Grant Program mission

Please demonstrate how the project will have a positive impact on Brevard County tourism and cite the methodology used to quantify the success of the project.

This project will have a positive impact on tourism by enhancing water quality and associated wildlife habitat of the lagoon while teaching visitors about the functions and services of living shorelines. MRC will also utilize the site as an example to local municipalities and agencies of innovative solutions that prevent erosion and protect our public lands for the enjoyment of local visitors and tourists alike. The Ted Moorhead Lagoon House and Ais Lookout Point Park are owned by the City of Palm Bay and are home base for MRC, a nonprofit dedicated to lagoon restoration and advocacy. This setting with dedicated MRC staff provides an excellent tourism destination for visitors to engage with lagoon experts and learn about our lagoon's history and the community's shared restoration vision and goals. The 6,400 square foot building is versatile and has space for displays and outdoor lagoon learning. MRC holds regular events at the Lagoon House including scientific assemblies, restoration workshops, school field trips, summer camp, lagoon learning presentations, and more. We work with several local corporations and community foundations to provide team networking opportunities and volunteer experiences. The National Scenic Byway and Florida Department of Transportation list the Lagoon House as a tourism destination, which will continue to grow as our exhibits and learning experiences are enhanced. The City of Palm Bay and Marine Resources Council are committed to partnering on several property enhancements with a long-term vision incorporating new elements such as an outdoor pavilion, a storm water pond educational boardwalk, and an ADA stairwell leading to the shoreline where an educational and recreational dock will be installed. The stairwell and dock will be key in highlighting our living shoreline exhibit. This accessibility will add value to our community by providing an ecotourism destination where tourists can learn, fish, view wildlife, canoe, and kayak.

11. (untitled)

10. **Section #2 - Project Specifics: (B.) Project Alignment with Tourism + Lagoon Grant Program mission**

Please demonstrate how the project will benefit the health of the Indian River Lagoon and cite the methodology used to quantify the success of the project.

This permitted project was born as a result of the almost total washout of a Brevard County SOIRL funded mangrove and spartina shoreline planting in 2017. MRC had planted 1,500 linear feet of vegetation with no protection and suffered more than 70% washout of the plants, a common restoration problem in our region with a high fetch and large seasonal water level increase. In 2018, MRC staff designed and permitted a living reef to protect the shoreline vegetation and have been constructing the project in phases with the goal of re-vegetating the shoreline once the reef modules are deployed. Based on the Brevard County SOIRL plan nutrient reductions, this project is actively removing 132 pounds of nitrogen and 35 pounds of phosphorus annually from the lagoon. This calculation is from scientific research conducted by Forand et al. in 2014. By adding living reef modules parallel to the shoreline, these estimates will no doubt increase as more wetland grasses and mangroves will establish and thrive with the added reef protection. Since the initial deployment funded by TDC in 2019, MRC has shared our shoreline with many local and statewide stakeholders including but not limited to the Kennedy Space Center, University of Florida, SeaGrant Florida Master Naturalist Class, the Florida Native Plant Society, and many local municipalities and agencies. All of these groups have shared regional erosion issues and are interested in this project as a site that has successfully accomplished the opposite of erosion: the accretion of sediments and the creation of wetland habitat. This site is also part of a statewide collaborative effort funded by Florida Department of Environmental Protection (FDEP) to enhance the sustainability of shoreline restoration products being utilized along our shorelines, called Plastic-free Restoration of Oyster Shorelines (PROS). This group inspired a new volunteer program at the MRC called Concrete Creations in which staff works with the community to build sustainable shoreline stabilizing products. Ongoing monitoring and tracking efforts will continue, including biodiversity sediment analysis by Florida Institute of Technology and seagrass transects completed by Florida Oceanographic Society. Results can be quantified by square footage of reef habitat created, the amount of sediment accreted, the number of invasive exotic species removed, and the SOIRL estimate of nutrient reduction minimums. Brevard County SOIRL estimates that the Indian River Lagoon will generate \$997 million in tourism and recreation growth over the next 10 years. A declining lagoon will result in a loss of \$3 billion over the same time period. Publicly accessible sites like this that are innovating towards a solution to habitat and erosion issues offer the opportunity for collaborative learning that will help bring the lagoon back to a healthy functional ecosystem. The ultimate goal is to return our lagoon to a hotspot of tourism by providing locations such as this site made available for accessible wildlife viewing, water enjoyment, fishing, and learning about the local ecology. This project meets the water quality goals to protect natural resources as outlined in the approved management plan for the IRL including WQ Goal 1; Objective 2 and 3.

12. (untitled)

11. **Section #2 - Project Specifics: (C.) Project Deliverables and Outcomes (Please provide examples)**

Please clearly describe the project deliverables - what will be provided at the completion of the project?

Funding for this project will be utilized to order supplies necessary to implement 8 months of regular Concrete Creation workshops, 150 mangroves planted at two separate planting events, 5 deployment events for living reef installation, and 5

invasive removal events. A final report of the project will be delivered including before and after pictures of the shoreline, pictures of volunteer Concrete Creation workshops, pictures of volunteer deployment events, pictures of volunteer invasive removal events, and monitoring data from partners. A summary of workshops will be produced including the number of shoreline stabilizing products built, the number of invasive species removed, the number of mangroves planted, and the square footage of living reefs deployed. All volunteer hours will be tracked and submitted in quarterly and final reports. The restoration site will be publicly accessible year-round and will showcase the living shoreline project complete with the TDC sign already displayed at the entrance to the trail system leading to the shoreline. MRC is happy to collaborate with the TDC on updating the sign if necessary. The TDC will also be acknowledged as the primary funding source for this project during all presentations including at MRC's annual Low Impact Development conference.

13. (untitled)

12. **Section #2 - Project Specifics: (C.) Project Deliverables and Outcomes (Please provide examples)**

Describe what is being done, how, and by whom.

FDEP and ACOE permits for this project were acquired by MRC and are included as Attachment 6. Phase I was the deployment of the initial four reef structures funded by the TDC in 2019 and constructed by a heavy equipment shoreline contractor. In Phase II, MRC has been monitoring these modules while investigating ways to increase community engagement and the cost effectiveness for the remainder of the project footprint. For this project, MRC proposes utilizing our innovative Concrete Creations program launched in January 2022 as a new volunteer program constructing new shoreline structures made of environmentally friendly jute coated with a pH neutral concrete product called calcium sulfo-aluminate (CSA). Funding for this project will support 10 Concrete Creations workshops between October and May. Dr. Johnson's lab at FIT will conduct ongoing sediment analysis along the Lagoon House shoreline to assess for biodiversity. MRC proposes 4 more living reef modules be deployed utilizing a variety of Concrete Creations including oyster prisms, volcanoes, mangrove anchors, and potential newly modified versions of all creations using the same materials. Volunteer workshops will be held with a minimum of 2 MRC staff members who will describe the goal of the workshops and guide participants through the creation process. Deployment of these innovative products will be along the Lagoon House shoreline and remain consistent with the permit design footprint for the reef modules at 50 feet long by 8 feet wide. MRC will collaborate with FIT on reef design and which CSA products will be utilized within each living reef module. FDEP has approved the slight modification in material. MRC, FIT, and other groups are interested to see if this new cost effective solution will provide a similar result to previously deployed high cost modules that were deployed with a heavy equipment contractor. MRC is striving to make shoreline restoration as accessible to the community as possible and bringing the cost down is a top priority in reducing barriers.

14. (untitled)

13. **Section #2 - Project Specifics: (D.) Project Readiness**

Will your project be 'shovel ready' by October 1, 2022?

Yes

15. (untitled)

14. **Section #2 - Project Specifics: (D.) Project Readiness**

Is the design complete?

Yes

16. (untitled)

15. **Section #2** - Project Specifics: (D.) Project Readiness

Please list required permits and provide status. You will be required to upload copies of permits (if they are available) and/or approval letters at the end of the application. If project must go to bid, state when the bid documents will be complete.

MRC has acquired both state issued FDEP and federal ACOE permits needed to complete this project. Copies are included as Attachment 6.

17. (untitled)

16. **Section #3** - Applicant Capacity and Performance

Clearly outline who the project team will be and their capability/expertise in implementing the successful completion of the project. NOTE: Letters of commitment from all funding partners must be submitted for Attachment #5.

The project team will consist of a collaboration between staff members from MRC and FIT. MRC will rely on our thirty-year history of organizing volunteer-based restoration programs and projects. This includes staff time dedicated to the Concrete Creations program which will require communications, coordination, supply and inventory tracking, workshop preparation, and educational training of volunteer participants. Concrete Creations was launched in January 2022 and since then MRC staff has built a network of trained concrete volunteers who have created 200 oyster volcanoes for Florida Fish and Wildlife Conservation Commission, 100 mangrove anchors, and 30 oyster prisms. All of these products are made of an environmentally friendly material that can be utilized to stabilize shoreline sediments, reduce nutrients, and create wildlife habitat. These products have been utilized by professional restoration groups as well as private homeowners. Concrete Creations has already shown great success exemplified by the retention of volunteers who are highly engaged and interested in continuing to participate. MRC expects it to continue growing as the demand for erosion control and sediment retention for seagrass restoration increases. The contract and all program management will be executed by MRC's Deputy Director who also wrote and managed the previously TDC-funded Phase I of this project. The MRC team executing the workshops will include three full-time environmental educators and one FIT PhD candidate intern. This team of dedicated women has a strong and versatile base of skills and expertise which allows MRC to successfully run this innovative program while being inclusive to a diverse population within the community. MRC was recently awarded a grant by the Community Foundation of Brevard to fund Concrete Creation workshops targeting marginalized youth from local detention centers in a partnership with AMIKids. This funding along with other community sources will be used to continue building our shoreline until the acquired permits have been fully executed. MRC will coordinate and manage all workshops and the shoreline deployment with the local community to improve water quality and protect our lagoon.

18. (untitled)

17. Section #3 - Applicant Capacity and Performance

Please provide examples of similar successful projects completed.

The initial phase of this project funded by TDC was similar to this proposal in that the end goal and lagoon tourism benefits are the same. For this deployment, MRC has developed all new methods which have been refined through two years of research, networking, and development. Phase I of this shoreline restoration project was a success in that the project was completed and has exceeded expectations of MRC staff by accreting massive amounts of sediments, creating a wetland that did not exist previously, and presumably stabilizing the sediments well enough for seagrass to return for the first time in at least five years. Most of the funding for the first phase went directly to a shoreline construction contractor to build four coquina reefs with large boulders. It has been amazing to observe how the reef as a whole has accumulated vertical and horizontal sediments. It has been a joy to observe the wildlife that has grown accustomed to the reef, utilizing it as fish and benthic refugia and hunting ground for birds and larger fish. Even more exciting is being able to share this project with visitors including local restoration experts, municipalities, and agencies interested in shoreline alternative solutions. Phase II was critical to allow MRC staff to watch and learn while developing new methods to improve the project. MRC has managed Concrete Creation workshops several times a month since January 2022, creating 200 oyster volcanoes for Florida Fish and Wildlife Conservation Commission, 100 mangrove anchors for multiple private homeowners, and 30 oyster prisms in collaboration with the City of Cocoa Beach and another nonprofit group called Ideas For Us. The innovative efforts that have gone into the Lagoon House shoreline have had far-reaching effects as MRC has been contacted by homeowners as far away as Jupiter interested in mangrove anchors. MRC has also partnered with local municipalities and groups including the City of Satellite Beach, the City of Cocoa Beach, the City of Cape Canaveral, and Florida Oceanographic Society, that have implemented these products into current and future products. MRC has contributed considerable resources to developing the expertise to make the third phase of this project a success and has full confidence and faith in our ability to deploy reef modules in a way that is more engaging and efficient than ever.

19. (untitled)

18. Section #3 - Applicant Capacity and Performance

Indicate capacity to complete the project and meet grant reporting requirements.

MRC's Deputy Director successfully manages MRC grants and contracts, including the previously awarded Phase I from TDC for this shoreline project. If this proposal is awarded, the contract reporting deadline requirements will be immediately summarized by the Deputy Director and sent to the MRC team with dates recorded and shared on the managed calendar. Oversight and guidance will be provided as needed by MRC's Executive Director with program execution implemented by a skilled MRC team including three full time environmental educators and one paid PhD conservation intern from FIT. The Deputy Director will work with the team to draft all reports which will be reviewed and finalized by the Executive Director. MRC will also rely on the support of the growing MRC membership and board of directors. Volunteer hours will be tracked on this project by staff using our DonorPerfect data management software. This team is strong and extremely dedicated to MRC's mission in protecting the Indian River Lagoon for the sustainability of natural resources and economic viability of our community.

20. (untitled)

19. Section #4 - Project Funding; Summary (A.) Leveraging with Matching Funds

If project request is less than \$50,000, no match is required and there are no bonus points. There is a 5-point bonus for project requests less than \$50,000 if

there is a match of more than 25%. There is a 10-point bonus for project requests less than \$50,000 if there is a match of more than 50%. If the project is over \$50,000 there must be a match. There is a 15-point bonus for project requests over \$50,000 if the match is 1:1. There is a 20-point bonus if the match is over 1.5:1.

Grant Request : \$49,999
Total Project Cost : 67999
Total Match : 18000

21. (untitled)

20.

ATTESTATION

I attest that I have full authority to execute this grant request and that all information in the grant application is true and correct. I further attest that I have read the guidelines and will comply with the requirements of the grant, if awarded.



Signature of: Caitlyn Savoia

22. (untitled)

21. SPECIAL MESSAGE:

You have now completed all of the application questions. The next slide is the space for you to upload the required (6) attachments to complete the application package.

Please label each attachment with the correct attachment number.

If you are not able to upload the required (6) attachments you must upload (6) documents (as placeholders) to complete the application and there must be an explanation in the space below.

It is mandatory that all applications are completed online and the required (6) attachments are submitted by uploading with the application or delivered to the Tourist Development Office by 9am on Wednesday, June 22, 2022. No late arrivals will be accepted.

The below text box may also be used to communicate anything that you need to tell us about your application. To be clear, you do need to enter some text as a placeholder to move on.

23. (untitled)

22. Required Attachments:

Please label each with appropriate Attachment number.

Label as Attachment (1) - Indian River Lagoon Watershed Map

Label as Attachment (2) - Project Boundary Map

Label as Attachment (3) - Project Timeline with Milestones and Deadlines

Label as Attachment (4) - Detailed Budget Table

Label as Attachment (5) - Letter(s) of Commitment from Funding Partner(s) if you have a match

Label as Attachment (6) - Copies of Permits (if available) and/or Letter(s) of Approval to demonstrate 'shovel ready' status

[Attachment\(1\)_IRLMap.pdf](#)

[Attachment\(2\)_ProjectBoundary.pdf](#)

[Attachment\(3\)_Timeline.pdf](#)

[Attachment\(4\)_BudgetTable.pdf](#)

[Attachment\(5\)_Letters_Commitment.pdf](#)

[Attachment\(6\)_Permits.pdf](#)

24. Thank You!

New Send Email

Jun 21, 2022 14:52:21 Success: Email Sent to: Thank you for submitting your application for the Tourism + Lagoon Grant program. Your application has been completed and received. It will be reviewed by TDO staff for completeness and within (1) business day a follow-up email will be sent to you confirming the receipt of application and required attachments.

Tourism + Lagoon Grant Program application 2022-2023

Response ID:15 Data

2. (untitled)

1. Section #1 - Applicant Information

What is the Project Title?

New Swell Mangrove Restoration and Outreach Project

3. (untitled)

2. Section #1 - Applicant Information

Contact Information

Organization Name

Sea Redwine

First Name

Cory

Last Name

Redwine

Job Title

President

Street Address

1295 Ebb Tide Ave

Apt/Suite/Office

City

Merritt Island

State

Florida

Zip

32952

Country

Email Address

coryredwine@gmail.com

Phone Number

321-863-5745

Fax Number

Mobile Phone

321-863-5745

Website URL

@searedwine

Website URL

4. (untitled)

3. Section #1 - Applicant Information

Which best describes your organization....

Non-Profit

5. (untitled)

4. Section #1 - Applicant Information

Do you have Partners for the project that are contributing funds, in-kind donations or labors?

Yes

6. (untitled)

5. Section #1 - Applicant Information

List Partner Organizations, their roles with the project and match amount. If you have more than (3) Partners please email Deborah at Deborah.Webster@VisitSpaceCoast.com.

Partner Organization Name (A) : University of Florida Whitney Laboratory

Partner Role (A) : Monitoring and reporting

Match Amount (A) : \$5500

Partner Organization Name (B) : Local Knowledge TV

Partner Role (B) : TV episode production

Match Amount (B) : \$12,000

7. (untitled)

6. Section #2 - Project Specifics: (A.) Need and Urgency

What Indian River Lagoon (IRL) problem will the project address? Please clearly articulate the need for the project.

Creating living shorelines has been shown to be an effective restoration tool in coastal and estuarine ecosystems that have been degraded by shoreline development or excessive nutrient pollution. By promoting a stabilized and vegetated shoreline edge, this practice results in increasing multiple ecosystem services that are often lost during development or hardening of shorelines to protect infrastructure. Ecosystems services such as erosion protection, habitat creation for fish and other wildlife, water quality improvement, and nutrient storage, have tremendous ecological value, which translates to economic value when aquatic resources provide recreation, aesthetics, and opportunities for tourism. In the Indian River Lagoon (IRL) ecosystem, the need for living shorelines, specifically mangrove habitat expansion, has been identified by the IRL Council and prioritized as a top-tier restoration activity due to its documented improvements to both ecosystem and economy. Red Mangroves (*Rhizophora mangle*), which are the dominant mangrove species in the IRL, provide critical habitat for juvenile fish, complex roots structure for many species of epibionts (attaching organisms such as oysters, sponges, and other filter feeders that live in the water) and roosting habitat for water fowl. Perhaps most importantly, mangroves uptake nutrients from the water column and support sedimentation of nutrient rich detrital material from algae and other sources, creating a natural nutrient sink that is desperately needed in the IRL at this time.

As the IRL shorelines have been developed, mangroves have been removed to provide easier access to the water and more open views of the lagoon from shoreline properties. Unfortunately, waterfront property and business owners have fought to remove or maintain mangrove free areas to support their property values or businesses where the view of the water is considered desirable. While the inherent value of restoring mangroves has been realized and much work has been done to plant mangroves to aid in IRL recovery, much still needs to be done to reach a critical mass of mangrove habitat. While fairly easy to implement logistically (no heavy equipment needed), one major problem with mangrove restoration success to date is a lack of properties willing to allow the activity and a persistent mindset that mangroves and open views of the water are incompatible. Further, many shorelines have been armored with rock, concrete rubble or seawalls that make traditional mangrove restoration techniques unsuitable for restoration.

This proposed project aims to leverage both creativity and community connections to 1) institute high profile restoration in collaboration with waterfront business owners to change the paradigm of incompatibility of mangroves and business and 2) demonstrate restoration in areas once considered too difficult to restore due to shoreline armoring with novel techniques to plant armored shoreline areas with the overall result being increased mangrove coverage and a change in perspective of waterfront businesses and mangrove co-existence. Combined, these benefits to both the lagoon and our community views will enhance the tourism experience in Brevard County.

8. (untitled)

7. Section #2 - Project Specifics: (A.) Need and Urgency

Where is the project location? Please identify the project location, articulate why the location was chosen and why this location will achieve success.

There are multiple locations involved in this project (see map attachment) and they include both locations for community outreach and awareness, as well as restoration sites. First, mangroves will be grown from propagules collected locally to a size that ensures much greater survival rates than traditional methods of just inserting propagules into soft sediments and hoping for good survival. Rather this work includes a novel growing technique, developed by us, that will take place at a high-profile pond

at Port Canaveral (adjacent to the tourist observation walkway) where tourists and the public can observe the process and learn from informational kiosk we place onsite. Further, out-reach kiosks, created by this project (and described in detail later) will include a live mangrove demonstration and restoration related art that will educate patrons at three of the Port's most heavily visited restaurants (Grills, Rusty's, and Rising Tide) and two other large local restaurants (Fourth Street in Cocoa, Marker 24 in Merritt Island). These locations were chosen to be as impactful as possible with both tourists and local public (these locations see 10,000+ patrons each on a monthly basis). Kiosks will be placed in high traffic areas such as waiting areas or entrances to maximize interactions with patrons and will describe the project and the role of mangroves in the ecosystem. Most importantly, the kiosks will describe how businesses and other shoreline activities can coexist for benefit of both lagoon health and developed shorelines.

9. (untitled)

8. Section #2 - Project Specifics: (A.) Need and Urgency

Does the project enhance an important ongoing Tourism + Lagoon Grant Project (not routine maintenance)?

No

10. (untitled)

9. Section #2 - Project Specifics: (B.) Project Alignment with Tourism + Lagoon Grant Program mission

Please demonstrate how the project will have a positive impact on Brevard County tourism and cite the methodology used to quantify the success of the project.

In the short-term, the project will draw attention to creative activities and new ways of addressing the environmental health of the lagoon, while also educating the public and tourist alike. The visuals of the grow-out program at the Port and support of major restaurants will show the myriad of ways and the level of dedication to environmental improvement in the Brevard County area of the IRL. Further, leveraging connections with local businesses to implement this project will also initiate a broader impact of helping local businesses integrate mangrove shorelines into their business models.

We also leverage our significant experience in social media promotion to keep the project at the top of regional social media with video and photographic posts on all major formats of social media with links to Brevard Tourism being included at all levels. Perhaps more importantly, we will utilize a close working relationship with Michael Torbisco Productions to produce an episode of "Local Knowledge", a cable television show (with 150,000+ viewers and over 50,000 youtube channel subscribers) that travels the US in search of interesting people and projects associated with sport fishing, to promote the mangrove restoration and business integration aspects of this work in the IRL. This show has already done one episode on the creative restoration themed artwork produced by the principal applicant to improve public understanding of pollution in the IRL waterways that airs in July of this year. We will quantify impact by tracking social media "views", "likes" and "shares", as well as responses to website links posted at educational kiosks. We will also be estimating patron visitation at all restaurants and collect viewership and social media responses from "Local Knowledge" program.

11. (untitled)

10. Section #2 - Project Specifics: (B.) Project Alignment with Tourism + Lagoon Grant Program mission

Please demonstrate how the project will benefit the health of the Indian River Lagoon and cite the methodology used to quantify the success of the project.

Mangrove restoration has been shown repeatedly in the scientific literature to greatly enhance habitat for fish, reduce erosion and particle entrainment in the water column (reduce turbidity), retain nutrients through direct uptake and enhanced sedimentation, and provide roosting habitat for wading birds. These ecosystem services are well recognized (and subsequently prioritized) by the IRL Council and IRL National Estuaries Program, which are charged with restoration of the IRL ecosystem. As the IRL was once dominated by mangroves on almost all shorelines, increasing the coverage of mangroves will enhance these ecosystem services, especially in areas where armored shorelines are dominant. Quantification of the restoration aspect of this work is very straight forward. We will use direct counts of mangrove survival and growth metrics to document success of the mangrove restoration work. We anticipate this to be highly successful compared to traditional methods as 1) mangrove propagules are nurtured for 12 months prior to planting (this is already underway) and 2) we utilize a specifically designed cluster of propagules, soil and biodegradable burlap wrapping to enhance ability of mangroves to establish in areas (armored shorelines) previously thought to be unsupportive of mangroves.

12. (untitled)

11. Section #2 - Project Specifics: (C.) Project Deliverables and Outcomes (Please provide examples)

Please clearly describe the project deliverables - what will be provided at the completion of the project?

For ease of evaluation, deliverables are described below as tasks which can be referenced in following sections of proposal.

Task 1- 1000 mangrove propagules will be grown out to 1 year of age (this is already occurring, began last fall) using a floating mat technique developed by the applicants. This will be conducted in the saltwater pond at Port Canaveral for maximum exposure to tourists and public. Project signage will accompany the grow-out site for public engagement. Outcome will be 1000 well established 1 year old mangrove seedlings and signage.

Task 2- Out planting of 1000 mangrove seedlings using "mangrove bombs" technique pioneered by the applicants which utilizes seedlings and soil contained in a burlap plug (See attachment 6) that allows out-planting in rocks or other shoreline armoring materials. Outcome will be 1200 feet of armored shoreline/ breakwaters planted with mangroves during public planting events.

Task 3- Monitoring of mangrove survival and growth on site will occur bi-monthly until end of project. Outcome will be survival and growth data for restoration activities and reporting.

Task 4- Construction and deployment of mangrove restoration kiosks featuring litter art and live mangroves (see attachment 6 for example) at local high-profile restaurants. Outcomes- permanent outreach kiosks at five major water front restaurants in Port Canaveral and associated areas with combined hundreds of thousands of patrons per year.

Task 5- Conduct continual Social Media Outreach via all major outlets (Facebook, twitter, Instagram) containing project updates and interesting facts about mangroves and their value to the IRL. Outcome- previous work by applicant suggests this social media campaign will reach in excess of 100,000 people.

Task 6- Production of "Local Knowledge" television show in coordination with project that highlights activities to improve IRL and value of mangroves in the environment. Outcome- over 100,000 views anticipated, with many being outside of central Florida.

Task 7 – Reporting at quarterly intervals as to project deliverables and a final report summarizing the project results (mangrove restoration and outreach aspects). Outcome- tangible report summarizing the total outreach of social media, television show views, kiosk views and restoration success (tree survival and growth).

13. (untitled)

12. **Section #2 - Project Specifics: (C.) Project Deliverables and Outcomes (Please provide examples)**

Describe what is being done, how, and by whom.

Task 1- mangrove propagation will be conducted by Cory and Derek Redwine at their personal property and the salt pond on Port Canaveral. The process uses propagules inserted into foam floats such that roots are in water and stem is above the water. This process goes on for 1 year minimum to establish robust roots and ensure plant has good survival chance for out-planting into armored shorelines.

Task 2- out planting of 1000 mangrove seedlings using "mangrove bombs" technique pioneered by the applicants which utilizes seedlings and soil contained in a burlap plug that allows out-planting in rocks or other shoreline armoring materials. This work will be conducted by Cory and Derek Redwine with help from Todd Osborne and public volunteers at a workday events coordinated by the Redwines at rock armored shorelines/breakwaters around Marker 24 Marina and Grills restaurants.

Task 3- Dr. Todd Osborne (UF), with the help of his students and staff, will conduct bi-monthly monitoring of mangrove seedlings for survival and growth (by direct measure of stem growth and leaf production). This activity will occur until the end of the project.

Task 4- Construction and deployment of mangrove restoration kiosks featuring litter art and live mangroves will be conducted by the Redwines and select volunteers. These Kiosks (see attachment 6 for example) feature Cory's sport fishing inspired art (created with plastic litter from IRL and local beaches) as a mechanism for attracting patron attention. Kiosks will be made of repurposed wood and will hold small mangroves with educational materials/ signage clearly posted on them. Kiosks will be maintained throughout the project term and beyond through regular (monthly) visits.

Task 5- Conducting continual Social Media Outreach via all major outlets (Facebook, twitter, Instagram) containing project updates and interesting facts about mangroves and their value to the IRL will be conducted by the Redwines. This effort is something that occurs opportunistically with multiple posts each week featuring different aspects and updates on the project. This aspect is a mainstay of the business success from Redwines other endeavors, and they are extremely skilled at reaching social media outlets followed by large numbers of people.

Task 6- Derek and Cory Redwine will work closely with Michael Torbisco and his production team to film an episode of "Local Knowledge", a television show aired on cable TV across the US. This production entails several days of filming on the project area and interviews with project partners. Footage of kiosk building, kiosks in place at restaurants, mangrove production and planting along with final product at the end of the project term will all be included. Theme of the show is to highlight local activities to improve IRL and value of mangroves in the environment.

Task 7 – Reporting will be conducted at quarterly intervals with a final report summarizing the project results (mangrove restoration and outreach aspects). This report will be the responsibility of all project participants and will be lead by Dr. Osborne.

14. (untitled)

13. **Section #2 - Project Specifics: (D.) Project Readiness**

Will your project be 'shovel ready' by October 1, 2022?

Yes

15. (untitled)

14. **Section #2 - Project Specifics: (D.) Project Readiness**

Is the design complete?

Yes

16. (untitled)

15. **Section #2 - Project Specifics: (D.) Project Readiness**

Please list required permits and provide status. You will be required to upload copies of permits (if they are available) and/or approval letters at the end of the application. If project must go to bid, state when the bid documents will be complete.

Aquaculture Inspection/ license- Already have and renewal anticipated.

Letters of agreement from restaurants where kiosks will be located or mangroves will be planted- already have permissions.

17. (untitled)

16. **Section #3 - Applicant Capacity and Performance**

Clearly outline who the project team will be and their capability/expertise in implementing the successful completion of the project. NOTE: Letters of commitment from all funding partners must be submitted for Attachment #5.

Cory Redwine (PI) has over 25 years experience in the IRL ecosystem from leading ecotours through her tour company, All Water Adventures, to working with her non-profit organization, Sea Redwine, to promote restoration. She has over 15 years experience propagating and restoring mangroves. Cory's art is well known and readily recognized locally, and as such, will also be a central feature of our outreach kiosks at local restaurants and the mangrove grow-out effort on Port Canaveral grounds.

Derek Redwine (Co-PI) has equally impressive time and experience in the IRL and maintains a strong, industry recognized graphic arts and web design reputation that has exceptional expertise in mass social media outreach and web content

development. These skills have culminated in the creation of several successful local companies. The combination of Derek and Cory's expertise and experience provides an unrivaled opportunity to conduct restoration activities and ensure those activities reach as many people as possible.

Todd Z. Osborne, PhD (team member) has worked in the restoration arena for 25 years and has been working almost exclusively in the IRL for the last seven. He has published several scientific papers on mangrove ecology and restoration, and this experience enables him to lend scientific support to the project in the form of assessing success with restoration effort and guiding in the reporting aspects of the proposed work.

18. (untitled)

17. **Section #3** - Applicant Capacity and Performance

Please provide examples of similar successful projects completed.

The applicants have grown mangroves for restoration for over 15 years and utilized their All Water Adventures tour company to engage clients in numerous mangrove plantings (with many thousands of trees planted) in the IRL. Further, Sea Redwine, the non-profit organization that focuses on public outreach and education about the IRL has hosted several events and successfully demonstrated capacity to handle a project of this size. Dr. Osborne, project partner has conducted several projects for the TDC surrounding clam restoration and has also managed over \$15 million dollars in external grant funding for research and restoration. He will assist the Redwines in project execution and reporting.

19. (untitled)

18. **Section #3** - Applicant Capacity and Performance

Indicate capacity to complete the project and meet grant reporting requirements.

Applicants are highly engaged and have dedicated significant time in conceptualizing and designing the project, arranging collaborators and rearing mangrove seedlings. There is plenty of capacity in terms of time and energy to complete the project. This is evidenced by the numerous pro bono projects they have completed or are in process of completing that benefit the IRL. Project partner Dr. Osborne will manage reporting requirements for the project and has dedicated 2 weeks of his time as match for report writing and submission.

20. (untitled)

19. **Section #4** - Project Funding; Summary (A.) Leveraging with Matching Funds

If project request is less than \$50,000, no match is required and there are no bonus points. There is a 5-point bonus for project requests less than \$50,000 if there is a match of more than 25%. There is a 10-point bonus for project requests less than \$50,000 if there is a match of more than 50%. If the project is over \$50,000 there must be a match. There is a 15-point bonus for project requests over \$50,000 if the match is 1:1. There is a 20-point bonus if the match is over

1.5:1.

Grant Request : \$47,400
Total Project Cost : \$64,900
Total Match : 26.9%

21. (untitled)

20.

ATTESTATION

I attest that I have full authority to execute this grant request and that all information in the grant application is true and correct. I further attest that I have read the guidelines and will comply with the requirements of the grant, if awarded.



Signature of: Cory Redwine

22. (untitled)

21. **SPECIAL MESSAGE:**

You have now completed all of the application questions. The next slide is the space for you to upload the required (6) attachments to complete the application package.

Please label each attachment with the correct attachment number.

If you are not able to upload the required (6) attachments you must upload (6) documents (as placeholders) to complete the application and there must be an explanation in the space below.

It is mandatory that all applications are completed online and the required (6) attachments are submitted by uploading with the application or delivered to the Tourist Development Office by 9am on Wednesday, June 22, 2022. No late arrivals will be accepted.

The below text box may also be used to communicate anything that you need to tell us about your application. To be clear, you do need to enter some text as a placeholder to move on.

There are two figures from text at the end of attachment 6 that help visualize design. If not appropriate please discard.

23. (untitled)

22. Required Attachments:

Please label each with appropriate Attachment number.

Label as Attachment (1) - Indian River Lagoon Watershed Map

Label as Attachment (2) - Project Boundary Map

Label as Attachment (3) - Project Timeline with Milestones and Deadlines

Label as Attachment (4) - Detailed Budget Table

Label as Attachment (5) - Letter(s) of Commitment from Funding Partner(s) if you have a match

Label as Attachment (6) - Copies of Permits (if available) and/or Letter(s) of Approval to demonstrate 'shovel ready' status

[Attachment_1_redwine.pdf](#)

[Attachment_2_redwine.pdf](#)

[Attachment_3_redwine.pdf](#)

[Attachment_4_redwine.pdf](#)

[Attachment_5_redwine.pdf](#)

[Attachment_6_redwine.pdf](#)

24. Thank You!

New Send Email

Jun 21, 2022 14:54:03 Success: Email Sent to: Thank you for submitting your application for the Tourism + Lagoon Grant program. Your application has been completed and received. It will be reviewed by TDO staff for completeness and within (1) business day a follow-up email will be sent to you confirming the receipt of application and required attachments.

Tourism + Lagoon Grant Program application 2022-2023

Response ID:19 Data

2. (untitled)

1. Section #1 - Applicant Information

What is the Project Title?

Satellite Beach Adopt-A-Canal Program

3. (untitled)

2. Section #1 - Applicant Information

Contact Information

Organization Name

City of Satellite Beach

First Name

Jennifer

Last Name

White

Job Title

Biologist

Street Address

565 Cassia Blvd

Apt/Suite/Office

City

Satellite Beach

State

Florida

Zip

32937

Country

Email Address

whit4628@vandals.uidaho.edu

Phone Number

3217734407

Fax Number

Mobile Phone

Website URL

www.satellitebeach.org

Website URL

4. (untitled)

3. **Section #1 - Applicant Information**

Which best describes your organization....

Government

5. (untitled)

4. **Section #1 - Applicant Information**

Do you have Partners for the project that are contributing funds, in-kind donations or labors?

No

6. (untitled)

Section #1 - Applicant Information

List Partner Organizations, their roles with the project and match amount. If you have more than (3) Partners please email Deborah at Deborah.Webster@VisitSpaceCoast.com.

7. (untitled)

5. **Section #2 - Project Specifics: (A.) Need and Urgency**

What Indian River Lagoon (IRL) problem will the project address? Please clearly articulate the need for the project.

The proposed Adopt-A-Canal Program is the first of its kind within the state, inspired by programs that focus on businesses adopting a local canal to clean. This program takes a multifaceted approach to encourage waterfront residents to become actively engaged in water quality improvements within their own canals. Through a six-pronged approach the City of Satellite Beach hopes to build a program that is reproducible in municipalities throughout the county and state. The proposed project will be composed of several tasks that are relevant to reduction of impacts to local canals, the Banana River and the Indian River Lagoon (IRL). By selecting a pilot canal the City of Satellite Beach will be able to initiate the City-wide program through outreach, hands on education, and baseline metrics. The City will obtain qualitative measures through surveys (pre, during, and post) and engagement during the one year pilot, as well as quantitative measures with data collected via water testing, reef monitoring, native plant photos, wildlife surveys, and ecotour participation.

8. (untitled)

6. Section #2 - Project Specifics: (A.) Need and Urgency

Where is the project location? Please identify the project location, articulate why the location was chosen and why this location will achieve success.

The City of Satellite located within the Barrier Island of Brevard County, Florida has 255 waterfront homes along the west side of the City, that are either on a canal or directly on the Banana River. There is approximately 30,506 linear feet of waterfront residential properties, and an additional 2,156 linear feet of canals on City owned property. With anthropogenic disturbances such as muck, lack of permeable surfaces, fertilizers, and pet waste the degradation of the Indian River Lagoon has become a major concern for residents and tourism. Along with residential canals and riverfront property the City has canals that feed directly into the Banana River. Desoto Park has a small finger canal that is the winter home for hundreds of manatees. The City owned canals off Cassia Blvd. and Jamacia Blvd. are home to several species of aquatic turtles and are the fresh water source for resident gopher tortoises. These canals feed to the IRL so City staff will be adding the components of the project to these canals. The City has chosen the Chevy Chase canal to be the location of the pilot Adopt-A-Canal Program. The impetus being that the canal is wide, and the end of the canal has a City owned easement. Residents along this canal have been supportive with the City, stakeholders, and partners using the canal in past environmental programs.

9. (untitled)

7. Section #2 - Project Specifics: (A.) Need and Urgency

Does the project enhance an important ongoing Tourism + Lagoon Grant Project (not routine maintenance)?

Yes

10. (untitled)

8. Section #2 - Project Specifics: (B.) Project Alignment with Tourism + Lagoon Grant Program mission

Please demonstrate how the project will have a positive impact on Brevard County tourism and cite the methodology used to quantify the success of the project.

Brevard County Tourism and Development Council funded in 2021 the Samsons Island Submerged Lands Restoration (SISLR) Project Phase 2. AS part of the TDC grant the City of Satellite Beach was able to purchase a pontoon boat to use for bi-monthly complementary ecotours of both Samsons Island (passive recreation park and gopher tortoise recipient site), and the SISLR project (1 acre pilot project consisting of clams, seagrass, and oyster shell breakwaters). As part of the Adopt-A-Canal Program the ecotour will also discuss water quality issues within the IRL, and how waterfront residents are working together to make improvements to canals and subsequently connecting waterways (e.g., Banana River & IRL). There will be a small (12" X 12" X 18") display artificial reef ball onboard to showcase what the product looks like and its ecological benefits once attached to a dock. An additional artificial reef (36" X 24" X 24") will be located on the dock at Samsons island to show what they look like once established. The tour will continue down the pilot canal describing each component of the Adopt-A-Canal Program. Signs provided by the City will showcase that this residence participates in the Adopt-A-Canal Program, and tour guides will discuss how visitors can contribute to lagoon stewardship while enjoying the Space Coast. Measurements can be obtained through the City Parks and Recreation Department on how many individual ecotour participants are from out of the area. The cost of labor to provide the ecotours is already included in a separate TDC grant application for SISLR Phase Three. Included in this request for funding are (1) the addition of the display reef onboard the already funded pontoon boat (2) the larger reef at Samsons Island, and (3) the signs showcasing the Adopt-A-Canal Program.

Another component to the Adopt-A-Canal program are canals on City property Desoto canal is a FWC listed, primary manatee warm water refuge site. An additional artificial reef will be deployed at this (provided by the City) location along with educational signage. This park brings tens of thousands of visitors annually, but the numbers are highest in the winter months when hundreds of manatees fill the canal. Manatees are one of the most charismatic megafaunas, which are at-present under dire straits due to the current condition of the Indian River Lagoon. By addressing the conveyance of contaminants and nutrients entering canals, local water systems will begin to improve and manatee forage (seagrasses) may start to regrow. Providing education at locations of high tourist volume can prompt an interest in local, regional, state and national conservation efforts. The Adopt-A-Canal Program focuses on canals and stormwater ponds that flow to the lagoon as well as waterfront residents. By providing artificial reefs on the docks at local parks, native plant buffers, pet waste receptacles, and educational information at kiosks visitors can learn about the local efforts being taken to cultivate environmental stewardship. Being ambassadors to visitors will encourage further thought and possible actions for areas outside of Brevard County once tourists return home.

11. (untitled)

9. Section #2 - Project Specifics: (B.) Project Alignment with Tourism + Lagoon Grant Program mission

Please demonstrate how the project will benefit the health of the Indian River Lagoon and cite the methodology used to quantify the success of the project.

Through a six-pronged approach the City of Satellite Beach hopes to build a program that is reproducible in municipalities throughout the county and state. The proposed project will be composed of several tasks that are relevant to reduction of impacts to local canals, the Banana River and the IRL. By selecting a pilot canal the City of Satellite Beach will be able to initiate the City-wide program through outreach, hands on education, and baseline metrics. The city will obtain qualitative measures through surveys (pre, during, and post) and engagement during the 1 yr. pilot, as well as quantitative measures with data collected via water testing, reef monitoring, native plant photos, wildlife surveys, and ecotour participation. Each resident on the proposed pilot canal will have the opportunity to install a seawall/lawn vegetation buffer zone, display a habitat-enhancement reef from their dock, participate in water-quality testing and take part in a per waste pledge, at no cost to them. These, as well as two other prongs (canal aeration and ecotours) are described in further detail below:

#1) Seawall / Lawn Vegetation Buffer Zone: Stormwater runoff is a large conveyance of nutrients into local water systems. City

Satellite Beach municipal code Chapter 26 Sec. 26. -109. Fertilizer free zone states that the direct deposit of nutrients into the water shall be prohibited and that fertilizer shall not be applied within ten feet of any surface waters or within ten feet from the top of a seawall. City of Satellite Beach municipal code Chapter 26 Sec. 26.-110. Low maintenance zone states that a 10 foot low maintenance zone is strongly recommended from any surface waters, or from the top of a seawall, and that a swale or a berm system is recommended for installation at the landward edge of the low maintenance zone to capture and filter runoff. To aid in the reduction of nutrient loading into the Indian River Lagoon the Adopt-A-Canal program provides a City match of up to \$500 dollars towards native plants (see attached list of UF/IFAs approved plants) that are used from the edge of the seawall to create a transitional, low maintenance, fertilizer free zone. By using the recommended plants and substrate the buffer zones will have positive impacts to local wildlife and adjacent water systems. The City can measure ecosystem services by providing a specific list of plants that have published nutrient uptake quantification, surveying host plants for specific taxon, and input a photo catalog of dependent species.

#2) Habitat enhancement reefs: As development continues along the IRL wildlife stressors increase, which can cause a significant decrease in biodiversity within local ecosystems. By introducing artificial habitats to local docks within Satellite Beach the footprint for potential estuarine species habitat is expanded. Artificial reefs have been used in many applications and have peer reviewed statistics associated with organisms that will inhabit them. Space Coast Reefs is a locally owned and operated (est. 2019) company that applies a zero-waste methodology to the construction of the proposed reefs. The reef material consists of 100% recyclable polypropylene layers, polypropylene rope and PVC pipe, which is made to withstand salt water conditions and long-term UV exposure. A single reef measures 36" X 24" X 24" and the double reef measures 48" X 36" X 24". It is estimated that one single reef's living zone will offset approximately 100 feet of shoreline (Space Coast Reefs, 2022). Artificial reefs provide surface for the natural requirement of filter feeders such as barnacles, oysters, sponges, bryozoans, mussels, and tunicates. A single reef once fully inhabited and established can filter upwards of 30,000 gallons of water per day (Space Coast Reefs, 2022). Artificial reefs can also provide a Mangrove-like habitat for crabs and juvenile fish. Over 300 species of fish rely on mangroves for protection and food, and the utilization of these artificial reefs can provide similar resources.

#3) Canal Aeration: Most canals within the City of Satellite Beach were dredge in the 1950s and 1960s for development. After many decades the level of muck that has accumulated on the bottom of the canals has created an anoxic environment, unsuitable for much of the taxa that live within the IRL. Canals that are over 6 feet in depth have a stratified water column where the water at the bottom is oxygen deficient (Martin et al. 2006). Canal aeration systems have been used from the Keys to Jacksonville, and in Canal management plans, marinas, individual residents, and homeowner's associations. Most of the canals in Satellite Beach are approximately 950 ft. long, dead end canals that connect to a poorly flushed basin. Although aeration has not been linked to nutrient reduction it can aid in the mixing of the water column which has the potential to facilitate nitrogen cycling. This will add nutrients to adjacent waters (Briceno and Blackburn, 2018) which is why the Adopt-A-Canal program's long-term goal would be to incorporate all canals within City boundaries to use aeration devices. Short term measurement will be to see improved clarity, reduction of the rotten-egg odor, and an increase in oxygen resulting in improved habitat for marine life.

#4) Water quality testing: The City of Satellite Beach will be referencing Georgia's Adopt-A-Stream program for resident engagement when it comes to stewardship while living at the water's edge. Providing residents with training workshops, water testing kits, data forms and additional outreach materials will provide participants the knowledge to collect quantitative data. It will also educate residents on how to be able to teach others on basic water quality needs and sampling techniques. Each monitoring kit will contain a sechhi disk for measuring water clarity/turbidity, a refractometer to measure salinity, a dissolved oxygen testing kit, a pH testing kit, thermometer, conductivity and total dissolved solids meter. Having local waterfront residents conducting long term monitoring provides an opportunity to cumulate metrics that would otherwise be unfeasible for the City to assemble, as well as showing individual accountability for conservation and restoration techniques.

#5) Pet Waste Pledge: With the national average of households having dogs as pets at 38.4% the amount of pet waste that enters local water systems can be a significant source of nutrient loading via stormwater runoff. By looking at the number of homes along city canals (255), the average number of households with dogs (98), the average pounds of poop that the average sized dog creates annually (274), and the average percent of poop not picked up (40) we can conclude that there is approximately 17,171 pounds of unscooped waste annually at canal-front homes. With this data we can estimate that along Satellite Beach waterways, there is approximately 761 pounds of Nitrogen from unscooped poop and approximately 549 pounds of Phosphorous from unscooped poop that could be entering water systems and contributing to nutrient loading (Fe Fenne et al, 2022). By having waterfront homeowners make a pet waste pledge they will agree to pick up pet waste to prevent additional N and P from entering into the IRL. For the pilot canal the City will provide a year supply of pet waste bags and will report the number of pet waste bags used weekly. At the end of the year there can be quantitative measures of the amount of pet waste that was kept from the water system which can be used for education to other canals within the City.

#6) Ecotourism: Brevard County Tourism and Development Council funded the Samsons Island Submerged Lands Restoration (SISLR) Project Phase Two in 2021. AS part of the TDC grant, the City of Satellite Beach was able to purchase a pontoon boat to use for bi-monthly complementary ecotours of both Samsons Island (passive recreation park and gopher tortoise recipient site), and the SISLR project (1 acre pilot project consisting of clams, seagrass, and oyster shell breakwaters). As part of the Adopt-A-Canal Program the ecotour will also discuss water quality issues within the IRL, and how waterfront residents are working together to make improvements to canals and subsequently connecting waterways (e.g. Banana River & IRL). There will be a small display reef onboard to showcase what is attached to the docks as well as another small reef at Samsons island to show what they look like once established. The tour will continue down the pilot canal describing each component of the Adopt-A-Canal program. Signs provided by the City will showcase which residences participate in the Adopt-A-Canal program, and tour guides will discuss how visitors can contribute to lagoon stewardship while enjoying the Space Coast. Measurements can be obtained through the City Parks and Recreation Department on how many individual ecotour participants are from out of the area.

Another component to the Adopt-A-Canal program are canals on City property. Desoto canal is a FWC listed, primary manatee warm water refuge site. This location is where an additional artificial reef will be deployed and educational signage will be installed. This park brings tens of thousands of visitors annually, but the numbers are highest in the winter months when hundreds of manatees fill the canal. Manatees are one of the most charismatic megafaunas, which are at-present under dire straits due to the current condition of the Indian River Lagoon. By addressing the conveyance of contaminants and nutrients to canals local water systems will begin to improve, and manatee forage (seagrasses) may begin to regrow. Providing education at locations of high tourist volume can prompt an interest in local, regional, state and national conservation efforts. The Adopt-A-Canal Program focuses on canals and stormwater ponds that flow to the lagoon as well as waterfront residents. By providing artificial reefs on the docks at local parks, native plant buffers, pet waste receptacles, and educational information at kiosks visitors can learn about the local efforts being taken to cultivate environmental stewardship. Being ambassadors to visitors will encourage further thought and possible actions for areas outside of Brevard County once tourists return home.

Positive impact to Brevard County Tourism: The Indian River Lagoon provides a range of ecosystem services, important for human well-being. Tangible benefits include the provision of protein food sources and economic benefits from tourism and fisheries. Intangible benefits include a deep spiritual connection to the {water}, a sense of inspiration, stress relief, feelings of being uplifted, and a sense of well-being (Willis et al. 2018). A 2007 study in Brevard County found that 44% of total visitors participated in "Lagoon" related recreational activities, and that 20% of this recreation involved "viewing the river form the shore while bird watching, hiking, jogging, or strolling" (2008 report IRL Economic Assessment and Analysis Update). There are numerous approaches to measuring the economic benefits of improved water quality in river systems. Gerald Kauffman (2018) studied the economic valuation of water quality improvements within the Delaware River and found that in 2010 dollars, improvements in water quality yielded an economic benefit of \$3.61 per person for viewing, \$4.03 per person for boating, and \$2.98 per person for fishing. These benefits correlated to an increase in dissolved oxygen (DO) of 1.5 mg/L. This was found with the travel cost method which identifies the higher costs that tourists will pay for travel and equipment expenses to participate in more frequent water-recreation tourism due to improved water quality (Kauffman, 2019). With an anticipated 3.4 - 5.1 million yearly visitors to the IRL region participating in IRL-related recreational activities, (derived from the 2016 Indian River Lagoon Economic Valuation Update), and using an average of Kauffman's numbers for increases in economic activity due to improved water quality (\$ 3.54 per person), increases in water quality in the IRL can have a net positive impact of between \$12-\$18 million annually for the tourism industry alone. However, this number is for the entire IRL region including Volusia County through Indian River County. To adjust this number to a region that would be impacted by the Adopt-A-Canal Program specifically, we can adjust based on population size. The IRL region's resident population that lived within a few miles of the lagoon in 2015 was 1.1 million, and Satellite Beach's population that same year was 10,351. This equates to a ratio of 106:1. Using this ratio we can assume an anticipated 32-48,000 visitors per year to Satellite Beach who participate in IRL-related recreational activities. Using Kauffman's average of \$3.45 per person for economic increase for water quality improvements, this equates to an annual increase in tourist spending of between \$110,000 and \$165,000 should water quality be significantly improved. The Indian River Lagoon (IRL) is estimated to have an annual economic output of \$7.6 billion, including \$1.57 billion related to recreation and visitors. Within Brevard County alone, this number is over \$800 million. It is estimated that by 2025, between 3.4 - 5.1 million visitors to the IRL region will participate in IRL-related recreational activities, with each visitor spending around \$162/day (IRLNEP,2007). According to the Indian River Lagoon Economic Value Update (2016), it is estimated that for every dollar spent on enhancing the health of the IRL, the lagoon returns \$33 in total economic value. The Aeration portion of the Adopt-A-Canal Program would discourage Harmful Algal Blooms (HABs), enhancing water quality and improving habitat for fish, mollusks, crabs, and other wildlife. The Artificial Habitat Program is expected to provide economic benefits to the tourism industry by improving water quality and by increasing number of fish and shellfish species. The program would enable the

growth of over 300 fish and 300 crabs per year per reef. Once established each reef would also filter an estimated 30,000 gallons of water per day. Using an estimated value of \$1.12 per pound of blue crab landed (as extracted from the 2008 report, Indian River Lagoon Economic Assessment and Analysis Update) and an average weight of 0.33 pounds per blue crab (Sweat, 2022), an addition of 300 crabs per year per reef could increase IRL shellfish value by \$112.14 per year (ECFRPC). HABs also have negative consequences to all aspects of tourism that rely on fishing, both commercial and recreational. Commercially harvested shellfish (clams, oysters, crabs and shrimp) and finfish that call the IRL home have been seeing drastic declines in the last several decades. The overall value of commercial fin fish harvest declined 37% between 1990 and 2015 and the overall pounds of fin fish landed declined 54% in that same period. IRL-harvested shellfish fared much worse, with an overall value decline of almost 80% between 1994 and 2015 (ECFRPC). A decrease in local fish and shellfish population means less resources for local restaurants to sell locally-harvested marine food. This also means that visitors who enjoy IRL fishing are seeing less and less catches.

Stakeholders: Working closely with State agencies such as FWC, FWS, FDEP, and USACOE for conservation, enhancement, and restoration projects within the city, the Adopt-A-Canal Program will be an additional way the City of Satellite Beach can show trends in local water quality improvements. Brevard County Natural Resources is the City's partner in all environmental projects and the Adopt-A-Canal Program will be congruent with SORIL and other IRL projects such as TDC and ILRNEP funded Samsons Island Submerged Lands. The City collaborates with many local non-profits such as Brevard Zoo, Marine Discovery Center, Space Coast Audubon Society, Sea Turtle Preservation Society, Stella Maris Environmental Research, HUBBS SeaWorld Research Institute, Captains for Clean Water, Surfrider, and Anglers for Conservation, working towards educating the community, and bringing awareness to both residents and visitors. Local sport and industry fisherman may be able to benefit with the introduction of artificial reefs as one reef can house upwards of 300 fish per year, and 300 crabs per year. This program has the potential to enhance local fish stock.

12. (untitled)

10. **Section #2 - Project Specifics: (C.) Project Deliverables and Outcomes (Please provide examples)**

Please clearly describe the project deliverables - what will be provided at the completion of the project?

Upon conclusion of the 1 yr. pilot canal the City's expectations of project deliverables will be

1) A decrease in linear feet of lawn turf grass adjacent to seawalls off canals within the City of Satellite Beach. This can be measured through prong #1 of the program.

2) An increase in salt tolerant native vegetation along waterfront homes and can be measured through specific plant list and inventory.

3) Newly created buffer zones for reduction of stormwater conveyance. This can be measured through metrics on the plant specific identifiers.

4) An increase in pollinators and terrestrial wildlife habitat. This can be measured through photo identification, use of specific vegetation species that are host plants, and vegetation surveys.

5) An increase of marine habitat which can be measured through prong #2 of the program.

6) Increase of marine taxa which can be measured through photo identification and species recording.

7) Estimated gallons of water that is filtered in the canal through filter feeders, which can be achieved through the number of

established reefs, the volume of filter feeders each reef can house, and the species of filter feeders.

8) Baseline water quality information of a canal before program implementation, which can be measured through water testing.

9) Increase in water flow in the pilot canal which can be obtained through prong #3 of the program by way of the aeration system.

10) Increased oxygen within the pilot canal which may be obtained with aeration system and can be measured through residential monitoring/testing.

11) Any changes or trends in water quality metrics in the pilot canal during the yearlong project. This can be measured through prong #4 in the Adopt-A-Canal program via residential water testing using the kits provided through the grant. This data will then be submitted to the City to be extrapolated and analyzed.

12) Reduction in nutrients and bacteria from pet waste entering into the canals through prong #5 of the program, which can be measured through the number of bags used annually along the canal and national pet waste statistics.

13) Increased education on the significance of conservation practices for coastal residents and visitors along the IRL. This can be measured through the number of out of area visitors that take part in the boat ecotour, visit Desoto Park, visit Samsons Island Submerged Lands Restoration Project, and engage with social media.

13. (untitled)

11. Section #2 - Project Specifics: (C.) Project Deliverables and Outcomes (Please provide examples)

Describe what is being done, how, and by whom.

1) City staff will have the metrics of the linear feet and areal extent of each homeowners' property in which data will be collected on how much lawn was removed and replaced.

2) UF/IFAS and other native plant experts have created a list of designated plant species to be used in the creation of seawall buffer zones. The City will provide a match of up to \$500 on plants and substrate. The City will work with homeowners if desired to create the bed and install native plants.

3) Through peer reviewed data on plant species and nutrient uptake, along with the grade of the yard and the substrate used in the buffer zone City staff will be able to estimate the reduction of stormwater into the canal.

4) Homeowners will collect photo identification on pollinators and the City will create a database for tracking taxonomic immigration.

5) Space Coast Reefs has measured the approximate volume of habitat each artificial reef installed creates. The City will create a database on the larger extent of habitat the reefs are creating within the canal.

6) Space Coast Reefs has identified approximately how many filter feeders can inhabit each artificial reef system. Once the reefs are established homeowners can submit photo identification and survey forms that showcase an increase in biodiversity. The City can upload information into a species inventory catalog.

7) The City will send out water samples for testing to collect baseline information on the condition of the canal pre project implementation. Post project samples will also be taken for comparison.

8) Individual homeowners along the canal will be acquiring visual monitoring of water clarity. The company that installs and maintains the aeration systems will be able to provide additional information on flow rate improvements.

9) Individual homeowners will be testing the water for dissolved oxygen levels. Continuous dissolved oxygen data loggers will provide a more accurate depiction.

10) Homeowners will collect basic water quality data (temp, clarity, pH, salinity, dissolved oxygen, dissolved solids). City staff will collect the same basic water quality data from city waterfront properties.

11) Canal-front homeowners participating in the program that own or frequently host companion animals that defecate on

property adjacent to waterways will sign a pet waste pledge stating they will commit to picking up pet waste. The City will provide the waste bags for the year and will ask the homeowner to record the estimated number of bags disposed of during the week. The City will be able to collect that information and at the end of the year approximate the amount of waste and subsequent nutrients that were kept out of the canal and adjoining system. This metric will gauge how this element can be enhanced in other areas of the community.

12) Working with additional stakeholders on education materials (signage, kiosks, brochures, videos, social media, polls, and workshops) the City will be able to gather analytics on the number of local and visiting members of the public. Through the City's complementary eco boat tour sign in sheets, the Parks and Recreation Department will be able to quantify out of area visitors. Collaboration with BCTDC and Port Canaveral will occur to reach additional numbers of visitors.

14. (untitled)

12. Section #2 - Project Specifics: (D.) Project Readiness

Will your project be 'shovel ready' by October 1, 2022?

Yes

15. (untitled)

13. Section #2 - Project Specifics: (D.) Project Readiness

Is the design complete?

Yes

16. (untitled)

14. Section #2 - Project Specifics: (D.) Project Readiness

Please list required permits and provide status. You will be required to upload copies of permits (if they are available) and/or approval letters at the end of the application. If project must go to bid, state when the bid documents will be complete.

No permits are required

17. (untitled)

15. Section #3 - Applicant Capacity and Performance

Clearly outline who the project team will be and their capability/expertise in implementing the successful completion of the project. NOTE: Letters of

commitment from all funding partners must be submitted for Attachment #5.

Jennifer White-City of Satellite Beach biologist: wildlife taxa, habitat improvements, photo id, data collection

Kate Helms-City of Satellite Beach Stormwater manager: nutrient reduction, water quality, sampling, workshops

Thea Baker- City of Satellite Beach Sustainability and Resiliency Officer: project management/contracts

Nick Sanzone- City of Environmental Programs coordinator: eco boat tour, education and outreach

Ana Pazderak- City of Satellite Beach Volunteer Coordinator: volunteers, eco boat tour statistics

18. (untitled)

16. Section #3 - Applicant Capacity and Performance

Please provide examples of similar successful projects completed.

The Adopt-A-Canal program will be the first of this nature in the State of Florida. This program idea was inspired by the Georgia Adopt-A-Stream program, the Collier County Keep Collier Beautiful Adopt-A-Canal program, Florida Institute of Technology's canal aeration project, and UF/IFAS Pinellas County "The Scoop on Poop".

19. (untitled)

17. Section #3 - Applicant Capacity and Performance

Indicate capacity to complete the project and meet grant reporting requirements.

Critical Success factors: Percentage of willing participants within the pilot canal partaking in as many of the program's prongs as possible, workshop attendance for participant training, visually appealing education and outreach material, resident incentives, City staff program management and support.

Stakeholders: Working closely with State agencies such as FWC, FWS, FDEP, and USACOE for conservation, enhancement, and restoration projects within the city, the Adopt-A-Canal program will be an additional way the City of Satellite Beach can show trends in local water quality improvements. Brevard County Natural Resources is the City's partner in all environmental projects and the Adopt-A-Canal program will be congruent with SORIL and other IRL projects such as TDC and ILRNEP funded Samsons Island Submerged Lands Restoration Project. The City collaborates with many local non-profits such as Brevard Zoo, Marine Discovery Center, Space Coast Audubon Society, Sea Turtle Preservation Society, Stella Maris Environmental Research, HUBBS SeaWorld Research Institute, Captains for Clean Water, Surfrider, and Anglers for Conservation, working towards educating the community, and bringing awareness to both residents and visitors. Local sport and industry fisherman may be able to benefit with the introduction of artificial reefs as one reef can house upwards of 300 fish per year, and 300 crabs per year. This program has the potential to enhance local fish stock.

Measurable goals: Number of participants within the pilot canal; Number of ecotour participants that reside outside of Brevard County; Pounds of pet waste picked up within the participants of the pilot canal; Improved water clarity; improved oxygenation of canals, improved water quality (via testing), survey of taxa that are seen on and around artificial reefs, survey vegetation for pollinators.

Grant Reporting requirements: Quarterly reports will be provided through data provided by homeowners and City staff team. Each deliverable will be thoroughly investigated and all material will be reviewed prior to inputting into repository for reporting. Through weekly staff meetings the team will be sure to meet reporting requirements.

20. (untitled)

18. Section #4 - Project Funding; Summary (A.) Leveraging with Matching Funds

If project request is less than \$50,000, no match is required and there are no bonus points. There is a 5-point bonus for project requests less than \$50,000 if there is a match of more than 25%. There is a 10-point bonus for project requests less than \$50,000 if there is a match of more than 50%. If the project is over \$50,000 there must be a match. There is a 15-point bonus for project requests over \$50,000 if the match is 1:1. There is a 20-point bonus if the match is over 1.5:1.

Grant Request : \$50,000
Total Project Cost : \$80,829
Total Match : \$30,947

21. (untitled)

19.

ATTESTATION

I attest that I have full authority to execute this grant request and that all information in the grant application is true and correct. I further attest that I have read the guidelines and will comply with the requirements of the grant, if awarded.



Signature of: Jennifer White

22. (untitled)

20. SPECIAL MESSAGE:

You have now completed all of the application questions. The next slide is the space for you to upload the required (6) attachments to complete the application package.

Please label each attachment with the correct attachment number.

If you are not able to upload the required (6) attachments you must upload (6)

documents (as placeholders) to complete the application and there must be an explanation in the space below.

It is mandatory that all applications are completed online and the required (6) attachments are submitted by uploading with the application or delivered to the Tourist Development Office by 9am on Wednesday, June 22, 2022. No late arrivals will be accepted.

The below text box may also be used to communicate anything that you need to tell us about your application. To be clear, you do need to enter some text as a placeholder to move on.

23. (untitled)

21. Required Attachments:

Please label each with appropriate Attachment number.

Label as Attachment (1) - Indian River Lagoon Watershed Map

Label as Attachment (2) - Project Boundary Map

Label as Attachment (3) - Project Timeline with Milestones and Deadlines

Label as Attachment (4) - Detailed Budget Table

Label as Attachment (5) - Letter(s) of Commitment from Funding Partner(s) if you have a match

Label as Attachment (6) - Copies of Permits (if available) and/or Letter(s) of Approval to demonstrate 'shovel ready' status

[Attachment_\(1\)-IRL_Watershed_Map.jpg](#)

[Attachemnt_\(2\)-Project_Boundary_Map.png](#)

[Attachement_\(3\)-Project_Timeline_with_Milestones_and_Deadlines.docx](#)

[Attachment_\(4\)-Deatailed_Budget_Table.docx](#)

[EVerifyMOU.pdf](#)

[Certificateofinsurance.pdf](#)

[Aug21_Signed_City_W9.pdf](#)

[Brevard_County_TDC_2022.docx](#)

24. Thank You!

New Send Email

Jun 21, 2022 16:52:50 Success: Email Sent to: Thank you for submitting your application for the Tourism + Lagoon Grant program. Your application has been completed and received. It will be reviewed by TDO staff for completeness and within (1) business day a follow-up email will be sent to you confirming the receipt of application and required attachments.

Tourism + Lagoon Grant Program application 2022-2023

Response ID:20 Data

2. (untitled)

1. Section #1 - Applicant Information

What is the Project Title?

Veterans Memorial Park Interactive Signage Series

3. (untitled)

2. Section #1 - Applicant Information

Contact Information

Organization Name

Merritt Island Redevelopment Agency (MIRA)

First Name

Larry

Last Name

Lallo

Job Title

Executive Director

Street Address

2575 N. Courtenay Parkway

Apt/Suite/Office

Suite 214

City

Merritt Island

State

FL

Zip

32953

Country

Email Address

larry.lallo@brevardfl.gov

Phone Number

321-454-6610

Fax Number

Mobile Phone

Website URL

<https://www.brevardfl.gov/MerrittIslandRedevelopmentAgency/Home>

Website URL

4. (untitled)

3. **Section #1** - Applicant Information

Which best describes your organization....

Government

5. (untitled)

4. **Section #1** - Applicant Information

Do you have Partners for the project that are contributing funds, in-kind donations or labors?

Yes

6. (untitled)

5. **Section #1** - Applicant Information

List Partner Organizations, their roles with the project and match amount. If you have more than (3) Partners please email Deborah at **Deborah.Webster@VisitSpaceCoast.com**.

Partner Organization Name (A) : Brevard County Natural Resources Management Department

Partner Role (A) : Content creation and review, nutrient load calculations and reporting strategy, coordination with existing SOIRL and TDC-funded outreach and communication initiatives.

Match Amount (A) : -

7. (untitled)

6. **Section #2 - Project Specifics: (A.) Need and Urgency**

What Indian River Lagoon (IRL) problem will the project address? Please clearly articulate the need for the project.

Hundreds of projects are currently planned or underway throughout Brevard County to improve the health of the Indian River Lagoon. These projects are a combination of multi-agency public and private partnerships to reduce pollution and benefit tourism and our local economy. Yet recent surveys, including the TDC Tourism + Lagoon 2019-20 Transparency Strategy survey, show public awareness of lagoon improvement projects and progress is relatively low. (In the TDC-funded Transparency Strategy survey, which received over 1,800 completed responses from county residents, respondents ranked their awareness of Brevard County's Save Our Indian River Lagoon (SOIRL) Program, the ½ cent SOIRL sales tax, and progress on SOIRL projects as moderately low (4.68, 4.55 and 4.01 out of 10, respectively). The survey also noted correlations between increased awareness of the SOIRL Program and increased support for the program.)

If awareness remains low, support for future lagoon restoration initiatives may not achieve optimal support and the full scope of lagoon-related tourism opportunities may not be fully realized. Inferentially, if awareness of the efforts of multi-agency partnerships, NGOs, local business, communities and residents towards lagoon restoration also remains low, the overall potential for countywide lagoon restoration and lagoon-related tourism will not be fully achieved.

This project proposes the creation of interactive outdoor signage at a strategic lagoon-front location to help educate residents and visitors about the value of a restored lagoon. Through a combination of signage installations along the lagoon shoreline and interactive digital experiences for residents and visitors, this project will serve as a pilot program to unite the efforts of multi-agency partnerships, multiple TDC grants, local businesses, and county residents and visitors to advance lagoon health and county tourism. In addition to creating an interactive attraction for residents and tourists, this project will collect and analyze data to ascertain how to expand on the successes of this project to augment lagoon-related education, collaboration, and tourism opportunities throughout Brevard County.

8. (untitled)

7. **Section #2 - Project Specifics: (A.) Need and Urgency**

Where is the project location? Please identify the project location, articulate why the location was chosen and why this location will achieve success.

The project location is the Veterans Memorial Park at 400 S Sykes Creek Parkway in Merritt Island, directly south of State Route 520, along the lagoon shoreline of Sykes Creek. Located within the Merritt Island Redevelopment Area (MIRA), the Veterans Memorial Park is an 82-acre public recreation destination featuring the Brevard Veterans Memorial Center, over 3 miles of walking and hiking trails, three ponds, and a canoe launch ramp with access to Sykes Creek.

In 2009, Brevard County purchased the Veterans Memorial Park area adjacent to the Veterans Memorial Center to preserve open space for outdoor recreation and provide improved stormwater management to benefit the Indian River Lagoon. MIRA and the Brevard County Natural Resources Department helped fund Phase I, which included removal of an old landfill and construction of stormwater ponds. In 2016, a two-year expansion project with funding from the TDC, Florida Department of Economic Opportunity, Board of County Commissioners, Parks and Facilities, MIRA, and the Canaveral Port Authority doubled the size of the Veterans Memorial Center and expanded and enhanced the plaza, trails, and facilities around the park. In 2021, MIRA funded \$1.4 Million in additional renovations including completion of a 5K trail, three wooden bridges, parking lot expansion, and landscaping improvements. With \$1.3 Million funding from the TDC, construction of a \$2.3 Million state-of-the-art

high quality acoustically engineered outdoor amphitheater with seating for up to 5,000 persons is slated to begin in 2023. The Veterans Memorial Park is located in close proximity to two stormwater infrastructure improvement projects, the Cone Road Infrastructure Enhancement Project, funded by MIRA, Brevard County Public Works, Brevard County Natural Resources, the St. Johns River Water Management District and SOIRL, and the Fortenberry basin improvement project.

According to the economic analysis summary submitted to the TDC for the Merritt Island Veterans Memorial Park Amphitheatre Project, over 105,000 people visit the Veterans Memorial Center and Veterans Memorial Park annually. A large percentage of these are from outside Brevard County. Over 72,000 veterans reside in Brevard County, comprising more than 14% of the county's population. When the Veterans Memorial Park Amphitheatre Project is completed, conservative projections estimate over 260,000 people will visit the park and Veterans Memorial Center each year.

Veterans Memorial Park is not only Central Brevard's largest park, strategically situated between two multi-agency stormwater infrastructure projects, and a public access point to Sykes Creek and the Indian River Lagoon. It is also slated to become the county's largest outdoor event and entertainment venue in proximity to the beaches and will host concerts, ceremonies, fairs, festivals and more to draw thousands of residents and tourists in the years to come. The park and facilities are already a popular attraction for residents and visitors seeking lagoon recreation and family-friendly activities, with the Veterans Center Memorial Museum, walking trails, a children's playground, scavenger hunt, and kayak and standup paddleboard rentals and tours. Veterans Memorial Park is a prime location for an interactive signage project to engage residents and tourists to benefit tourism and the Indian River Lagoon. In addition to enhancing park facilities and the visitor experience, analytics tracking included in this project will report on the success of visitor engagement with the interactive signage, tourism, and lagoon-friendly activities.

9. (untitled)

8. **Section #2 - Project Specifics: (A.) Need and Urgency**

Does the project enhance an important ongoing Tourism + Lagoon Grant Project (not routine maintenance)?

Yes

10. (untitled)

9. **Section #2 - Project Specifics: (B.) Project Alignment with Tourism + Lagoon Grant Program mission**

Please demonstrate how the project will have a positive impact on Brevard County tourism and cite the methodology used to quantify the success of the project.

The Veterans Memorial Park Interactive Signage Series will enhance outdoor recreation and lagoon-related tourism in Brevard County. In the 2019-20 TDC-funded Tourism + Lagoon Transparency Strategy's survey of Brevard County tourists, which received over 1,000 responses, 69% of respondents said they would be interested in participating in nature walks on a future visit to Florida's Space Coast. Respondents also ranked outdoor recreation, adventure, and wildlife among the top four reasons for their most recent visit to Florida's Space Coast. When respondents were asked what type of information they would be interested in receiving about Florida's Space Coast, 7 out of the top 11 responses are features that will be available at Veterans Memorial Park when the Interactive Signage Series is completed (discounts for activities, tours, or restaurants (52%); family activity ideas (48%); historical tour ideas (40%); outdoor adventure ideas (36%); wildlife viewing tips (35%); events on the

Space Coast (31%), lagoon-related activities (30%)).

By providing free, family-friendly outdoor recreation and wildlife viewing, the Interactive Signage Series will enhance the experience of the over 105,000 visitors to Veterans Memorial Park and the Veterans Memorial Center each year and provide an additional highly-sought outdoor recreation option for visitors. Once the Veterans Memorial Park Bandshell Amphitheatre Project, recipient of a \$1.27 million TDC Capital Facilities Grant, is completed, over 260,000 people are projected to visit the park vicinity annually. By building an engaging outdoor recreation experience in FY 22-23, future visitors to the Veterans Memorial Park Bandshell Amphitheatre will benefit from the opportunity to connect with the Indian River Lagoon in a unique and meaningful way.

The number of visitors interacting with the Interactive Signage Series will be tracked through QR codes. Digital analytics will help quantify the number of visitors interested in participating in tourism revenue-generating activities during their visit to Florida's Space Coast as a result of exposure to the Interactive Signage Series, to further add value to Brevard County's tourism economy.

11. (untitled)

10. **Section #2 - Project Specifics: (B.) Project Alignment with Tourism + Lagoon Grant Program mission**

Please demonstrate how the project will benefit the health of the Indian River Lagoon and cite the methodology used to quantify the success of the project.

The Veterans Memorial Park Interactive Signage Series will provide educational information about the importance of restoring the health of the Indian River Lagoon in a combination print and digital interactive format. The project will build upon the findings of the TDC-funded Lagoon Recreation Field Guide and Manatee Field Guide Signage and Distribution projects for collecting data about engaging in lagoon-friendly behaviors. The Interactive Signage Series will explore ideas for expansion of a reward system for lagoon-friendly interactions and make recommendations for strategies to advance coordination between government, local businesses, communities and individuals toward restoring the Indian River Lagoon.

In addition to information about the uniqueness of the Indian River Lagoon ecosystem, the Interactive Signage Series will contain information about water quality improvement features at Veterans Memorial Park, the successful partnership of agencies involved in enhancing Veterans Memorial Park and the lagoon, and ways to help protect the lagoon.

For tourists, information related to lagoon health will include tips for properly disposing trash and pet waste while visiting. For residents, additional tips related to fertilizer, septic systems, sewer laterals, grass clippings, and car maintenance will be included. Information about lagoon restoration efforts underway and ways to get involved with lagoon restoration through personal actions at home or in one's community will also be made available for residents.

The Interactive Signage Series will also collect data to measure interest in taking action to benefit the health of the Indian River Lagoon. Similar to the 2021-22 TDC-funded Lagoon Recreation Field Guide and Manatee Field Guide Signage and Distribution projects, the Interactive Signage Series will utilize findings from recent SOIRL-funded studies of well samples and total annual loading from runoff and groundwater flow to generate an estimation of the pollution contributed to the lagoon each year by an average household in Brevard County (see Attachment 6 for citations and detailed calculations). The project will measure the level of interest in choosing lagoon-friendly actions and estimate the amount of pollution load reduction brought about by exposure to the Interactive Signage Series.

For success metrics reporting, interaction with the Interactive Signage Series will be tracked through QR codes and digital metrics, and a report of the analytics, QR scan activity, and pollution reduction calculations will be provided with the final grant report.

12. (untitled)

11. Section #2 - Project Specifics: (C.) Project Deliverables and Outcomes (Please provide examples)

Please clearly describe the project deliverables - what will be provided at the completion of the project?

Deliverable 1: Interpretive Signage

- Design, printing, construction, and installation of 10 to 15 pieces of outdoor interpretive signage at Veterans Memorial Park.

Deliverable 2: Digital Storymap Content

- Creation of digital storymap content linked from QR codes printed on the interpretive signage.

Deliverable 3: Scavenger Hunt, Questionnaires and/or Pledges

- Creation of a scavenger hunt activity for children and families to facilitate lagoon education and encourage exploration of Veterans Memorial Park.
- Creation of online questionnaire to capture level of interest and/or pledges related to actions beneficial to lagoon health, optimized from findings gathered in TDC-funded Lagoon Recreation Field Guide and Manatee Field Guide Signage and Distribution projects.
- Creation of online questionnaire to measure the number of visitors interested in participating in tourism revenue-generating activities as a result of exposure to the Interactive Signage Series, optimized from findings gathered in TDC-funded Lagoon Recreation Field Guide and Manatee Field Guide Signage and Distribution projects.

Deliverable 4: Participation Reward and Analysis

- Creation of a reward system for participation in the scavenger hunt activity, questionnaire, or pledge.
- Analysis of reward system and recommendations for expansion.

Deliverable 5: Reporting & Quantification of Benefits

- Estimation of the number of visitors interested in participating in tourism revenue-generating activities as a result of exposure to the Interactive Signage Series.
- Estimation of the nutrient reduction benefit to the lagoon brought about by residents exposed to the Interactive Signage Series.
- Report of findings from QR scan activity.

13. (untitled)

12. Section #2 - Project Specifics: (C.) Project Deliverables and Outcomes (Please provide examples)

Describe what is being done, how, and by whom.

- MIRA and the Natural Resources Management Department, with assistance from contracted vendors as needed, will create print artwork and digital content for the Veterans Memorial Park Interactive Signage Series.
- MIRA and the Natural Resources Management Department, with assistance from contracted vendors as needed, will create a scavenger hunt to expand on the scavenger hunt activity already available at the Veterans Memorial Center and incorporate online questionnaires to measure visitor interest in participating in tourism revenue-generating activities and interest in lagoon-

friendly actions as a result of exposure to the Interactive Signage Series.

- MIRA and the Natural Resources Management Department will contract with a sign printing vendor and install signage at 10 to 15 key sites at the Veterans Memorial Park.
- MIRA and the Natural Resources Management Department will generate a final report and recommendations for expansion, including QR code scans and estimates of tourism revenue and pollution reduction generated by project exposure.

14. (untitled)

13. Section #2 - Project Specifics: (D.) Project Readiness

Will your project be 'shovel ready' by October 1, 2022?

Yes

15. (untitled)

14. Section #2 - Project Specifics: (D.) Project Readiness

Is the design complete?

Yes

16. (untitled)

15. Section #2 - Project Specifics: (D.) Project Readiness

Please list required permits and provide status. You will be required to upload copies of permits (if they are available) and/or approval letters at the end of the application. If project must go to bid, state when the bid documents will be complete.

Permits are not required for this project. Appropriate County Purchasing protocols will be followed when acquiring print work, design, and other contractual services.

17. (untitled)

16. Section #3 - Applicant Capacity and Performance

Clearly outline who the project team will be and their capability/expertise in implementing the successful completion of the project. NOTE: Letters of commitment from all funding partners must be submitted for Attachment #5.

Larry Lallo, Executive Director-MBA CECD, Merritt Island Redevelopment Agency (MIRA) is a IEDC Certified Economic Developer, with 33-years' experience in directing community and economic development programs. Larry served as Executive

Director of a \$100 Million Community Foundation authoring, managing, receiving and providing more than \$20 Million in a broad spectrum of community development projects and grants from agencies such as EDA HUD, FDEP, FDOT, SJRWM, FIND, the TDC, and numerous Community and Private Foundations.

Brandon Smith, Environmental Specialist, Brevard County Natural Resources Management. Manages education and outreach for Save Our Indian River Lagoon (SOIRL) Program; history of successful project management and currently managing over \$1m in grant-funded projects.

Becky Clarkson, Special Projects Coordinator. Over 20 years' experience in public education campaigns, including graphic design, digital design and implementation, and strategic results-based marketing. Created Manatee Field Guide print and digital publications and created and implemented Transparency Strategy surveys for 2019-20 TDC Grant Program projects. Currently developing print and digital solutions for 2021-22 TDC Lagoon + Tourism Lagoon Recreation Field Guide and Manatee Field Guide Signage and Distribution projects.

18. (untitled)

17. **Section #3 - Applicant Capacity and Performance**

Please provide examples of similar successful projects completed.

MIRA has successfully managed multiple phases of grant-funded improvements at Veterans Memorial Park, including the 2016 Veterans Day unveiling of the enhanced and expanded Veterans Memorial Center and park, funded in part by the TDC, and the 2021 Phase II of park enhancement featuring expanded trails, facilities, and landscaping, and most recently the \$3.6 Million Cone Road Sanitary and Storm Water Project.

The Brevard County Natural Resources Management Department completed the TDC Tourism + Lagoon Manatee Field Guide brochure, poster, and digital storymap in 2021. The department is currently creating the TDC-funded Lagoon Recreation Field Guide and expanding the Manatee Field Guide into installed waterfront signage, as part of a countywide Lagoon Field Guide series to benefit tourism and the health of the Indian River Lagoon. Brandon Smith, Environmental Specialist at the Natural Resources Management Department, is currently managing multiple SOIRL-funded Public Outreach and Education Campaigns to benefit lagoon health and has effectively managed lagoon education programs for Brevard County Parks and Recreation. Natural Resources Management Department staff are also managing multiple social media channels which can be utilized to help promote the Interactive Signage Series project.

19. (untitled)

18. **Section #3 - Applicant Capacity and Performance**

Indicate capacity to complete the project and meet grant reporting requirements.

MIRA and the Brevard County Natural Resources Management Department have proven track records of successfully completing TDC grant projects within budget and time parameters.

20. (untitled)

19. **Section #4 - Project Funding; Summary (A.) Leveraging with Matching Funds**

If project request is less than \$50,000, no match is required and there are no bonus points. There is a 5-point bonus for project requests less than \$50,000 if there is a match of more than 25%. There is a 10-point bonus for project requests less than \$50,000 if there is a match of more than 50%. If the project is over \$50,000 there must be a match. There is a 15-point bonus for project requests over \$50,000 if the match is 1:1. There is a 20-point bonus if the match is over 1.5:1.

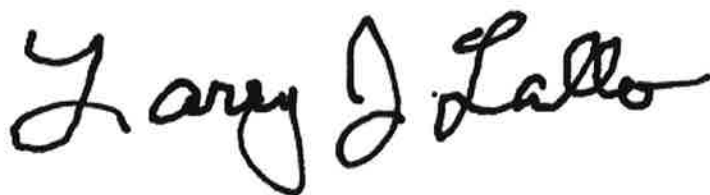
Grant Request : \$44000
Total Project Cost : 44000
Total Match : 0

21. (untitled)

20.

ATTESTATION

I attest that I have full authority to execute this grant request and that all information in the grant application is true and correct. I further attest that I have read the guidelines and will comply with the requirements of the grant, if awarded.



Signature of: Larry J. Lallo

22. (untitled)

21. SPECIAL MESSAGE:

You have now completed all of the application questions. The next slide is the space for you to upload the required (6) attachments to complete the application package.

Please label each attachment with the correct attachment number.

If you are not able to upload the required (6) attachments you must upload (6) documents (as placeholders) to complete the application and there must be an

explanation in the space below.

It is mandatory that all applications are completed online and the required (6) attachments are submitted by uploading with the application or delivered to the Tourist Development Office by 9am on Wednesday, June 22, 2022. No late arrivals will be accepted.

The below text box may also be used to communicate anything that you need to tell us about your application. To be clear, you do need to enter some text as a placeholder to move on.

23. (untitled)

22. Required Attachments:

Please label each with appropriate Attachment number.

Label as Attachment (1) - Indian River Lagoon Watershed Map

Label as Attachment (2) - Project Boundary Map

Label as Attachment (3) - Project Timeline with Milestones and Deadlines

Label as Attachment (4) - Detailed Budget Table

Label as Attachment (5) - Letter(s) of Commitment from Funding Partner(s) if you have a match

Label as Attachment (6) - Copies of Permits (if available) and/or Letter(s) of Approval to demonstrate 'shovel ready' status

[Veterans_Memorial_Park_Interactive_Signage_Attachment_1.pdf](#)

[Veterans_Memorial_Park_Interactive_Signage_Attachment_2.pdf](#)

[Veterans_Memorial_Park_Interactive_Signage_Attachment_3.pdf](#)

[Veterans_Memorial_Park_Interactive_Signage_Attachment_4.pdf](#)

[Veterans_Memorial_Park_Interactive_Signage_Attachment_5.pdf](#)

[Veterans_Memorial_Park_Interactive_Signage_Attachment_6.pdf](#)

24. Thank You!

New Send Email

Jun 21, 2022 17:16:52 Success: Email Sent to: Thank you for submitting your application for the Tourism + Lagoon Grant program. Your application has been completed and received. It will be reviewed by TDO staff for completeness and within (1) business day a follow-up email will be sent to you confirming the receipt of application and required attachments.

Tourism + Lagoon Grant Program application 2022-2023

Response ID:22 Data

2. (untitled)

1. Section #1 - Applicant Information

What is the Project Title?

1. Restoration of native clam communities in the Indian River Lagoon for improved water quality and economic resiliency

3. (untitled)

2. Section #1 - Applicant Information

Contact Information

Organization Name

University of Florida Whitney Laboratory

First Name

Todd

Last Name

Osborne

Job Title

Associate Professor of Estuarine Biogeochemistry

Street Address

9505 N Ocean Shore Blvd

Apt/Suite/Office**City**

SAINT AUGUSTINE

State

FL

Zip

32080

Country**Email Address**

osbornet@ufl.edu

Phone Number

13522563826

Fax Number

Mobile Phone

13522563826

Website URL

www.whitney.ufl.edu

Website URL

4. (untitled)

3. Section #1 - Applicant Information

Which best describes your organization....

Academic Institution

5. (untitled)

4. Section #1 - Applicant Information

Do you have Partners for the project that are contributing funds, in-kind donations or labors?

Yes

6. (untitled)

5. Section #1 - Applicant Information

List Partner Organizations, their roles with the project and match amount. If you have more than (3) Partners please email Deborah at Deborah.Webster@VisitSpaceCoast.com.

Partner Organization Name (A) : Blair Wiggins Outdoors

Partner Role (A) : TV and Social Media outreach

Match Amount (A) : \$15,000

Partner Organization Name (B) : Lagoon Solutions

Partner Role (B) : Manage outplanting events and stie maintenance for life of project and beyond

Match Amount (B) : \$5,000

7. (untitled)

6. Section #2 - Project Specifics: (A.) Need and Urgency

What Indian River Lagoon (IRL) problem will the project address? Please clearly articulate the need for the project.

Restoration of impacted clam populations is a critical step towards restoring the IRL to a macrophyte dominated ecosystem, as existed prior to the onset of major harmful algal blooms in 2011 (IRL Consortium, 2015; Philips et al. 2015). As water filtration is a significant ecosystem service provided by these organisms and a critical link to IRL recovery, bivalve population restoration has become a primary objective in restoration planning (see IRL Council- Habitat Restoration Priorities). Through historic catch reports, there is strong evidence suggesting that clams (particularly *Mercenaria*) were overharvested in the mid-1980s into the 1990s (Arnold et al. 2002). As a result of this overfishing, and more recently, extreme environmental stress, there has been limited to no natural recruitment of clams (Osborne unpubl. data) due to a diminished brood stock and a significantly reduced ability for synchronous spawning (Arnold et al. 2002). We assert that natural selection pressures from algal blooms and related hypoxia events have favored phenotypes (genetic varieties) with significant genetic resistance to these stressors. Hence, repatriation of native, surviving genotypes of bivalves will immediately improve water quality and clarity and contribute to the recovery of seagrasses in the IRL. The primary goal of this proposed restoration activity is to continue our ongoing clam restoration activities in the IRL by repatriating hardy varieties of native clam species, known now as the "IRL Super Clam" that we have already successfully collected and spawned in our hatchery at the UF Whitney Laboratory on scales that provide for reproductive success.

8. (untitled)

7. Section #2 - Project Specifics: (A.) Need and Urgency

Where is the project location? Please identify the project location, articulate why the location was chosen and why this location will achieve success.

We have chosen to utilize high profile locations (see attached map) adjacent to Kelly Park West boat ramp off 528 and the causeway boat ramp off of 520. These locations attract both local fishermen, recreators and tourists alike and thus are good locations for educating the public about the value of filter feeders in the IRL ecosystem and how we are working to restore them to their once bountiful populations. There are suitable planting areas proximate to both of these boat ramps, and as such both planting activities and the planned informational kiosks constructed onsite will be both educational and a persistent reminder that restoration activities of all kinds are underway in a massive effort to restore the lagoon. As both of these boat ramps and associated parks serve an estimated 500+ people per day, the number of local and visiting public that will be exposed to this work is significant. Further, being in popular places also ensures our project is a recognizable feature, where a series of these sites have been added each year since 2018, the most impactful of which is located at River Rocks restaurant in Rockledge where our first kiosk was installed in 2019 with help from the TDC! The TDC has funded this program two times previously with great success and we are employing an even more aggressive outreach campaign with this years program enhancements to continue the restoration work and broaden our outreach campaign.

9. (untitled)

8. Section #2 - Project Specifics: (A.) Need and Urgency

Does the project enhance an important ongoing Tourism + Lagoon Grant Project

(not routine maintenance)?

Yes

10. (untitled)

9. Section #2 - Project Specifics: (B.) Project Alignment with Tourism + Lagoon Grant Program mission

Please demonstrate how the project will have a positive impact on Brevard County tourism and cite the methodology used to quantify the success of the project.

While the benefit of this work to the IRL is scientifically measurable and relatively easy to quantify, the impact on tourism is less well defined. In the past, the broader impact of restoration activities on tourism has been a secondary consideration, however, in this proposed work we leverage large scale successes over the last four years in restoration of clam populations to tell a much more powerful and uplifting story. We intend to take this message of restoration success and a hopeful future of restoration of the IRL ecosystem to the public in several ways. First, by example and demonstration of project sites (5 already exist around the county) we show the public that action is being taken to ameliorate the water quality problems so prevalent in the IRL. Next, we utilize an aggressive social media campaign to educate the public, garner public participation, and get people excited about some of the positive results we have seen to date with this work. This is done through routine release of video and pictorial content on Facebook, Instagram and twitter feeds as well as project websites (www.IRLClamRestorationProject.org, www.blairwigginsoutdoors.com and www.whitney.ufl.edu). Previously, project updates and short films have received over 300,000 views on websites and social media. Finally, we culminate our outreach by working closely with a local celebrity, Capt. Blair Wiggins, who will highlight the clam restoration project on his very popular new show, Blair Wiggins Outdoors, which airs Saturday mornings on the Discovery Channel and reaches millions of viewers across the country. As we all know, sportfishing is a huge industry and a strong draw for tourism in our area. What better way to encourage visitation than to let the fishing community know what we are doing to bring the Lagoon back to its former status of a world class fishing destination. The Blair Wiggins Outdoors show has well over 100,000 subscribers online that are able to see content and short films as well as full episodes. Last year we released redfish larvae for a short segment of the show and the outtake video on the BWO website had over 200,000 views! With dedicated short video production and longer more prominent spots on episodes of BWO, we feel that we will reach an unprecedented number of potential visitors.

11. (untitled)

10. Section #2 - Project Specifics: (B.) Project Alignment with Tourism + Lagoon Grant Program mission

Please demonstrate how the project will benefit the health of the Indian River Lagoon and cite the methodology used to quantify the success of the project.

The 2011 superbloom (IRL Consortium 2015; Philips et al 2015), and the 2012 brown tide bloom were unprecedented events for the IRL. More recently, a brown tide in 2016 with similar extent and intensity demonstrated to managers that such events may not be a one-time occurrence, but instead can be more common if action is not taken. Algal blooms shade seagrasses, initiating die back, and ultimately resulting in a collapse of the macrophyte-dominated system. Seagrass transplanting is difficult, costly, and not expected to succeed while turbidity remains high. We contend that large-scale clam restoration is a requirement to rehabilitating the IRL. This project is a CRITICAL step in restoring shellfish populations, specifically clams, such that they can

ameliorate turbidity and catalyze seagrass recovery. This work will fundamentally support management plans and decisions involving ecosystem restoration projects in the near future. Hard clams have historically been significant contributors to good water quality in the Indian River Lagoon (IRL) via filter-feeding that reduces turbidity and removes organic nutrients from the water column and deposits them in sediments. Unfortunately, overfishing and environmental degradation have led to the collapse of native clam populations in the IRL. However, studies have shown that IRL clams are capable of consuming various algal forms associated with recent blooms (Galimany et al. 2017) and to filter at rates higher than previously thought. (Rowe et al. unpub data). We propose to leverage recent environmental stressors (algal blooms, hypoxia) that have naturally selected for the hardiest filter-feeding bivalves in the IRL, by collecting surviving individuals of historically abundant species (e.g., hard clam, *Mercenaria mercenaria*) in these environmentally stressed areas. To date we have ALREADY successfully located and spawned 9-11 yr old *Mercenaria* clam broodstock from hard hit regions of the IRL, raised clams and repatriated 12 Mil. The results of this work will benefit not only the IRL and public with respect to improved environmental condition, but the stress resistant varieties of native clams will also be of tremendous value to commercial aquaculture. Aquaculture not only brings economic benefit to the region but also, by nature of the process, reinforces water quality improvements as these partners will continue to spawn and out-plant clams and thus improve the reproductive success of the IRL clam population (as well as export nutrients when selling harvested clams!). We can and will complete all stated objectives, provide all proposed deliverables within budget and the one-year project timeline and have the necessary permits in hand at this time. Success will be measured by direct counts of survivorship and growth. This is done by methods we have standardized over the last several years in which out-planting sites are subsampled several times to determine a statistically significant estimate of mean survivorship and growth. These metrics tell us much about how the ecosystem is improving and what our next steps may be.

12. (untitled)

11. **Section #2 - Project Specifics: (C.) Project Deliverables and Outcomes (Please provide examples)**

Please clearly describe the project deliverables - what will be provided at the completion of the project?

Deliverables and Time Frames (assuming start date of Oct. 01, 2022)

Task 1. Kickoff meeting and workplan finalization. Project team will meet with Space Coast Office of Tourism members to finalize Tasks, methods, and other project details. This will provide members opportunity to have input on all aspects of project performance prior to beginning of work. Meeting will be held at Council office or alternative mutually agreed upon location.

Deliverable: Finalized Work Plan document

Deliverable due (Nov. 30 2022).

Task 2. Spawn and grow stress-resistant and other genotypes of bivalves. Broodstock collected and maintained by UF and its cooperators will be spawned at UF shellfish hatchery (we maintain current FDACS Permits). Spawning will be accomplished by following established methods (ripening on algal diet, thermal cycling, and rearing through veliger stage before transferring to nursery facilities at our location. The population of clams spawned here will be used in the outplanting efforts (Task 3). NOTE: clams for this project have already been spawned and are in nursery facility at UF currently to ensure appropriate size and maturity for outplanting in spring 2023.

Deliverables: Spawning and hatchery success data report with 2nd Qtr Report

Deliverable due (Mar 30, 2023).

Task 3. Repatriation of clams to IRL. Approximately 1 million juvenile clams will be transported from UF facilities and repatriated to selected sites in the IRL. These sites will be finalized under Task 1, but will be located proximate to the Kelly Park East boat ramp of 528 and the 520 Causeway boat ramp for maximum visibility. Common aquaculture techniques such as bag planting

and cover net planting will be utilized to outplant clams. Fate tracking operations will commence 1 month after repatriation and will continue for duration of the project period and beyond (based upon commitment from project team to continue fate tracking efforts as part of the larger clam restoration effort).

Deliverables: GPS locations of clam out-plantings included in final report
Deliverable due (Sept 30, 2023)

Task 4. Placement of educational kiosk identical to previously funded clam restoration project at River Rocks (Education sign 36"x30" printed metal signage). This signage describes the project, contains logos of all project partners (including Brevard Tourism Office logo) and explains project goals and benefits. Signage will be erected and in place by end of first quarter.

Deliverables: photos of signage installed
Deliverable due (June 30, 2023).

Task 5. Production of Social media products in the form of informational videos and routine posting on major social media outlets of Facebook, Instagram, twitter. Project updates will also appear on Blairwigginsoutdoors.com and IRLclamrestorationproject.org. This task also includes significant television production element in which BWO will film and produce Clam restoration segments acknowledging the partners including TDC support of this work.

Deliverables: Episodes of Blair Wiggins Outdoors with project segments, significant social media blitz and reporting of viewer metrics (views, likes etc)
Deliverable due (Sept 30, 2023).

Task 6. Interpretation and Final Report production. A final report with synthesis of all project details and data will be compiled and will be a product of all project partners, however responsibility for report finalization and submission will be that of UF project lead.

Deliverables: Final Report and all data files
Deliverable due (Sept 30, 2023).

13. (untitled)

12. Section #2 - Project Specifics: (C.) Project Deliverables and Outcomes (Please provide examples)

Describe what is being done, how, and by whom.

Task 1) Kick-off meeting will be hosted by UF in online format (Zoom or similar) such that Space Coast Office of Tourism staff can have input on the planned activities and be aware of events associated with project. Signage will also be presented at this time for authorization. This event will be hosted by UF and will be the responsibility of PI Osborne.

Task 2) Spawning and rearing of juvenile clams (currently ongoing at UF facilities) will be conducted at the UF Whitney Laboratory and will be part of the overall project documentary by BWO and the social media campaign. PI Osborne is responsible for this activity and employs standard thermocycling spawning induction, larval rearing, and juvenile raceway grow-out methods to produce the clams for this work (Osborne et al. 2020).

Task 3) Repatriation of clams will be conducted through one or more "planting parties" hosted by Lagoon Solutions with participation by all project partners at the two project sites. These planting events will be open to the public and will also be documented for use in television and social media outreach. Previously, these events have drawn as many as 150 volunteers from the public and are often attended by local and regional media outlets.

Task 4) Kisok construction will take place at UF fabrication shop and will be installed by Lagoon Solutions staff. Signage, laser printed on metal backing and coated with UV protection film, is anchored onto the painted wooden frames and posted landward of project sites in high profile, highly trafficked areas. Signage measures 30 x36 inches.

Task 5) Capt Blair Wiggins and his production team will be responsible for production of short films for web and social media release as well as longer spots for airing on his nationally televised sport fishing show, Blair Wiggins Outdoors. This production content will span the entirety of the project and will highlight the actual areas planted in this work and previous ears work supported by TDC. The message will be one of project success and optimism for the future of the IRL and will solicit fishermen to help in the process by volunteering time and resources to helping our lagoon recover. It cannot be understated how impactful television and social media can be for increasing project awareness and thus successful public engagement! BWO staff will also be responsible for quantifying social media and television views and positive responses. All team members will conduct social media promotion on a weekly basis through their prospective organizations.

Task 6) all partners will be responsible for participating in reporting, however, PI Osborne will synthesize results, write and submit quarterly reports and the final report for the project.

14. (untitled)

13. Section #2 - Project Specifics: (D.) Project Readiness

Will your project be 'shovel ready' by October 1, 2022?

Yes

15. (untitled)

14. Section #2 - Project Specifics: (D.) Project Readiness

Is the design complete?

Yes

16. (untitled)

15. Section #2 - Project Specifics: (D.) Project Readiness

Please list required permits and provide status. You will be required to upload copies of permits (if they are available) and/or approval letters at the end of the application. If project must go to bid, state when the bid documents will be complete.

Special Activity License for shellfish - FWC (have current and will renew on Oct 31 of 2022)

Aquaculture certificate -FDACS (have current and will renew on June 30 of 2022)

17. (untitled)

16. Section #3 - Applicant Capacity and Performance

Clearly outline who the project team will be and their capability/expertise in implementing the successful completion of the project. NOTE: Letters of commitment from all funding partners must be submitted for Attachment #5.

Dr. Todd Osborne (UF) has lead over \$15 Mil in sponsored research and currently has completed over \$850,000 of sponsored research and restoration of clams in the IRL.

Capt. Blair Wiggins has grown up on the IRL and has been a professional fishing guide for over 35 years with the last 15 years being highlighted by his previous television show, Addictive Fishing TV and now by Blair Wiggins Outdoors, a show that reaches millions of viewers across the country on Discovery Channel. His production company also specializes in social media outreach and will lead the effort.

Mr. Norman Kolsch, President of Lagoon Solutions, has a lifetime of experience on the IRL and four years experience managing, monitoring and maintaining clam outplanting sites. He has a history as a well known restaurateur in Brevard County and has deep political and social connections to the community that are leveraged to maximize public outreach and volunteerism.

18. (untitled)

17. Section #3 - Applicant Capacity and Performance

Please provide examples of similar successful projects completed.

To date, the team assembled here, in conjunction with other clam restoration partners (which include FWC, FDACS, St. Johns River Water Management District, IRL-NEP, IRL Council and many others) have completed seven funded projects with grants in excess of \$850,000. Funding has been from IRLNEP, IRL Council, Coastal Conservation Association and TDC. To date we have planted over 12 million clams and have collected evidence of spawning success in water samples in the last two years.

19. (untitled)

18. Section #3 - Applicant Capacity and Performance

Indicate capacity to complete the project and meet grant reporting requirements.

The University of Florida maintains all necessary facilities and assets to support a project of this size and will ensure its completion. Additionally, both BWO and Lagoon Solutions maintain additional staff that will be dedicated to this project and the larger effort it supports.

20. (untitled)

19. Section #4 - Project Funding; Summary (A.) Leveraging with Matching Funds

If project request is less than \$50,000, no match is required and there are no bonus points. There is a 5-point bonus for project requests less than \$50,000 if there is a match of more than 25%. There is a 10-point bonus for project requests less than \$50,000 if there is a match of more than 50%. If the project is over \$50,000 there must be a match. There is a 15-point bonus for project requests over \$50,000 if the match is 1:1. There is a 20-point bonus if the match is over 1.5:1.

Grant Request : \$49,100

Total Project Cost : \$69,100

Total Match : \$20,000 - 28.9%

21. (untitled)

20.

ATTESTATION

I attest that I have full authority to execute this grant request and that all information in the grant application is true and correct. I further attest that I have read the guidelines and will comply with the requirements of the grant, if awarded.



Signature of: Todd Z. Osborne

22. (untitled)

21. SPECIAL MESSAGE:

You have now completed all of the application questions. The next slide is the space for you to upload the required (6) attachments to complete the application package.

Please label each attachment with the correct attachment number.

If you are not able to upload the required (6) attachments you must upload (6) documents (as placeholders) to complete the application and there must be an

explanation in the space below.

It is mandatory that all applications are completed online and the required (6) attachments are submitted by uploading with the application or delivered to the Tourist Development Office by 9am on Wednesday, June 22, 2022. No late arrivals will be accepted.

The below text box may also be used to communicate anything that you need to tell us about your application. To be clear, you do need to enter some text as a placeholder to move on.

We are looking forward to continuing the successful relationship between the Clam Restoration Project and TDC!

23. (untitled)

22. Required Attachments:

Please label each with appropriate Attachment number.

Label as Attachment (1) - Indian River Lagoon Watershed Map

Label as Attachment (2) - Project Boundary Map

Label as Attachment (3) - Project Timeline with Milestones and Deadlines

Label as Attachment (4) - Detailed Budget Table

Label as Attachment (5) - Letter(s) of Commitment from Funding Partner(s) if you have a match

Label as Attachment (6) - Copies of Permits (if available) and/or Letter(s) of Approval to demonstrate 'shovel ready' status

[Attachment_1_UF.pdf](#)

[Attachment_2_UF.pdf](#)

[Attachment_3_UF.pdf](#)

[Attachment_4_UF.pdf](#)

[Attachment_5_UF.pdf](#)

[Attachment_6_UF.pdf](#)

24. Thank You!

New Send Email

Jun 21, 2022 20:42:11 Success: Email Sent to: Thank you for submitting your application for the Tourism + Lagoon Grant program. Your application has been completed and received. It will be reviewed by TDO staff for completeness and within (1) business day a follow-up email will be sent to you confirming the receipt of application and required attachments.

Tourism + Lagoon Grant Program application 2022-2023

Response ID:23 Data

2. (untitled)

1. Section #1 - Applicant Information

What is the Project Title?

Samsons Island Submerged Lands Restoration Phase 3

3. (untitled)

2. Section #1 - Applicant Information

Contact Information

Organization Name

City of Satellite Beach

First Name

Nicholas

Last Name

Sanzone

Job Title

Environmental Programs Coordinator

Street Address

565 Cassia Blvd

Apt/Suite/Office

1

City

Satellite Beach

State

FL

Zip

32937

Country

Email Address

nsanzone@satellitebeach.org

Phone Number

1321-773-4009

Fax Number

Mobile Phone

1-321-213-2879

Website URL

www.satellitebeach.org

Website URL

4. (untitled)

3. **Section #1 - Applicant Information**

Which best describes your organization....

Government

5. (untitled)

4. **Section #1 - Applicant Information**

Do you have Partners for the project that are contributing funds, in-kind donations or labors?

Yes

6. (untitled)

5. **Section #1 - Applicant Information**

List Partner Organizations, their roles with the project and match amount. If you have more than (3) Partners please email Deborah at Deborah.Webster@VisitSpaceCoast.com.

Partner Organization Name (A) : Florida Oceanographic Society

Partner Role (A) : Oyster & Seagrass monitoring

Match Amount (A) : \$4,500.00

Partner Organization Name (B) : Florida Atlantic University

Partner Role (B) : Seagrass Monitoring

Match Amount (B) : \$3,488.00

Partner Organization Name (C) : University of Florida Whitney Labs
Partner Role (C) : Clam Monitoring
Match Amount (C) : \$4,000.00

7. (untitled)

6. **Section #2 - Project Specifics: (A.) Need and Urgency**

What Indian River Lagoon (IRL) problem will the project address? Please clearly articulate the need for the project.

The Samsons Island Submerged Lands Restoration (SISLR) project Phase 3 will address multiple problems facing the lagoon. One is the size of the Indian River Lagoon (IRL) itself, where the 156-mile length of the IRL makes it difficult to know where large scale restoration projects should be implemented. Another is a lack of personal connection to the IRL where residents and visitors alike do not have a clear understanding of what is being done in the community by concerned residents and scientists to restore the Lagoon. We volunteer our time and work our whole careers to implement projects that aim to heal the IRL that only a generation ago was considered one of the most diverse estuaries in the world. Today, the need for both public education and restoration is urgent.

There is an immediate need to quantify the success of the SISLR project over time to confirm that the work done in Phases 1 and 2 are repeatable. There is also a need to continue monitoring the survivorship and growth of the seagrasses, clam and oyster planted, dispersed, and recruited inside the project site in Phase 2. It is equally important to share the data we collect from the project with scientists and the community. To do that, we need to collect data over time using the same standards and methods of the permitting agencies, state agencies, universities, nonprofits, and others that have previously and are currently collecting data on similar projects across the IRL. This monitoring, data collection and reporting will be one component of SISLR Phase 3.

The second component of SISLR Phase 3 is a frequent eco-tour that communicates the lagoon and community benefits of the SISLR Project Phases 1, 2, and 3, as well as other lagoon restoration projects in the vicinity. A robust monitoring program tied to an eco-tour benefits the community. Without programs that document a project's progress and explain the need for project maintenance and monitoring, the community will not know what is happening in their own back yard and why lagoon restoration needs funding. When we provide opportunities for environmental education of the current and past habitat restoration projects, we inspire each other and future generations to become part of the world we live in .

8. (untitled)

7. **Section #2 - Project Specifics: (A.) Need and Urgency**

Where is the project location? Please identify the project location, articulate why the location was chosen and why this location will achieve success.

The project is located at Latitude 28.10'54.00 and Longitude -80.36'50.00. This is the western side of Samsons Island, a 52-acre nature preserve in the IRL. The preserve is owned and maintained by the City of Satellite Beach. The project location for monitoring component of SISLR Phase 3 will be the same project site as Phases 1 and 2. This will also be the main highlight during the city eco-tour. The eco-tour's route will also showcase other City lagoon-enhancement projects, including the new Adopt-A-Canal program. The work at the existing "habitat mosaic" restoration pilot project site was funded by the National

Estuary Program in Phase 1 and by the Tourism Development Council in Phase 2. The first two phases of the project have already established the reliable performance of the project partners and the City of Satellite Beach. Building on the lessons learned from Phase 1 and 2, city staff is also more capable of creating and implementing a successful project, while communicating the quarterly updates of the project to the public.

Another reason this site will achieve success is the location of the project site, which is highly accessible to the public and has a rich history of engagement to build on. When communicating the issues that the IRL faces, this area provides great examples of both problems and solutions all in one area that can be seen during the eco-tour. The City has provided decades of ecotours that have engaged thousands of visitors to the Space Coast. The 2 mile stretch of water on the Grand Canal that leads to the Banana River portion of the IRL, showcases both natural and man-made shorelines. The mangrove fringe habitats on Samsons Island contrast against the construction techniques of seawalls, homes, and landscapes; and all can be seen from the 30-minute boat ride from the City dock to the project site. Therefore, the project location for Phase 3 will also include the Grand Canal and the SISLR project eco-tour will take place just as it did in Phase 2, with modifications. The telling and sharing of the story of IRL restoration here in Brevard County will be refined by adding impacts of the built environment to the narrative.

Among other topics, the eco-tour will cover nutrient pollution from fertilizers and total suspended solids and their impact on water quality and seagrass viability. The tour will also travel to the finger canal where the Satellite Beach Adopt-A-Canal program is being implemented. The Samsons Island project site location was chosen because it is an active restoration site that has already been successfully implemented and has provided the community with over 50 volunteer workdays and over 1,000 hours of volunteer service. It is currently in Phase 2 where citizen science and institutional science are being conducted both separately and collaboratively. Based on these facts this site has every reason to be successful in both habitat restoration and ecotourism.

9. (untitled)

8. Section #2 - Project Specifics: (A.) Need and Urgency

Does the project enhance an important ongoing Tourism + Lagoon Grant Project (not routine maintenance)?

Yes

10. (untitled)

9. Section #2 - Project Specifics: (B.) Project Alignment with Tourism + Lagoon Grant Program mission

Please demonstrate how the project will have a positive impact on Brevard County tourism and cite the methodology used to quantify the success of the project.

Eco-tours: The eco-tour component of SISLR Phase 3 will create a positive impact in our community by improving on an old program in the city that was started decades ago when Samsons Island was first restored in the 1990s. Last year, the City received funding to purchase a new pontoon boat to be used to provide the community with an ecological nature tour (eco-tour) that showcases the work being done in the lagoon by the City and project partners from across the Eastern Central Florida region. Modifications to the eco-tour in Phase 3 include the addition of a tour-guide, a visit to at least two IRL restoration projects, and the addition of a virtual self-guided tour. The tour-guide will communicate existing threats to the IRL and how

current and past restoration projects are minimizing such threats. Additionally, the guide will discuss the data being collected in Phase 3 and will inform passengers of their opportunity to participate in the ongoing citizen science portion of the project.

By providing public access to the already established one-acre habitat mosaic project site that was constructed in Phases 1 and 2, families, tourists, individual citizens, scientists, and public officials will be able to see and take part in this restoration process and get a sense of the scale of the collaboration and coordination needed to successfully restore one acre of lagoon habitat. Public officials that hold office from local, regional, and state office will also have an opportunity to tour a restoration site in progress. The beneficial impact of this project to Brevard County tourism is long-term and indirect and short term and direct.

The City will provide these free public tours of the site on a bimonthly basis through the City Recreation Department. The guided eco-tour will be advertised online with a promotional video that will give an overview of the IRL, its impact on tourism, and the need for restoration. The narration of this tour will also be recorded and made available virtually as a self-guided tour. Visitors can participate by scanning a QR code that will be posted at the SISLR project site and at the main dock on the eastern side of the island. With this easily accessible digital media, anyone anywhere can take a virtual tour of the Island and the SISLR project. There are few locations along the IRL where this type of guided access is available. By creating and providing this access, both the voters and decision makers will have an opportunity to create the memories that will forever connect them to the IRL through this unique felt experience, reminding everyone how important it is to support funding critical restoration projects like this.

Monitoring: To achieve long term success of SISLR Phase 1 and 2, it is imperative to provide continual maintenance and monitoring to determine if this project is repeatable by others in the future. This will help us determine if the techniques of restoration used in Phase 1 and 2 to plant, disperse, and deploy three species of wildlife (clams, oysters, and seagrasses) are successful.

The SISLR Project Phases 1, 2, and 3 benefit tourism in the long term because no one wants to visit a dead lagoon with no wildlife or functional habitats in it. Biodiversity including the species added by the SISLR project is critical to the overall health of this precious ecosystem. By collecting data through project monitoring using similar methodologies as other restoration projects in the IRL, we will quantify the success of the project. The monitoring portion of this project is three-fold: (1) third-party monitoring and data collection, (2) citizen-science data collection, and (3) city-staff data collection and monitoring. Further details of this monitoring are outlined in the Monitoring Plan document, which has been attached to this TDC application.

Other long-term benefits of this project include its potential to inspire generations of students to pursue careers in environmental restoration and conservation. Students will have had the opportunity to visit an active restoration project site where monitoring data is being collected in real time and with their assistance. Experiences like this will help to create future scientists and environmentalists who will be needed to carry on the work of healing the IRL in the decades to come. This restoration both directly and indirectly has a positive impact on tourism. Directly, because it establishes a healthy nursery where wildlife can reproduce and thrive. Indirectly, because it serves as an example of what is possible while seeding future habitat restoration projects. All of the data collected on the pilot project that pre-dates this project demonstrates that this area is stable enough for the creation of another habitat mosaic.

Trained environmental professionals will explain the process of restoration to the community through tours, volunteer opportunities, educational materials, and community outreach. This will give everyone who learns about this project and the restoration work being done in the IRL, a direct felt and personal experience. This provides something more than a paper document, PowerPoint presentation, graph, or picture to convey the scope of what estuarine restoration encompasses and how everyone can be involved in this and other similar programs that promote stewardship of the Indian River Lagoon.

11. (untitled)

10. Section #2 - Project Specifics: (B.) Project Alignment with Tourism + Lagoon Grant Program mission

Please demonstrate how the project will benefit the health of the Indian River Lagoon and cite the methodology used to quantify the success of the project.

The restoration of clams, oysters and seagrasses will directly benefit the IRL by creating the habitat mosaic discussed previously. The habitat mosaic restoration technique is a new method and utilizes newer restoration techniques that will be shared with other organizations and institutions that are conducting restoration in the IRL. Monitoring of the SISLR pilot project that has planted these three species together will allow us to determine if their mutualistic relationship to each other can create a more stable habitat than when these organisms are planted or restored separately.

Second, by monitoring the restoration of this one-acre habitat mosaic as a Phase 3 of the SISLR, we would prove that this restoration technique can be replicated and repeated in other parts of the IRL. Monitoring the areas like these are critical to testing new restoration techniques and for fostering the recruitment and growth of numerous lagoon habitats that depend on oyster clams and seagrasses as keystone species.

We will quantify the success of this project by tracking data generated by city staff, project partners, citizen scientists and community volunteers. The project monitoring plan has been vetted by project partners and includes their methodologies as well as those of state agencies.

The eco-tour portion of Phase 3 will also provide many benefits to the IRL. First, it will inform visitors about the threats to the IRL and remind them of the importance of environmental stewardship. Second, by providing space for elected officials and other community stakeholders to view a successful restoration project, it will reaffirm the value of investing in the lagoon. This can spark future investment in lagoon restoration projects for decades to come. To quantify the success of the eco-tour portion, logs of the eco-tours will be used to measure visitor attendance.

2. A symbiotic relationship that benefits all species
3. A species on which other species in an ecosystem largely depend, such that if it were removed the ecosystem would change drastically.

12. (untitled)

11. Section #2 - Project Specifics: (C.) Project Deliverables and Outcomes (Please provide examples)

Please clearly describe the project deliverables - what will be provided at the completion of the project?

At the time of the project's completion, we will have completed the following deliverables. Providing completed data sheets for each aspect of the project, to be delivered with each quarterly report, including:

1. Volunteer engagement, with sign in sheets from weekly citizen science data collection and volunteer waivers for 200-500 volunteers for a total of approximately 2,000 hours of volunteer time that is worth approximately \$34,284.00 at \$28.5/volunteer hour.
2. Four quarterly monitoring reports of the monitoring of the previously completed oyster restoration of over 30 tons of repurposed oyster shell that was used to create habitat and act as a breakwater to stabilize the project site.
3. Four quarterly monitoring reports of the monitoring of the 13,000-seagrass planted in Phase 2.
4. Four quarterly monitoring reports of the monitoring of the clam restoration of 36,000 clams disbursed in Phase 2.

5. Four quarterly monitoring reports of the monitoring of the continued water quality monitoring data collection.
6. Deliverable for the staff data collection events? Monitoring reports from nine City Staff monitoring events
7. A video of the narration of the eco-tour highlighting the restoration process that was used to create the SISLR project in Phase 1 and 2.
8. Creation of 48 individual project updates to be shared online and via social media to promote ecotourism of the IRL and advertise the availability of the citizen science monitoring program made available through the city.
9. Visitor sign in sheets from the eco-tours of the project site and the adjacent Samsons Island Preserve, with the tour narration to be made available to the public on the City's website and onsite.

13. (untitled)

12. Section #2 - Project Specifics: (C.) Project Deliverables and Outcomes (Please provide examples)

Describe what is being done, how, and by whom.

Descriptions of the project deliverables. These deliverables and outcomes are created based on the SISLR Phase 1 and 2 projects funded by the National Estuary Program in 2020-2021 and the Tourism Development council in 2021-2022.

1. Labor- Labor from city staff will be used to create and conduct the revised eco-tour, supervise project partner monitoring, lead citizen science monitoring, and conduct nine staff monitoring events. City staff labor will also be used for community outreach /promotion. The Environmental Programs Coordinator will lead the project working closely with the City Biologist, the Recreation Department, and other city departments to implement all aspects of this project including the project reporting. Project reporting will be done using the format provided by the TDC. Project staff will use the City's monitoring plan and the monitoring plans of the project partners to collect this data and share it with the public through various forms of digital media, including social media, the city website and the story map created by the ECFRPC.

The eco-tour of the project site and the adjacent Samsons Island Preserve. The pontoon boat and will be used bimonthly and on special occasions as a primary vessel for the ecotours and site visits, volunteer events and other related tasks as required. The city will run this program through a city department for as long as there is available funding. This tour will leave from the city boat dock at 1390 South Patrick Drive, Satellite Beach Florida 32937. Then it will travel north along the Grand Canal with the narration focusing on the history of the IRL, the City and the island. Next it will turn towards the Banana River and stop at the SISLR project site to describe the project and how the partners have worked together to create this project. Then the tour will continue north towards the northeast corner of the island and head east back into the Grand Canal where we will tour the Adopt-A-Canal pilot project site before heading to the main dock where visitors will be given an opportunity to explore the island before heading back to the boat to return to the city dock. The return trip will be used to answer any questions that the visitors may have about the tour and the work being done along the IRL. This tour will be conducted by city staff, using a scripted narration that will be created by city staff based on the original Samsons Island video created in 1994. Additionally, the Brevard historical society and residents will be interviewed to ensure that the content of the ecotour is as accurate as possible. This tour will be used to create the virtual tour video with Balance For Earth.

2. Volunteer Citizen Science- Volunteer engagement will be conducted by the city and local environmental groups. The City's website has a link to volunteer opportunities that was successful in recruiting 1,375 volunteers for the SISLR Phase 1 and 2 of the restoration projects. Additionally, we partner with local businesses to distribute flyers, go on local radio stations, and publish the volunteer opportunities in the city newsletter that goes out quarterly. The in-person events are also published on the City's and partners' social media accounts. In Phase 3 the volunteer engagement will include the community-based citizen science where City staff will teach the community how to monitor the three keystone species, using the methods provided by the project partners included in the monitoring plan created by the City.

3. Oyster Monitoring- The Monitoring of oyster restoration materials, and methods of 30 tons of repurposed oyster shell will be

achieved through the partnership with the Florida Oceanographic Society. This organization participates in the shuck and share program that collects oyster shell from restaurants to be used in restoration projects like this one and will perform the third-party monitoring of the oyster bags, pillows, prisms, and gabions. Third party monitoring of oysters will be accompanied by citizen data collected by volunteers, as described in Deliverable 2.

4. 4. Seagrass Monitoring- The Monitoring of the Seagrass planted in the previous two phases of the SISLR Project. This included 13,000 seagrass plugs and mats. Both the Florida Oceanographic Society and the Florida Atlantic University, Harbor Branch grow seagrasses for restoration purposes and have agreed to continue to support SISRL in Phase 3 by monitoring the same grasses they planted in Phase 2. Third party monitoring of seagrasses will be accompanied by citizen data collected by volunteers, as described in Deliverable 2.

5. Clam Monitoring- Monitoring of the Clam restoration of 36,000 clams will come from the University of Florida Whitney Labs, where Tod Osbourne and his team are growing clams for the purpose of restoration. Third party monitoring of clams will be accompanied by citizen data collected by volunteers, as described in Deliverable 2.

6. Water Quality Monitoring- Water quality monitoring and data collection of project water quality data will be performed by the lab at Florida Institute of Technology in Melbourne, FL. They will visit the site and sample from a boat using YSI instruments. They will also collect soil samples quarterly to examine changes in the sulfides in the sediment composition inside the project site.

7. Videography- Video documentation of the monitoring process and citizen science involvement including the virtual eco-tour, will be used online to promote ecotourism of the Lagoon. The city will work with Balance for Earth, a nonprofit that creates beautiful videos utilizing drone steady cams and Go Pros for stunning and engaging content creation. Monitoring of the clams, oyster shell, and seagrasses will also be documented via videography and photography. A final video of the eco-tour will be made to allow for visitors to experience a version of the tour from anywhere in the world by visiting the link hosted on the city website. This link will also be printed on educational signage that will be posted near the docks on Samsons Island , at the kayak launch in the City and on printed educational outreach materials. The tour will be led by city staff and the associated tour narrative will be created by City staff, as mentioned in Deliverable 1.

8. Data Mapping- Mapping of the data collected from the project partners, City staff and the citizen science will be updated quarterly into the story map created in Phase 2. Updating each data point that was created in Phase 3 by the project partners will be done by the ECFRPC, with direction from City Staff using the latest in Geographical Informational Systems methods for displaying information.

9. Monitoring Materials- The implementation of the citizen science project monitoring and the staff led data collection will require monitoring materials to be purchased. This includes snorkels, masks, water shoes, waterproof paper field journals and other materials such as wetsuits and weight belts for staff that will be monitoring in the winter months. All of these and other related materials will be used in the implementation of the various methods of monitoring for the project.

10. Outreach materials- To better promote the ecotour and the virtual tour rack cards will be created and distributed around the county at businesses and project partner facilities. These materials will be created by City staff working closely with the TDC. Additionally, the virtual tour will have a QR Code that will be placed on signage to be placed at each dock on Samsons Island at City facilities and at the DeSoto Canal kayak launch where thousands of visitors travel to each year.

11. Community Outreach- The City and most project partners will contribute to the community engagement ad promotion of the project its monitoring and the related eco-tour. This includes attending local events that relate to lagoon education and connecting the community to what is being done and how they can be involved. An example of an event that would be attended is the decades old long running Indian River Lagoon Day where five or more government and nonprofit agencies have come together to host an event that attracts over a thousand people to learn about what is happening in the lagoon. If there are any

specific events that the TDC would like the Environmental Programs Coordinator to attend, we can make sure to include them it is community outreach.

14. (untitled)

13. **Section #2 - Project Specifics: (D.) Project Readiness**

Will your project be 'shovel ready' by October 1, 2022?

Yes

15. (untitled)

14. **Section #2 - Project Specifics: (D.) Project Readiness**

Is the design complete?

Yes

16. (untitled)

15. **Section #2 - Project Specifics: (D.) Project Readiness**

Please list required permits and provide status. You will be required to upload copies of permits (if they are available) and/or approval letters at the end of the application. If project must go to bid, state when the bid documents will be complete.

There are no permits required for Phase 3 of the SISLR project. Two permits were acquired for Phase 1 and 2 of the original SISLR pilot project. Currently these permits have not expired. The required permits are:

1. Nationwide Permit number 27 Aquatic Habitat Restoration Enhancement and Establishment Activities, from the Army Corps of Engineers.
2. An Individual or Conceptual Environmental Resource Permit in accordance with Part IV of Chapter 373, F.S., and Chapter 62-330 F.A.C. from the Department of Environmental Protection.

17. (untitled)

16. **Section #3 - Applicant Capacity and Performance**

Clearly outline who the project team will be and their capability/expertise in implementing the successful completion of the project. NOTE: Letters of

commitment from all funding partners must be submitted for Attachment #5.

The project team will be comprised of City staff, project partners, and volunteers. Partners include the Florida Oceanographic Society, the University of Florida Whitney Lab, the Florida Institute of Technology, Florida Atlantic University, the Marine Resources Council, Balance For Earth, and Keep Brevard Beautiful.

The Satellite Beach Environmental Programs Coordinator (EPC), Nicholas Sanzone will lead the Recreation Department, Public Works and Support Services city staff in implementing each part of the project. The capability of staff to successfully achieve each deliverable and task item is proven through past restoration efforts. The EPC has coordinated with each of these partners successfully in Phase 1 of this project in 2020 and 2021. This grant will fund Phase 3 and will pay for staff time to monitor the SISLR project, conduct eco-tours of the restoration of the one-acre habitat mosaic described previously and fund the citizen science that will be led by city staff. The monitoring plan that will dictate the methods of data collection has been reviewed by project partners and will be used to create four quarterly monitoring reports to be added to the regular quarterly reports.

Since the project partners and methods are the same as were completed in 2021-2022, we can assure you that the Satellite Beach EPC and other city staff are more than capable and have the expertise to complete the restoration project. The eco-tour portion of this project will also be led by the EPC and narration completed by city staff including the EPC, the City Biologist, the Stormwater Manager, and other members of the Sustainability Team

The City has been running an ecotour for decades and will use that experience to expand on the previous program to include the education of the restoration project and its benefit to the Lagoon. Additionally, the project partners will lend their expertise with over 100 years of combined experience between them and City staff.

18. (untitled)

17. Section #3 - Applicant Capacity and Performance

Please provide examples of similar successful projects completed.

As mentioned previously, this project expands on the previously successful project of the same name. The SISLR pilot project was funded by the National estuary program and completed in 2021. SISLR Phase 2 employed the same staff and partners to ensure its success and will do so again with a few adjustments in this Phase 3. The main addition to the project comes with expanding the existing Recreation Department's eco-tour of Samsons Island to include the new restoration project and the original pilot project. The tour boat will be upgraded to be more accommodating of the tourists, visitors and the public officials and decision makers that will attend the eco-tour. The existing eco-tour is already successful and will easily be adjusted to accommodate the new information of the SISLR and related projects.

The project monitoring and data sheets that will be used and delivered to the Tourism Development Council is based on industry standards and project partner monitoring techniques and is easily repeatable and these methods are included in the SISLR Monitoring Plan 2022.

19. (untitled)

18. Section #3 - Applicant Capacity and Performance

Indicate capacity to complete the project and meet grant reporting requirements.

There is a 100% absolute assurance that all grant reporting will be completed by Satellite Beach city staff. Reports of the previously implemented Phase 1 and 2 can be used to confirm the capacity to meet the grant reporting requirements.

20. (untitled)

19. **Section #4 - Project Funding; Summary (A.) Leveraging with Matching Funds**

If project request is less than \$50,000, no match is required and there are no bonus points. There is a 5-point bonus for project requests less than \$50,000 if there is a match of more than 25%. There is a 10-point bonus for project requests less than \$50,000 if there is a match of more than 50%. If the project is over \$50,000 there must be a match. There is a 15-point bonus for project requests over \$50,000 if the match is 1:1. There is a 20-point bonus if the match is over 1.5:1.

Grant Request : \$49,839.00

Total Project Cost : \$129,926.00

Total Match : \$80,087.00

21. (untitled)

20.

ATTESTATION

I attest that I have full authority to execute this grant request and that all information in the grant application is true and correct. I further attest that I have read the guidelines and will comply with the requirements of the grant, if awarded.

A handwritten signature in black ink, appearing to read 'N. Sanzone', with a long horizontal flourish extending to the right.

Signature of: Nicholas F Sanzone

22. (untitled)

21. **SPECIAL MESSAGE:**

You have now completed all of the application questions. The next slide is the space for you to upload the required (6) attachments to complete the application package.

Please label each attachment with the correct attachment number.

If you are not able to upload the required (6) attachments you must upload (6) documents (as placeholders) to complete the application and there must be an explanation in the space below.

It is mandatory that all applications are completed online and the required (6) attachments are submitted by uploading with the application or delivered to the Tourist Development Office by 9am on Wednesday, June 22, 2022. No late arrivals will be accepted.

The below text box may also be used to communicate anything that you need to tell us about your application. To be clear, you do need to enter some text as a placeholder to move on.

6 attachments, no permits

we are including the current draft of the SISLR monitoring plan that is being reviewed for final edits. once finalized it will be used to monitor the project in phase 3.

23. (untitled)

22. Required Attachments:

Please label each with appropriate Attachment number.

Label as Attachment (1) - Indian River Lagoon Watershed Map

Label as Attachment (2) - Project Boundary Map

Label as Attachment (3) - Project Timeline with Milestones and Deadlines

Label as Attachment (4) - Detailed Budget Table

Label as Attachment (5) - Letter(s) of Commitment from Funding Partner(s) if you have a match

Label as Attachment (6) - Copies of Permits (if available) and/or Letter(s) of Approval to demonstrate 'shovel ready' status

[Attachemtn_ \(1\)_IRLWatershedMap_SISLR_Phase_3.docx](#)

[Attachment_ \(2\)_Project_Boundary_Map_SISLR_Phase_3.docx](#)

[Attachment_ \(3\)_Project Timeline, Milestones and Deadlines_SISLR_Phase_3.docx](#)

[Attachment_ \(4\)_DetailedBudgetTable_SISLR_Phase_3.docx](#)

[SISLRPhase3Letter.docx](#)

[UF_FINAL_SISLR_Phase_3_Letter_Of_Support.docx](#)

[SISLER_Phase_3_Hanisak_Letter_of_Support_20220621.pdf](#)

[CCA_Support_Letter_Satellite_Beach_062122.pdf](#)

[FOS_support_letter_SISLR_Phase3.pdf](#)

[City_of_Satellite_Beach_Samsons_Island_Submerged_Lands_Phase_2_Monitoring_Plan_with_edits_6.16.2022.docx](#)

24. Thank You!

New Send Email

Jun 21, 2022 21:16:39 Success: Email Sent to: Thank you for submitting your application for the Tourism + Lagoon Grant

program. Your application has been completed and received. It will be reviewed by TDO staff for completeness and within (1) business day a follow-up email will be sent to you confirming the receipt of application and required attachments.

Tourism + Lagoon Grant Program application 2022-2023

Response ID:21 Data

2. (untitled)

1. Section #1 - Applicant Information

What is the Project Title?

Titusville Causeway Multi-trophic Shoreline Stabilization and Resiliency Action Project, Phase 2c

3. (untitled)

2. Section #1 - Applicant Information

Contact Information

Organization Name

BREVARD COUNTY NATURAL RESOURCES MANAGEMENT

First Name

Carolina

Last Name

Alvarez

Job Title

Engineer II

Street Address

2725 JUDGE FRAN JAMIESON WAY.

Apt/Suite/Office

STE A-219

City

MELBOURE

State

Florida

Zip

32940

Country

Email Address

carolina.alvarez@brevardfl.gov

Phone Number

3216332016

Fax Number

Mobile Phone

3214080076

Website URL

<http://www.brevardfl.gov/>

Website URL

4. (untitled)

3. Section #1 - Applicant Information

Which best describes your organization....

Government

5. (untitled)

4. Section #1 - Applicant Information

Do you have Partners for the project that are contributing funds, in-kind donations or labors?

Yes

6. (untitled)

5. Section #1 - Applicant Information

List Partner Organizations, their roles with the project and match amount. If you have more than (3) Partners please email Deborah at Deborah.Webster@VisitSpaceCoast.com.

Partner Organization Name (A) : St Johns River Water Management District

Partner Role (A) : Funding, PM

Match Amount (A) : 800,000

Partner Organization Name (B) : FIND

Partner Role (B) : In-Kind

Match Amount (B) : 64,336

Partner Organization Name (C) : DEP Resilient FL
Partner Role (C) : funding
Match Amount (C) : 1,600,000

7. (untitled)

6. Section #2 - Project Specifics: (A.) Need and Urgency

What Indian River Lagoon (IRL) problem will the project address? Please clearly articulate the need for the project.

For decades the south eastern shoreline along the Titusville Causeway has been exposed to erosion. This has negatively impacted the Indian River Lagoon (IRL) in this area, including the recreational use of this public access to the lagoon. The eastern Titusville Causeway has experienced this erosion, and the current strategy for protection of this important shoreline is not sustainable nor effective. Efforts to protect the shoreline along the County Causeways, have commonly used concrete rubble along the shoreline. This strategy has not reduced sand erosion and ultimately results in an unsafe and unpleasant scenario for recreational use. The TDC awarded funding for a Feasibility Study and also for the permitting and design of this project. The placement of Wave Attenuation Devices (WADs) can feasibly prevent any more destabilization during typical rain events and especially during another devastating storm like Irma. The installation and construction of WADs to protect the southern shoreline is sustainable and in addition will help promote ecological and recreational uses of this sandy shoreline beach and preserve the causeway as a recreational destination. Greater appeal to tourists results in higher tourism revenue. Once constructed it is anticipated that shoreline stabilization will reduce erosion and increased seagrass restoration in the Indian River Lagoon which provides habitat for a variety of estuarine wildlife including recreationally and commercially important fish, invertebrates and birds.

8. (untitled)

7. Section #2 - Project Specifics: (A.) Need and Urgency

Where is the project location? Please identify the project location, articulate why the location was chosen and why this location will achieve success.

The project focus on the southeast shoreline of the Titusville Causeway. The shoreline erosion has caused habitat loss for many different species including sea grasses and horseshoe crabs. Not only has it caused disturbances to plant and animals but to the Public. This spot was a well utilized area for the public as a beach and also to view many NASA rocket launches. Now the shoreline is almost gone, vehicle access is very limited, and there is not beach, since it has been armored with rubble. This project will covert this shoreline to what it once was to be enjoyed by the public and creatures as well. Please refer to the Project Boundary Map for the project area. This is the final phase of the project. This funding will specifically cover the Wave Attenuation Devices construction portion of the project.

9. (untitled)

8. Section #2 - Project Specifics: (A.) Need and Urgency

Does the project enhance an important ongoing Tourism + Lagoon Grant Project

(not routine maintenance)?

Yes

10. (untitled)

9. Section #2 - Project Specifics: (B.) Project Alignment with Tourism + Lagoon Grant Program mission

Please demonstrate how the project will have a positive impact on Brevard County tourism and cite the methodology used to quantify the success of the project.

Recreational access, water sports destination will be improved for tourism. In the current condition, the shoreline at the project site is eroded or covered with concrete rubble. As is, it has limited recreational functions compared to historical conditions. The improvements this project will provide will benefit the Indian River Lagoon tourism, attractive shorelines along the Lagoon attract tourists that enjoy fishing, windsurfing, kayaking and other.

The project will be a model for implementation of sustainable technologies and resiliency, for other Causeways with similar erosion and destabilization issues. WADs have been noted to attract birds, enhancing opportunities for bird watching. The WADs will also protect the adjacent roadway, main access to the Space Center.

11. (untitled)

10. Section #2 - Project Specifics: (B.) Project Alignment with Tourism + Lagoon Grant Program mission

Please demonstrate how the project will benefit the health of the Indian River Lagoon and cite the methodology used to quantify the success of the project.

The sustainable technology of WADs and seagrass planting reduces erosion and sedimentation, and decreases the need for repetitive repairs and management of the shoreline. In addition, the project creates co-benefits in the health and resilience of the marine ecosystem.

The overall project intent is to drastically improve ecological functions provided to fish and wildlife through estuarine habitat restoration. The proposed arrangement of the WAD arrays will allow passage through approximately 6-meter gaps.

Furthermore, the project seeks to increase the percent cover of seagrass species through a seagrass restoration and maintenance plan. Although the WADs will occupy a very small footprint of IRL bottom, the overall phased project approach will increase desirable habitat for manatees through forage seagrasses and viable estuarine conditions. Also, horseshoe crab surveys in 2021, indicate that the project area provides critical spawning habitat. Horseshoe crabs desire sandy shorelines to spawn as part of their annual life cycle. WADs substantially reduce wave energy, are productive oyster habitat, provide fish habitat, promote seagrass habitat, and provide near-shore infrastructure protection for shorelines, roads, bridges, and causeways. Furthermore, the project seeks to increase the percent cover of seagrass species from current conditions through a seagrass restoration and maintenance plan. In addition to seagrass meadow restoration, the re-introduction of native clams throughout the seagrass beds will provide an increased biological function throughout the project area. An estimated one million 5 mm - 8mm in size hard clams (*Mercenaria* spp) are proposed to be dispersed to provide a multi-trophic level restoration plan, will provide water quality benefits, localized algae reduction, and nutrient cycling benefits.

12. (untitled)

11. **Section #2 - Project Specifics: (C.) Project Deliverables and Outcomes (Please provide examples)**

Please clearly describe the project deliverables - what will be provided at the completion of the project?

The project deliverables will consist on the fabrication and deployment of the Wave Attenuation devices on the seaward side of the South Eastern area of Titusville causeway. Photos during fabrication, during installation and after construction completion will be provided in a final construction report. Contractor invoices for the work will be provided.

13. (untitled)

12. **Section #2 - Project Specifics: (C.) Project Deliverables and Outcomes (Please provide examples)**

Describe what is being done, how, and by whom.

The County will be performing the contract procurement. Once a contractor has been selected and upon award of contract to a Contractor, the grant funds will be used to partially fund the County's costs to construct the project, which includes the removal of existing concrete riprap along the portions of the shoreline, and installation of Wave Attenuation Devices (WADs) parallel to the shoreline to provide a near shore breakwater reef and prevent future erosion/scouring. This project will impact up to 2000 linear feet of shoreline. Other parts of the project to be completed include the creation of a sandy beach, planting of mangroves, seagrasses and other native vegetation, planting of up to two million clams and monitoring. Other funding will cover the other components of the project, and the County has and continues to seek additional funding.

14. (untitled)

13. **Section #2 - Project Specifics: (D.) Project Readiness**

Will your project be 'shovel ready' by October 1, 2022?

Yes

15. (untitled)

14. **Section #2 - Project Specifics: (D.) Project Readiness**

Is the design complete?

Yes

16. (untitled)

15. **Section #2 - Project Specifics: (D.) Project Readiness**

Please list required permits and provide status. You will be required to upload copies of permits (if they are available) and/or approval letters at the end of the application. If project must go to bid, state when the bid documents will be complete.

Permits from the DEP and USACOE are under review and are expected to be approved before September 30th. Bid documents are considered 90% complete based on current condition of the plans and permit applications. If no substantial changes are requested by the permitting agencies, the County will be ready to advertise for construction before the end of the year. The County and its consultant had many meetings and discussions regarding the questions and requests by the permitting agencies. We are confident that after providing the reassurances the agencies requested regarding the benefits of the project and the positive impact to the lagoon and the ecosystem, we will obtain a permit authorizing the construction of the WADs.

17. (untitled)

16. **Section #3 - Applicant Capacity and Performance**

Clearly outline who the project team will be and their capability/expertise in implementing the successful completion of the project. NOTE: Letters of commitment from all funding partners must be submitted for Attachment #5.

The Project Team consists of our Consultant DRMP and their team of professional scientists, engineers, and surveyors, including, Sea and Shoreline, Living Shoreline Solutions and Dr. Ping Wang. In addition, DRMP is consulting with UF on the clam repatriation. The County's Natural Resources Management Department Engineer II, will oversee the bid documents, plans and construction of the WADs. The Environmental Specialist will oversee the work related to the sea grass plantings, clams and shoreline plantings. The Assistant County Attorney will review the bid documents and contract for the construction of the project. The Purchasing manager will oversee the procurement process. In addition, the project will be supported by FIND and the SJRWMD.

18. (untitled)

17. **Section #3 - Applicant Capacity and Performance**

Please provide examples of similar successful projects completed.

This project is the first in Brevard County, however, a similar project has been successful installed in 2018 at the E. G. Simmons Park in Ruskin, Florida. This park in Hillsborough County is a waterfront wildlife sanctuary & campground, and offers swimming, kayaking, boating and a beach.

19. (untitled)

18. **Section #3 - Applicant Capacity and Performance**

Indicate capacity to complete the project and meet grant reporting requirements.

The County has contracted DRMP for other projects that included final design plans and Technical Specifications for construction projects. In addition, DRMP has acquire Bussen-Meyer Group, and they have successfully completed many County projects related to water quality, wetland enhancement, species protection, etc. The County's project manager has also, completed successfully many projects with funding from different agencies such as FEMA, DEP, SJRWMD, DEM, CDBG, and Legislative Funding. All the above agencies have quarterly reporting requirements, and have stringent reimbursement guidelines.

20. (untitled)

19. Section #4 - Project Funding; Summary (A.) Leveraging with Matching Funds

If project request is less than \$50,000, no match is required and there are no bonus points. There is a 5-point bonus for project requests less than \$50,000 if there is a match of more than 25%. There is a 10-point bonus for project requests less than \$50,000 if there is a match of more than 50%. If the project is over \$50,000 there must be a match. There is a 15-point bonus for project requests over \$50,000 if the match is 1:1. There is a 20-point bonus if the match is over 1.5:1.

Grant Request : \$250,000

Total Project Cost : \$3,820,856

Total Match : \$250,000

21. (untitled)

20.

ATTESTATION

I attest that I have full authority to execute this grant request and that all information in the grant application is true and correct. I further attest that I have read the guidelines and will comply with the requirements of the grant, if awarded.



Signature of: Carolina Alvarez

22. (untitled)

21. **SPECIAL MESSAGE:**

You have now completed all of the application questions. The next slide is the space for you to upload the required (6) attachments to complete the application package.

Please label each attachment with the correct attachment number.

If you are not able to upload the required (6) attachments you must upload (6) documents (as placeholders) to complete the application and there must be an explanation in the space below.

It is mandatory that all applications are completed online and the required (6) attachments are submitted by uploading with the application or delivered to the Tourist Development Office by 9am on Wednesday, June 22, 2022. No late arrivals will be accepted.

The below text box may also be used to communicate anything that you need to tell us about your application. To be clear, you do need to enter some text as a placeholder to move on.

The funding request will compliment other funding already acquired for the project and it can help dampened the recent cost increases.

23. (untitled)

22. Required Attachments:

Please label each with appropriate Attachment number.

Label as Attachment (1) - Indian River Lagoon Watershed Map

Label as Attachment (2) - Project Boundary Map

Label as Attachment (3) - Project Timeline with Milestones and Deadlines

Label as Attachment (4) - Detailed Budget Table

Label as Attachment (5) - Letter(s) of Commitment from Funding Partner(s) if you have a match

Label as Attachment (6) - Copies of Permits (if available) and/or Letter(s) of Approval to demonstrate 'shovel ready' status

[Attachment_1_Indian_River_Lagoon_Watershed_Map.pdf](#)

[Attachment_2_Project_Boundary_Map.pdf](#)

[Attachment_6_-_permits.docx](#)

[Attachment__4__DetailedBudgetTableFINAL.pdf](#)

[Attachment_5_Letters_of_Support.pdf](#)

[Attachment_3_Project_Timeline.pdf](#)

24. Thank You!

New Send Email

Jun 21, 2022 20:01:06 Success: Email Sent to: Thank you for submitting your application for the Tourism + Lagoon Grant program. Your application has been completed and received. It will be reviewed by TDO staff for completeness and within (1) business day a follow-up email will be sent to you confirming the receipt of application and required attachments.

Tourism + Lagoon Grant Program application 2022-2023

Response ID:18 Data

2. (untitled)

1. Section #1 - Applicant Information

What is the Project Title?

The IRL Mural Project-Learning Through Art

3. (untitled)

2. Section #1 - Applicant Information

Contact Information

Organization Name

Town of Melbourne Beach

First Name

Elizabeth

Last Name

Mascaro

Job Title

Town Manager

Street Address

507 Ocean Ave

Apt/Suite/Office

none

City

Melbourne Beach

State

FL

Zip

32951

Country

Email Address

townmanager@melbournebeachfl.org

Phone Number

321-724-5860

Fax Number

Mobile Phone

4439285317

Website URL

www.melbournebeachfl.org

Website URL

4. (untitled)

3. Section #1 - Applicant Information

Which best describes your organization....

Government

5. (untitled)

4. Section #1 - Applicant Information

Do you have Partners for the project that are contributing funds, in-kind donations or labors?

No

6. (untitled)

Section #1 - Applicant Information

List Partner Organizations, their roles with the project and match amount. If you have more than (3) Partners please email Deborah at Deborah.Webster@VisitSpaceCoast.com.

7. (untitled)

5. Section #2 - Project Specifics: (A.) Need and Urgency

What Indian River Lagoon (IRL) problem will the project address? Please clearly articulate the need for the project.

The deterioration of habitat. The need to revive, restore, and repair the habitat for all the species who live in, on, under, and above the Indian River Lagoon. Through murals visitors will learn and see through the art, how beautiful the IRL is and how imperative a healthy lagoon is to sustainability of its life force.

8. (untitled)

6. Section #2 - Project Specifics: (A.) Need and Urgency

Where is the project location? Please identify the project location, articulate why the location was chosen and why this location will achieve success.

There will be several locations through out the 1 mile area of the Town of Melbourne Beach. 2 of the locations will be at Ryckman Park, a heavily visited area by tourists and residents alike. 3 locations will be in our business district located near shopping and restaurants and three blocks from the Ryckman Park location. 1 location will be at our boat ramp used by kayakers and paddleboarders. The final 3 locations will be at our beach crossovers along Highway A1A. The crossovers are used by tourist and residents to access the beach area. All of the locations mentioned are frequently used by folks from out of town. Our Ryckman Park location is frequently used for weddings by people who live outside of Brevard County.

9. (untitled)

7. Section #2 - Project Specifics: (A.) Need and Urgency

Does the project enhance an important ongoing Tourism + Lagoon Grant Project (not routine maintenance)?

No

10. (untitled)

8. Section #2 - Project Specifics: (B.) Project Alignment with Tourism + Lagoon Grant Program mission

Please demonstrate how the project will have a positive impact on Brevard County tourism and cite the methodology used to quantify the success of the project.

The Town will encourage the visitation of these sites using our 4 social media outlets and encourage residents to bring their out of town guests to find all of the murals. The Town will promote the mural sites, urging folks to take their pictures at the locations and post them to our town website and Face Book pages, using #IRLMurals, #LearningthroughArt, #visit MelbourneBeach, #Findthmall, #Lagoonhealth, #LagoonHabitat, #coolstuff.

The Town will encourage visitors to find all of the mural locations, post their selfies, come into Town Hall and receive an IRL Mural Project-Learning Through Art and Melbourne Beach gift. The Town will post pictures of the participants earning their prize

for finding all of the murals on our social media sites.

Our Environmental Advisory Board and our Parks Board will also participate with Town Hall Staff to promote and encourage participation in the Learning Through Art Mural Project. The Town has 4 social media sites and 1 website. The Town will also post the Mural Project to other social media pages that feature Melbourne Beach. The Town will ask permission from our local Bed and Breakfasts, to leave information about the contest as well as with our local business partners.

11. (untitled)

9. **Section #2 - Project Specifics: (B.) Project Alignment with Tourism + Lagoon Grant Program mission**

Please demonstrate how the project will benefit the health of the Indian River Lagoon and cite the methodology used to quantify the success of the project.

The Murals will bring awareness to the large numbers of fish, mammals, birds, turtles, reptiles, and plant life, many of whom are endangered, that depend on a healthy Indian River Lagoon to survive. By restoring the health of the lagoon, the inhabitants will not only survive but thrive. Everyone is responsible for being a good steward of the IRL, by not using single use plastics and fertilizer; not allowing balloons and fishing line to enter the lagoon; not pouring oil, pet waste, and grass clippings into our storm drains. The murals will educate the viewer on the health and challenges of the river, which will in turn, drive their behaviors to act responsibly and educate others.

The success of the project will be determined by the number of hits received on our social media sites and the number of mural selfies posted to our social media sites.

12. (untitled)

10. **Section #2 - Project Specifics: (C.) Project Deliverables and Outcomes (Please provide examples)**

Please clearly describe the project deliverables - what will be provided at the completion of the project?

10 unique, colorful, and educational murals, done by well know, local artists, scattered through out our 1 mile area, depicting the inhabitants of the Indian River Lagoon and what we stand to lose if the IRL is not healthy.

13. (untitled)

11. **Section #2 - Project Specifics: (C.) Project Deliverables and Outcomes (Please provide examples)**

Describe what is being done, how, and by whom.

10 murals will be painted by local artists, Chris Maslow, Michael Alexander, Lance Berhinger and others, depicting life that is dependent upon the health of the lagoon. A theme of the habitants survival depends on us being educated guardians of the lagoon.

Advertising the Mural Project will begin in January 2023 with the distribution of information to our local business partners, Bed and Breakfasts and social media sites. The completion of the murals should take place by February 28, 2023, allowing for the influx of Spring Breakers and vacationers from March to May to participate in the project. From May through August the Town receives many family vacationing in our area and in October the snowbirds arrive, all of whom will participate in this fun and educational project.

14. (untitled)

12. **Section #2 - Project Specifics: (D.) Project Readiness**

Will your project be 'shovel ready' by October 1, 2022?

Yes

15. (untitled)

13. **Section #2 - Project Specifics: (D.) Project Readiness**

Is the design complete?

Yes

16. (untitled)

14. **Section #2 - Project Specifics: (D.) Project Readiness**

Please list required permits and provide status. You will be required to upload copies of permits (if they are available) and/or approval letters at the end of the application. If project must go to bid, state when the bid documents will be complete.

No permits are required by the Town to paint the murals.
There is no bid requirement for the project.

17. (untitled)

15. **Section #3 - Applicant Capacity and Performance**

Clearly outline who the project team will be and their capability/expertise in implementing the successful completion of the project. NOTE: Letters of commitment from all funding partners must be submitted for Attachment #5.

There are no funding partners.
The Team will consist of the Town Manager, Mayor, Vice Mayor, Commissioners (3), Public Works Director, Building Official,

Finance Manager and Board members. There are 3 well know local artists who have agreed to paint murals-Christopher Maslow, Michael Alexander and Lance Behringer. Several other excellent but lesser known artists have also agreed to paint murals.
Christopher Maslow has agreed to coordinate the artists and their work into a cohesive, unique, learning experience.

18. (untitled)

16. **Section #3 - Applicant Capacity and Performance**

Please provide examples of similar successful projects completed.

The Town hasn't completed an art project in the past but does put on several festivals each year which have deadlines, multiple moving pieces, requires the coordinated of staff, art and food vendors, musicians, police and fire and advanced advertising.

19. (untitled)

17. **Section #3 - Applicant Capacity and Performance**

Indicate capacity to complete the project and meet grant reporting requirements.

The Town is 100% capable of meeting the project reporting requirements, deadlines, advertising and promotions.

20. (untitled)

18. **Section #4 - Project Funding; Summary (A.) Leveraging with Matching Funds**

If project request is less than \$50,000, no match is required and there are no bonus points. There is a 5-point bonus for project requests less than \$50,000 if there is a match of more than 25%. There is a 10-point bonus for project requests less than \$50,000 if there is a match of more than 50%. If the project is over \$50,000 there must be a match. There is a 15-point bonus for project requests over \$50,000 if the match is 1:1. There is a 20-point bonus if the match is over 1.5:1.

Grant Request : \$49,000.00

Total Project Cost : \$49,000.00

Total Match : \$0.00

21. (untitled)

19.

ATTESTATION

I attest that I have full authority to execute this grant request and that all information in the grant application is true and correct. I further attest that I have read the guidelines and will comply with the requirements of the grant, if awarded.



Signature of: Elizabeth Mascaro

22. (untitled)

20. **SPECIAL MESSAGE:**

You have now completed all of the application questions. The next slide is the space for you to upload the required (6) attachments to complete the application package.

Please label each attachment with the correct attachment number.

If you are not able to upload the required (6) attachments you must upload (6) documents (as placeholders) to complete the application and there must be an explanation in the space below.

It is mandatory that all applications are completed online and the required (6) attachments are submitted by uploading with the application or delivered to the Tourist Development Office by 9am on Wednesday, June 22, 2022. No late arrivals will be accepted.

The below text box may also be used to communicate anything that you need to tell us about your application. To be clear, you do need to enter some text as a placeholder to move on.

23. (untitled)

21. **Required Attachments:**

Please label each with appropriate Attachment number.

Label as Attachment (1) - Indian River Lagoon Watershed Map

Label as Attachment (2) - Project Boundary Map

Label as Attachment (3) - Project Timeline with Milestones and Deadlines

Label as Attachment (4) - Detailed Budget Table

Label as Attachment (5) - Letter(s) of Commitment from Funding Partner(s) if you have a match

Label as Attachment (6) - Copies of Permits (if available) and/or Letter(s) of Approval to demonstrate 'shovel ready' status

Attachments.pdf

24. Thank You!

New Send Email

Jun 22, 2022 06:48:30 Success: Email Sent to: Thank you for submitting your application for the Tourism + Lagoon Grant program. Your application has been completed and received. It will be reviewed by TDO staff for completeness and within (1) business day a follow-up email will be sent to you confirming the receipt of application and required attachments.

Tourism + Lagoon Grant Program application 2022-2023

Response ID:24 Data

2. (untitled)

1. Section #1 - Applicant Information

What is the Project Title?

Cocoa Beach Pool Pavilion Kayak Launch

3. (untitled)

2. Section #1 - Applicant Information

Contact Information

Organization Name

City of Cocoa Beach

First Name

Kelsey

Last Name

Mack

Job Title

Environmental Specialist

Street Address

1600 Minutemen Cswy

Apt/Suite/Office

office

City

Cocoa Beach

State

FL

Zip

32932

Country

Email Address

kelsey.mack@cityofcocoa beach.com

Phone Number

3218683341

Fax Number

Mobile Phone

3217043838

Website URL

www.cityofcocoabeach.com

Website URL

4. (untitled)

3. Section #1 - Applicant Information

Which best describes your organization....

Government

5. (untitled)

4. Section #1 - Applicant Information

Do you have Partners for the project that are contributing funds, in-kind donations or labors?

Yes

6. (untitled)

5. Section #1 - Applicant Information

List Partner Organizations, their roles with the project and match amount. If you have more than (3) Partners please email Deborah at **Deborah.Webster@VisitSpaceCoast.com**.

Partner Organization Name (A) : Florida Inland Navigation District

Partner Role (A) : Funding Partner - applied, not yet received

Match Amount (A) : \$47,900

Partner Organization Name (B) : City of Cocoa Beach

Partner Role (B) : Funding Partner

Match Amount (B) : \$15,000

7. (untitled)

6. **Section #2 - Project Specifics: (A.) Need and Urgency**

What Indian River Lagoon (IRL) problem will the project address? Please clearly articulate the need for the project.

This project addresses waterway destinations and access. The proposed project will address shoreline erosion and stormwater runoff concerns along the kayak launch area and upgrade the kayak launch docks at the pool pavilion. The current kayak loading/unloading area is experiencing erosion due to the unstable shoreline area. The unloading area will be improved through low impact stabilization means to correct erosion and mitigate stormwater runoff impacts to the lagoon from the parking area with the use of swales. The kayak docks will be upgraded from steep sloped entry points to elevated launch areas to mitigate future erosion along the shoreline and to improve safety for visitors using the area.

8. (untitled)

7. **Section #2 - Project Specifics: (A.) Need and Urgency**

Where is the project location? Please identify the project location, articulate why the location was chosen and why this location will achieve success.

The project is located at the Cocoa Beach Country Club Recreation Complex. This is a public facility with a golf course, tennis courts, city pool, restroom facilities, ample parking and kayak launches. The kayak/canoe/SUP launches at this facility are heavily used by the general public and local kayak tour companies as a main access point to the Thousand Island Conservation area managed by the Brevard County EELs program. The Thousand Islands Conservation Area is valued as a popular tourist destination for its many kayak trails that wind through mangrove tunnels and also for its bioluminescence experiences in the summer.

9. (untitled)

8. **Section #2 - Project Specifics: (A.) Need and Urgency**

Does the project enhance an important ongoing Tourism + Lagoon Grant Project (not routine maintenance)?

No

10. (untitled)

9. **Section #2 - Project Specifics: (B.) Project Alignment with Tourism + Lagoon Grant Program mission**

Please demonstrate how the project will have a positive impact on Brevard

County tourism and cite the methodology used to quantify the success of the project.

Six local kayak tour companies have agreements with the City to launch tours from this site, allowing hundreds of tourist to access the lagoon each year. Many of these companies have expressed concerns to the City regarding the erosion and steep slopes on site and have suggested improvements be made. Making improvements to this area will create a more inviting experience for tourists and visitors who come to this area for kayaking tours through the Thousand Islands. The current launch areas are steep and many kayakers have difficulties getting seated safely in their kayaks. The proposed kayak docks will be equipped with handrails and launch slips that will improve safety and comfort of access for visitors.

11. (untitled)

10. Section #2 - Project Specifics: (B.) Project Alignment with Tourism + Lagoon Grant Program mission

Please demonstrate how the project will benefit the health of the Indian River Lagoon and cite the methodology used to quantify the success of the project.

This project will contribute to improving health of the Indian River lagoon by correcting shoreline erosion and reducing stormwater runoff from this area. Correcting the erosion concerns will prevent excess sediment from entering the lagoon and causing turbidity concerns. Reducing stormwater runoff from the area will aid in preventing future erosion, and will also prevent excess TN and TP from entering the lagoon. The City will utilize the SORIL plan calculation guidelines to estimate TN and TP removal upon completion of the project. Kayaking through the BRL and Thousand Islands Conservation area gives visitors opportunities to learn about the issues affecting the lagoon and what they can do to help protect the lagoon, raising awareness for these issues. Improving kayak access will allow visitors to continue learning about our lagoon for many years to come.

12. (untitled)

11. Section #2 - Project Specifics: (C.) Project Deliverables and Outcomes (Please provide examples)

Please clearly describe the project deliverables - what will be provided at the completion of the project?

Project deliverables will include (1) stabilized kayak loading/unloading area using low impact development methods, (2) swale to collect stormwater runoff that is believed to be contributing to shoreline erosion, and (3) improvements to three kayak launch areas, which will add a total of seven kayak launch slips to the site.

13. (untitled)

12. Section #2 - Project Specifics: (C.) Project Deliverables and Outcomes (Please provide examples)

Describe what is being done, how, and by whom.

The City will utilize our existing continuing services contracts with Bowmen Engineering and Waterfront Solutions to complete the project. Stabilization and swale portions of the project will be completed by Bowmen Engineering and Waterfront Solutions will complete the kayak dock portion of the project. Permitting for in water work will be completed by Waterfront Solutions. Upland work permitting will be completed by Bowmen Engineering. The City will manage the project.

14. (untitled)

13. Section #2 - Project Specifics: (D.) Project Readiness

Will your project be 'shovel ready' by October 1, 2022?

Yes

15. (untitled)

14. Section #2 - Project Specifics: (D.) Project Readiness

Is the design complete?

No

16. (untitled)

15. Section #2 - Project Specifics: (D.) Project Readiness

Please list required permits and provide status. You will be required to upload copies of permits (if they are available) and/or approval letters at the end of the application. If project must go to bid, state when the bid documents will be complete.

Upland work including stabilization and swales will require a City of Cocoa Beach permit. Bowmen Engineering will obtain the City permit for this project. FDEP, USACOE, and City permits or exemptions will be required for all in water work. Waterfront Solutions will handle all permitting for the kayak launch docks.

17. (untitled)

16. Section #3 - Applicant Capacity and Performance

Clearly outline who the project team will be and their capability/expertise in implementing the successful completion of the project. NOTE: Letters of commitment from all funding partners must be submitted for Attachment #5.

The project team will consist of the City Engineer and the City Environmental Specialist. Both have experience managing projects related to waterway access, stormwater improvements, and reducing pollutant loads to the lagoon.

18. (untitled)

17. Section #3 - Applicant Capacity and Performance

Please provide examples of similar successful projects completed.

The City has completed many stormwater low impact development projects to reduce erosion and pollutant loads to the lagoon including Convair Cover and Minutemen Streetscape projects. The City has also completed many waterway access projects including upgrades including installation of a dock with kayak landing at McNabb Park and Improvements to the boat ramp and kayak launches at Ramp Road Park.

19. (untitled)

18. Section #3 - Applicant Capacity and Performance

Indicate capacity to complete the project and meet grant reporting requirements.

City staff are capable of completing all required project and grant reporting requirements. The project management team has experience managing grant funded projects and providing required reporting documents.

20. (untitled)

19. Section #4 - Project Funding; Summary (A.) Leveraging with Matching Funds

If project request is less than \$50,000, no match is required and there are no bonus points. There is a 5-point bonus for project requests less than \$50,000 if there is a match of more than 25%. There is a 10-point bonus for project requests less than \$50,000 if there is a match of more than 50%. If the project is over \$50,000 there must be a match. There is a 15-point bonus for project requests over \$50,000 if the match is 1:1. There is a 20-point bonus if the match is over 1.5:1.

Grant Request : \$82,900
Total Project Cost : \$145,800
Total Match : \$62,900

21. (untitled)

20.

ATTESTATION

I attest that I have full authority to execute this grant request and that all information in the grant application is true and correct. I further attest that I have read the guidelines and will comply with the requirements of the grant, if awarded.



Signature of: Kelsey Mack

22. (untitled)

21. **SPECIAL MESSAGE:**

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Please label each attachment with the correct attachment number.

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The City has applied for additional funding for this project through the Florida Inland Navigation District. Funding awards for this grant opportunity will be announced on July 15th. Should the City be awarded funding through FIND, staff will send a letter of commitment (attachment 5) from this funding partner to TDC staff. The City has included this item in its FY23 budget.

23. (untitled)

22. Required Attachments:

Please label each with appropriate Attachment number.

Label as Attachment (1) - Indian River Lagoon Watershed Map

Label as Attachment (2) - Project Boundary Map

Label as Attachment (3) - Project Timeline with Milestones and Deadlines

Label as Attachment (4) - Detailed Budget Table

Label as Attachment (5) - Letter(s) of Commitment from Funding Partner(s) if you have a match

Label as Attachment (6) - Copies of Permits (if available) and/or Letter(s) of Approval to demonstrate 'shovel ready' status

[Attachment_1.pdf](#)

[Attachment_2.pdf](#)

[Attachment_3.pdf](#)

[Attachment_4.pdf](#)

[Attachment_5.pdf](#)

[Attachment_6.pdf](#)

24. Thank You!

New Send Email

Jun 22, 2022 07:01:49 Success: Email Sent to: Thank you for submitting your application for the Tourism + Lagoon Grant program. Your application has been completed and received. It will be reviewed by TDO staff for completeness and within (1) business day a follow-up email will be sent to you confirming the receipt of application and required attachments.

Tourism + Lagoon Grant Program application 2022-2023

Response ID:25 Data

2. (untitled)

1. Section #1 - Applicant Information

What is the Project Title?

Shuck & Share: Shell Recycling for Brevard County Oyster Restoration

3. (untitled)

2. Section #1 - Applicant Information

Contact Information

Organization Name

Brevard Zoo (East Coast Zoological Society of Florida Inc.)

First Name

Olivia

Last Name

Escandell

Job Title

Conservation Manager

Street Address

8225 N. Wickham Rd.

Apt/Suite/Office

City

Melbourne

State

FL

Zip

32940

Country

Email Address

oescandell@brevardzoo.org

Phone Number

(321) 254-9453 ext. 431

Fax Number

Mobile Phone

(321) 507-2050

Website URL

restoreourshores.org

Website URL

4. (untitled)

3. **Section #1 - Applicant Information**

Which best describes your organization....

Non-Profit

5. (untitled)

4. **Section #1 - Applicant Information**

Do you have Partners for the project that are contributing funds, in-kind donations or labors?

Yes

6. (untitled)

5. **Section #1 - Applicant Information**

List Partner Organizations, their roles with the project and match amount. If you have more than (3) Partners please email Deborah at Deborah.Webster@VisitSpaceCoast.com.

Partner Organization Name (A) : Brevard Zoo

Partner Role (A) : project oversight, volunteer coordination, provide fuel and boat

Match Amount (A) : \$181,380

7. (untitled)

6. Section #2 - Project Specifics: (A.) Need and Urgency

What Indian River Lagoon (IRL) problem will the project address? Please clearly articulate the need for the project.

The Indian River Lagoon (IRL) was once home to a robust population of eastern oyster, *Crassostrea virginica*, supporting a large oyster fishery in Brevard County for over a century. Unfortunately, Brevard has suffered from a loss of oyster habitat due to overharvesting and reduced water quality in the IRL. Oysters, in combination with mangroves and salt marsh plants, create living shorelines, providing coastal resiliency in the lagoon by dissipating wave energy and trapping sediments. Living shorelines also protect the coastline from erosion and storm surge flooding. Intact natural coastal habitats show less damage following severe storm events than man-made hardened shoreline structures like seawalls, which dominate most lagoon-front properties. In addition to oyster habitat loss, the IRL is plagued by frequent algae blooms and fish kills as the result of decades of nutrient loading from increasing populations within the IRL basin. Oysters help to mediate nutrient loading and eutrophication by filter-feeding algae and increasing microbial denitrification rates in the sediment beneath oyster beds. Oyster beds restored in Mosquito Lagoon through a partnership between University of Central Florida and Brevard Zoo were successful in removing significant amounts of nitrogen and phosphorus from the water column, through assimilation into new oyster growth, denitrification, and sequestration into oyster bed sediment (Gallagher 2017). The IRL has also suffered a dramatic loss in seagrass over the last decade, losing ~58% of seagrass in the Banana River, North IRL, and Central IRL systems between 2011 and 2019 (Morris et al. 2022). This massive loss in seagrass has decreased critical habitat and food availability for many IRL species, including the West Indian manatee. In 2021, the U.S. Fish and Wildlife Service declared an Unusual Mortality Event for IRL manatees and preliminary investigations cite a decrease in seagrass food sources as the most likely cause (FWC 2021). As filter feeding bivalves, oysters remove suspended particles in the water column increasing light penetration which benefits the growth of submerged aquatic vegetation, including seagrass. Oyster reefs also stabilize sediment on their shoreward side, allowing for increased seagrass recruitment and growth. Living shoreline and oyster restoration has the potential to address a number of IRL problems because of the many ecosystem benefits oysters provide.

Shuck & Share began in 2014 as Marine Discovery Center in New Smyrna Beach, FL coordinated the recycling of oyster shell in Volusia County for use in Indian River Lagoon restoration projects. Since then, Shuck & Share has expanded to other counties in Florida, as various oyster restoration programs along Florida's coasts joined the effort to divert oyster shells from the landfill and back into our estuaries.

Brevard Zoo's Restore Our Shores program (ROS), has been involved in oyster and living shoreline restoration in the Indian River Lagoon since 2009 and has been a partner of MDC's Shuck & Share project since 2014. Since 2014, Brevard Zoo has recycled 5.6 million pounds of shell from local restaurants, an oyster shucking house, and various other vendors and festivals. This recycled shell has been used to support various oyster restoration projects in the Indian River Lagoon, including Brevard Zoo's Oyster Gardening project and the construction of over 60 oyster reefs in partnership with Brevard County Natural Resources Management Department. From 2014-2018, ROS utilized a third-party commercial waste service to pick up shells from restaurants and move them to a shell site managed by the Zoo. To remove the cost burden of the waste service from restaurants and to increase the number of participating partners, ROS received Tourism + Lagoon grant funding from the Tourism Development Council in 2018 to take on shell recycling in house and again in 2019 and 2021 to purchase a truck for oyster shell pickups and expand to new restaurants. Over the last four years, Shuck & Share has gone from recycling from only one partner in Brevard to 24 and has expanded the shell pickup route to serve restaurants along the entire length of the county. Since August 2018, Brevard Zoo has collected 1 million pounds of shell from these restaurants with the help of Tourism + Lagoon grant funding.

To accomplish oyster restoration in the IRL, a significant amount of recycled oyster shell is needed as project material. Twenty linear miles of oyster restoration is planned for Brevard County as part of the Save Our Indian River Lagoon Project Plan. This plan was passed in November 2016 by Brevard County voters and project construction funded through a half-cent sales tax. These planned oyster restoration projects will require a minimum of 16.7 million pounds of oyster shells over 10 years as shell substrate is the most widely used fundamental material for oyster restoration. Shortage of shell for oyster restoration projects is an issue nationwide as shell disposed of from restaurants most often ends up in the landfill, diverted for use in filling roads, or ground to supplement poultry diets. To meet the demand restoration projects have for shell, many states, counties, and NGOs in the Southeastern US operate robust shell recycling programs. Currently, Brevard Zoo's Restore Our Shores program is the only organization collecting oyster shell from area restaurants and seafood vendors in Brevard County.

The Brevard Zoo requests \$113,840 for Shuck & Share to expand the project to a total of 30 recycling partners, increase reef building efficiency, and expand restaurant marketing and visitor engagement. This funding will support the direct costs of shell collection labor, shell collection materials, shell transport fees from facilities with high shell production, a skid-steer and trailer to move shell and materials to restoration sites, and marketing and event materials for restaurants and visitor engagement. The Shuck & Share project does not fall within the regular operating budget of the Zoo and as such, funding is needed to continue shell pickups from participating restaurants and to expand shell recycling to additional Brevard County and Central Florida area restaurants. A skid-steer and trailer would also benefit the program as the Zoo has incurred heavy costs to rent construction equipment on a regular basis for shell site maintenance and oyster reef building, spending about \$25,000 since 2018. This equipment is necessary to organize shell at the shell quarantine site and transport heavy construction materials to and from project sites along the lagoon. Brevard Zoo Conservation Equipment rental fees have increased over the last year as have labor and raw material costs, but reimbursement for installing oyster projects from Brevard County Natural Resources has remained the same. The Zoo has been testing non-plastic oyster restoration materials with success, but these materials can cost 10 to 15 times more than plastic oyster bag mesh. After monitoring an oyster project installed by the Zoo in Melbourne Beach, University of Central Florida found plastic-free galvanized steel wire oyster gabions to have recruited almost 3 times as many oysters as traditionally used plastic oyster bags in just one year (Walters et al. 2022). Cutting the cost of equipment rentals would allow room in the budget for the Zoo to construct more oyster projects with non-plastic and better performing materials. For the Zoo's needs, a new skid-steer would last at least 15-20 years and will give the Zoo capacity to transport restoration materials to reduce reef construction costs and increase reef building efficiency for many years to come.

8. (untitled)

7. **Section #2 - Project Specifics: (A.) Need and Urgency**

Where is the project location? Please identify the project location, articulate why the location was chosen and why this location will achieve success.

Shuck & Share is run out of the Restore Our Shores program office at Brevard Zoo in Melbourne, FL. The Brevard Zoo provides storage space for materials and equipment, administrative support, and staff and volunteers for project completion. The Brevard Zoo is also centrally located in the county off major highway I-95 so that most restaurants and lagoon restoration sites are no more than 50 miles away.

Brevard County provides an ideal location for an oyster shell recycling program as the local seafood tradition has fostered over 30 restaurants who serve oysters on the half shell. Seasonal tourism to the Space Coast and area beaches increases shell production as visitors are attracted to local seafood restaurants. In peak season (November – April), some area restaurants are capable of producing over 1,600 lbs of shell in a single week. Participating restaurant and vendor locations include River Rocks (Rockledge), Bonefish Willy's (Melbourne), Southeastern Seaproducts Inc. (Melbourne), Pineapple's (Melbourne), Chart House (Melbourne), Grant Seafood Festival (Grant), Djon's Steak and Lobster House (Melbourne Beach), Djon's Village Market (Melbourne Beach), Sand on the Beach (Melbourne Beach), Islands Fish Grill (Indialantic), Beachside Seafood (Indialantic), Bunky's Raw Bar & Grill (Indialantic), East Coast Shuckers (Indian Harbor Beach), Sun on the Beach (Satellite Beach), Fat Snook (Cocoa Beach), Jazzy's Mainely Lobster (Cocoa Beach), Captain J's Seafood (Cocoa Beach), Sunset Waterfront Grill (Cocoa Beach), Molly's Seafood Shack (Merritt Island), Seafood Atlantic Inc (Cape Canaveral), Fishlips Waterfront Bar & Grill (Cape Canaveral), Rusty's Seafood and Oyster Bar (Cape Canaveral), Dixie Crossroads (Titusville), and Victorio's Oyster Bar (Titusville). Recruitment of new restaurants is ongoing and the total list of participating partners is expected to expand.

All collected shell will be used in lagoon restoration projects within the Brevard County portion of the Indian River Lagoon. Oyster project installations planned during the 2022-2023 grant cycle include properties in Merritt Island, Melbourne, Indialantic, and Palm Bay.

9. (untitled)

8. **Section #2 - Project Specifics: (A.) Need and Urgency**

Does the project enhance an important ongoing Tourism + Lagoon Grant Project (not routine maintenance)?

Yes

10. (untitled)

9. Section #2 - Project Specifics: (B.) Project Alignment with Tourism + Lagoon Grant Program mission

Please demonstrate how the project will have a positive impact on Brevard County tourism and cite the methodology used to quantify the success of the project.

This project will have a positive impact of Brevard County tourism by marketing local restaurants, providing the opportunity for visitors to engage in lagoon education and restoration, and creating fish and wildlife habitat that is attractive visitors.

Shuck & Share targets seafood restaurants throughout Brevard, some of the most popular tourist destinations in the county as visitors seek the local seafood tradition and often waterfront views. Shell recycling provides a unique opportunity for restaurants to increase business by touting their "green business" practice and demonstrating their commitment to sustainability and the lagoon. Today more than ever, consumers and tourists are attracted to businesses who put forth environmentally conscious efforts such as shell recycling. Part of grant funding will be used to develop and expand Shuck & Share marketing materials that can be used by restaurants to share with patrons their involvement in this lagoon restoration project. Currently participating restaurants have reported consumer excitement over the project, especially when advertised through provided materials such as coasters, table tents, posters, and more. Materials distributed to participating restaurants outside of Brevard County also offer the opportunity to attract tourists to visit Brevard County through Space Coast and lagoon imaging. Shell recycling partner restaurants are also advertised and marketed on the Shuck & Share and Zoo's Restore Our Shores websites to attract consumers. Shuck & Share will also market restaurant partners and engage visitors through a minimum of 15 restaurant pop-up events. These events will give visitors an opportunity to learn more about the lagoon and restoration projects, like shell recycling. These events will be shared to our volunteer base and in the Zoo's Restore Our Shores newsletter.

Additionally, recycled shells used in lagoon restoration projects will contribute to the creation of habitat which attract recreationally valuable fish, including sheepshead, red fish, snapper, snook, seatrout, bonefish, and blue crabs (Loch et al 2021). Florida is known as the fishing capital of the world, bringing thousands of anglers to Brevard County each year to fish the IRL. Healthy restored oyster reefs engineer ecosystems with the potential to enhance fish habitat for the enjoyment of these fishing tourists. Oyster reefs also provide wading and foraging habitat for various bird species, which can be attractive to tourists visiting the Space Coast to enjoy outdoor activities including birding, kayaking, and ecotours.

Shuck & Share's benefit to tourism is dependent on the number of restaurants involved in the project, the number of pop-up events hosted, and the amount of shell collected to create habitat. If the average family-sized restaurant serves 200 customers a day, the 30 potential Shuck & Share partners can reach over 2.1 million people annually, many of which are likely Brevard County visitors. Additionally, benefits to tourism can be quantified by the impact collected shells can have on the fishing and ecotourism industry in Brevard, given the shell use in lagoon restoration. Healthy, restored lagoon habitats, such as oyster reefs, will have a positive impact on tourism economics in Brevard. Please see the following section for the methodology used to quantify oyster restoration benefits to lagoon health by shell volume.

11. (untitled)

10. Section #2 - Project Specifics: (B.) Project Alignment with Tourism + Lagoon

Grant Program mission

Please demonstrate how the project will benefit the health of the Indian River Lagoon and cite the methodology used to quantify the success of the project.

This project will have a positive impact on the Indian River Lagoon by providing the most fundamental material for oyster restoration in the lagoon, oyster shells. Oysters provide numerous ecosystem services, including shoreline stabilization, water filtration, denitrification, and habitat creation. Current Brevard Zoo oyster restoration projects are built parallel to lagoon shorelines as breakwater structures, dissipating wave action and accreting sediment shoreward. Living shorelines that include oyster structures help to protect against erosion and loss of sandy and vegetated shorelines, essential transitional habitats for species such as horseshoe crabs (*Limulus polyphemus*) and Florida east coast diamondback terrapins (*Malaclemys terrapin tequesta*). Restoration projects will also bolster the population of oysters and their filtration capacity of the IRL basin, as oyster shells provide the essential settlement substrate for juvenile oysters and a single adult oyster can filter 20-30 gallons of water in a day. Restored oyster beds also remove excess nutrients such as nitrogen and phosphorus from the water column, preventing these nutrients from fueling algae blooms and fish kills in the lagoon (Gallagher 2017). Average nitrogen removal rates for oysters were used to calculate their benefit to the lagoon by Brevard County in the preparation of the Save Our Indian River Lagoon Project Plan. These rates estimate 500 square feet of oyster habitat to remove 17 pounds of nitrogen from the lagoon per year (Brevard County 2016). Finally, oyster reefs provide crucial habitat for over 149 species in the lagoon (Barber et al. 2010). Restore Our Shore's projects help to restore this critical oyster reef habitat, which has been all but lost in the Brevard portion of the IRL.

The benefit the Shuck & Share project will have to the lagoon is dependent on how much shell is collected for restoration projects. Zoo staff and volunteers collecting oyster shells record the amount of shell collected by each individual restaurant and shucking house during weekly pickups. Shell is quantified in pounds, one full 5-gallon bucket of shell weighs ~30 lbs and one full 64-gallon rolling trash bin weighs ~390 lbs. 14,000 pounds of oyster shell is needed to restore 500 square feet of oyster reef, based on current restoration methods used by the Zoo. The Zoo has collected about 600,000 pounds of oyster shell over the past year which has the capacity to create 21,400 square feet of oyster reef. This habitat could support 200,000 or more live oysters (100 oysters/m²), filtering about 6,000,000 gallons of water per day and removing 728 pounds of nitrogen from the lagoon per year.

12. (untitled)

11. **Section #2 - Project Specifics: (C.) Project Deliverables and Outcomes (Please provide examples)**

Please clearly describe the project deliverables - what will be provided at the completion of the project?

Brevard Zoo shall submit status reports quarterly until project completion.

Brevard Zoo shall coordinate the collection and quarantine of oyster shell from a minimum of 30 total restaurants and seafood vendors to be used in lagoon restoration projects.

Brevard Zoo shall coordinate the construction of a minimum of 1,400 oyster gabions with volunteers to be used in lagoon restoration projects.

Brevard Zoo shall coordinate and host a minimum of 15 Shuck & Share pop-up events at partner restaurants to promote shell recycling and the Indian River Lagoon to guests.

Brevard Zoo shall design and oversee printing of 3,000 pieces of Shuck & Share marketing materials to be distributed to participating restaurants.

Brevard Zoo shall submit a final report upon completion of the project, to include project photographs, summary of restaurants and seafood vendors involved in project, summary of restaurant pop-up events, total pounds of oyster shell collected and quarantined, and summary of lagoon oyster restoration projects completed using collected shell.

13. (untitled)

12. **Section #2 - Project Specifics: (C.) Project Deliverables and Outcomes (Please provide examples)**

Describe what is being done, how, and by whom.

Restaurants in Brevard County and Central Florida who serve oysters and currently do not participate in Shuck & Share will be contacted by the Brevard Zoo Conservation Manager to facilitate their joining the project. Based on restaurant interest and estimates of shell production per restaurant, Zoo staff will assign all the necessary equipment to perform shell recycling. Brevard Zoo has already procured some shell collection materials to be used by restaurants through previous grants, however additional bins may be needed to expand to new restaurants.

Existing Shuck & Share restaurant marketing materials designed by the Brevard Zoo Conservation Manager and Marketing department staff will be reprinted to distributed to all participating and new restaurants. Coasters, stickers, pens, posters, table tents, and napkin holder inserts may be included in the reprint. Marketing materials have been well received by restaurants and their patrons over the years and have also helped to incentivize restaurants as shell recycling is done in good faith at a cost to restaurants (space for collection bins and staff time to separate shells into bins). Designs will include messaging about shell recycling and Indian River Lagoon restoration in addition to the Brevard Zoo and the Florida's Space Coast Office of Tourism #LagoonLife logos. Material designs will be sent to a third-party printing service for production.

The Conservation Manager will coordinate and meet with management and staff of new restaurants to deliver collection bins. Restaurant staff will be trained on proper recycling procedures, including the importance of keeping trash out of collection bins, and educated on the lagoon conservation efforts shell recycling will contribute to. Printed marketing materials will be distributed to restaurants upon the establishment of partnerships as well. The Manager will continue to stay in contact with new restaurants to schedule weekly shell pickups and facilitate the partnership. The Manager will also continue to foster the partnerships established with the 24 vendors currently recycling shells and coordinate additional recycling of oyster shells from community members, local festivals, and smaller seafood vendors and caterers.

The Brevard Zoo Conservation Manager will coordinate with restaurant partners to host a minimum of 15 "Shuck & Share Pop-up" events over the course of the grant cycle, visiting about 1-2 restaurants monthly. The Conservation Manager will schedule events with partners and the Brevard Zoo Conservation Outreach Coordinator and other Conservation Staff will host these events onsite at restaurants for about 2-4 hours. Conservation Staff will promote the restaurants participation in shell recycling, educate visitors on the Indian River Lagoon and Brevard Zoo, and promote volunteer opportunities in lagoon restoration. These events will be marketed to attract customers to partner restaurants and engage both visitors and residents in the Shuck & Share project.

The Brevard Zoo Conservation staff, interns, and volunteers will visit all currently participating and newly recruited restaurants weekly to pick up shells using the truck and lift-gate purchased by the Zoo with Tourism + Lagoon Grant funding in 2019. 5-gallon shell buckets will be emptied into larger collection bins on the truck and returned to restaurants, while rolling trash bins will be loaded to the truck and replaced with an empty, clean collection bin for the restaurant to fill over the next week. Shells will be driven to and dumped at the Zoo's shell storage site. To collect shell from restaurants and seafood vendors producing an extremely large volume of shell, the Zoo will coordinate a third-party dumpster service to transport shell to the shell storage site to maximize space on the truck for additional restaurants participation. Oyster shell must cure for a minimum of 90 days before use in restoration so that all organic matter is removed from shells prior to introducing them into the lagoon. Oysters sold in restaurants are not harvested from the IRL, most coming from Texas or Virginia, so precautions such as quarantine time should be taken to avoid the potential to introduce foreign disease and nonnative species to local oyster populations.

After the proper 90-day quarantine time, shell will be available for use in lagoon restoration projects. The Brevard Zoo Conservation Manager will coordinate community volunteer events to construct oyster gabions out of galvanized steel wire mesh. These events will promoted on the Brevard Zoo's Restore Our Shores website and various social media channels. Volunteers will use metal shears to cut metal pieces to size from rolls of galvanized steel wire mesh, then assemble the pieces into a box using small hog rings that secure the box together. Empty gabion shells will then be transported using the Shuck & Share truck to the shell site. Volunteer events will be coordinated to fill the gabions with shell with shovels and secured closed with more small hog rings. The Brevard Zoo Conservation Construction Lead will acquire a skid-steer and trailer for the Zoo to be used in maintenance of the oyster shell quarantine site and transportation of project materials to reef building sites on the lagoon. The Construction Lead will load completed oyster gabions on pallets onto the Shuck & Share truck using the skid-steer. The Construction Lead will drive the materials to the restoration project sites and unload the materials with the skid-steer. The Construction Lead may also use the Zoo's boat to push a barge to transport materials to reef building sites which can only be accessed by the water. Project materials will be unloaded by hand to construct oyster reefs on the lagoon bottom with Zoo volunteers and staff.

14. (untitled)

13. **Section #2 - Project Specifics: (D.) Project Readiness**

Will your project be 'shovel ready' by October 1, 2022?

Yes

15. (untitled)

14. **Section #2 - Project Specifics: (D.) Project Readiness**

Is the design complete?

Yes

16. (untitled)

15. **Section #2 - Project Specifics: (D.) Project Readiness**

Please list required permits and provide status. You will be required to upload copies of permits (if they are available) and/or approval letters at the end of the application. If project must go to bid, state when the bid documents will be complete.

No permits are required for shell collection since this is already an established project looking to expand. However, the Zoo does execute an MOU with restaurants partners which are renewed annually. Oyster reef construction requires both state (Florida Department of Environmental Protection or St. John's River Water Management District) and federal (Army Corps of Engineers) permits. Oyster project sites to be constructed during the proposed grant cycle will have been evaluated and selected by October 1, 2022. Permitting of proposed projects will begin in October 2022. The Brevard Zoo has experience permitting similar projects, receiving permits for 55 oyster reefs on individual properties since 2018. Wait time for permits once submitted is about 2-3 months. The Brevard Zoo Restore Our Shores team has a full-time Permitting Coordinator on staff to complete permits.

Permits for proposed work will be complete in time for construction between March and September 2023.

17. (untitled)

16. **Section #3 - Applicant Capacity and Performance**

Clearly outline who the project team will be and their capability/expertise in implementing the successful completion of the project. NOTE: Letters of commitment from all funding partners must be submitted for Attachment #5.

The Brevard Zoo Restore Our Shore project team includes the following individuals: Conservation Manager Olivia Escandell, Conservation Construction Lead Adam Klingenberg, Conservation Outreach Coordinator Jessica Lang, Conservation Field Technician Andrea Perry, Conservation Permitting Coordinator Tyler Provoncha, Conservation Restoration Coordinator Hope Leonard, Conservation Curator Ashley Rearden, and Conservation Administrative Assistant Kim Rudolph.

Olivia Escandell will provide project oversight which includes restaurant communication, staff and volunteer coordination, and oyster reef site selection, permitting, design, and monitoring. Adam Klingenberg will select and design oyster projects, acquire and maintain project materials and equipment, and construct and transport materials to project sites. Andrea Perry, Jessica Lang, Hope Leonard, or another Brevard Zoo Conservation Staff members will provide support for field work including shell pickups, restoration material construction, supply moving site evaluations, reef building and monitoring, and outreach in restaurants. Tyler Provoncha will prepare project designs and permit applications as well as monitor oyster projects. Ashley Rearden will provide project and staff oversight. Kim Rudolph will provide administrative support. The Restore Our Shores team also receives significant volunteer support from the Zoo's established volunteer base and the Restore Our Shores intern program.

The Restore Our Shores team has been working in Indian River Lagoon oyster restoration since 2009. The Shuck & Share project has been successfully coordinated by a Conservation Manager, Olivia Escandell, since May 2018. Oyster project design and construction has been coordinated by Conservation Construction Lead, Adam Klingenberg, since July 2018. Shuck & Share expansion funded by this grant would continue to be led by Ms. Escandell and Mr. Klingenberg.

18. (untitled)

17. **Section #3 - Applicant Capacity and Performance**

Please provide examples of similar successful projects completed.

Brevard Zoo has been shell recycling as part of the Shuck & Share project since 2014. 5.6 million pounds of shell have been collected by Brevard Zoo from restaurants and a shucking house since the beginning of the project. Collected shell has been used to support multiple oyster restoration projects in the Indian River Lagoon, including Brevard Zoo and Brevard County Natural Resources Oyster Gardening and Living Shoreline projects. Since its start, the Oyster Gardening project has recruited over 1,550 citizen scientists living along the IRL to raise juvenile oysters off their docks for use in local restoration projects. Additionally, the living shorelines project has resulted in the construction of 1.6 linear miles of restored oyster reef habitat at 64 locations in the IRL to date.

19. (untitled)

18. **Section #3 - Applicant Capacity and Performance**

Indicate capacity to complete the project and meet grant reporting requirements.

If the additional necessary funding for materials and labor is secured, the Zoo will have full capacity to complete the project as stated. As previously stated, the Shuck & Share project will be supported by the eight full-time employee Restore Our Shores team. Additionally, Brevard Zoo resources such as labor for equipment maintenance and administrative support will be available to the project. The truck and skid-steer used for Shuck & Share will be maintained by the Zoo's experienced onsite maintenance department which currently maintains the entire Zoo fleet of over 20 vehicles. Over the last three years, the Zoo has built strong relationships with area restaurants through the Shuck & Share program which has resulted in support for the project in the form of in-kind oyster shell donations. Despite COVID closures and labor shortages, restaurant participants have continued donating their shells and many restaurants have surprisingly exceeded pre-COVID collection numbers. Recruitment of new restaurants is expected to result in positive relationships and successful shell recycling since the Zoo has already been approached by several restaurants interested in participating. Additionally, Brevard Zoo has the capacity to reach significant volunteer hour goals considering it's established volunteer base and reach in the community. Brevard Zoo volunteers have already contributed over 2,200 hours to oyster shell collection, material construction, and oyster reef installation since June 2021. There are no additional grant reporting requirements tied to this project.

20. (untitled)

19. Section #4 - Project Funding; Summary (A.) Leveraging with Matching Funds

If project request is less than \$50,000, no match is required and there are no bonus points. There is a 5-point bonus for project requests less than \$50,000 if there is a match of more than 25%. There is a 10-point bonus for project requests less than \$50,000 if there is a match of more than 50%. If the project is over \$50,000 there must be a match. There is a 15-point bonus for project requests over \$50,000 if the match is 1:1. There is a 20-point bonus if the match is over 1.5:1.

Grant Request : \$113,840

Total Project Cost : \$295,220

Total Match : \$181,380

21. (untitled)

20.

ATTESTATION

I attest that I have full authority to execute this grant request and that all information in the grant application is true and correct. I further attest that I have read the guidelines and will comply with the requirements of the grant, if awarded.



Signature of: Olivia Escandell

22. (untitled)

21. **SPECIAL MESSAGE:**

You have now completed all of the application questions. The next slide is the space for you to upload the required (6) attachments to complete the application package.

Please label each attachment with the correct attachment number.

If you are not able to upload the required (6) attachments you must upload (6) documents (as placeholders) to complete the application and there must be an explanation in the space below.

It is mandatory that all applications are completed online and the required (6) attachments are submitted by uploading with the application or delivered to the Tourist Development Office by 9am on Wednesday, June 22, 2022. No late arrivals will be accepted.

The below text box may also be used to communicate anything that you need to tell us about your application. To be clear, you do need to enter some text as a placeholder to move on.

Works Cited

Barber A, Walters L, Birch A (2010) Potential for restoring biodiversity of macroflora and macrofauna on oyster reefs in Mosquito Lagoon, Florida. Florida Scientist. 73. 47-62.

Brevard County (2016) Save Our Indian River Lagoon Project Plan for Brevard County, Florida.

Florida Fish and Wildlife Conservation Commission (2021) Manatee mortality event along the East Coast: 2020-2021. Myfwc.com.

Gallagher SM (2017) Nutrient removal through oyster habitat restoration in the Indian River Lagoon. Master's thesis, University of Nevada Reno, ScholarWorks.

Loch JMH, Walters LJ, Donnelly ML, Cook GS (2021) Restored coastal habitat can "reel in" juvenile sportfish: population and community responses in the Indian River Lagoon, Florida, USA. Sustainability. 13. 12832.

Morris LJ, Hall LM, Jacoby CA, Chamberlain RH, Hanisak MD, Miller JD, Virnstein RW (2022) Seagrass in a changing estuary,

the Indian River Lagoon, Florida, United States. *Frontiers in Marine Science*. 8. 789818.

Walters L, Donnelly M, Sacks P (2022) Brevard County Save Our Indian River Lagoon (SOIRL) Living Shoreline Monitoring – Monthly Report for March 2022. Department of Biology, University of Central Florida, Orlando, FL.

23. (untitled)

22. Required Attachments:

Please label each with appropriate Attachment number.

Label as Attachment (1) - Indian River Lagoon Watershed Map

Label as Attachment (2) - Project Boundary Map

Label as Attachment (3) - Project Timeline with Milestones and Deadlines

Label as Attachment (4) - Detailed Budget Table

Label as Attachment (5) - Letter(s) of Commitment from Funding Partner(s) if you have a match

Label as Attachment (6) - Copies of Permits (if available) and/or Letter(s) of Approval to demonstrate 'shovel ready' status

[Attachment_1.pdf](#)

[Attachment_2.pdf](#)

[Attachment_3.pdf](#)

[Attachment_4.pdf](#)

[Attachment_5.pdf](#)

[Attachment_6.pdf](#)

24. Thank You!

New Send Email

Jun 22, 2022 08:39:41 Success: Email Sent to: Thank you for submitting your application for the Tourism + Lagoon Grant program. Your application has been completed and received. It will be reviewed by TDO staff for completeness and within (1) business day a follow-up email will be sent to you confirming the receipt of application and required attachments.

Tourism + Lagoon Grant Program application 2022-2023

Response ID:26 Data

2. (untitled)

1. Section #1 - Applicant Information

What is the Project Title?

Restoring Seagrass for Improved Natural Resilience

3. (untitled)

2. Section #1 - Applicant Information

Contact Information

Organization Name

Brevard County Natural Resources Management Department

First Name

Jenny

Last Name

Hansen

Job Title

Environmental Specialist

Street Address

2725 Judge Fran Jamieson Way

Apt/Suite/Office

A-219

City

Viera

State

FL

Zip

32940

Country

Email Address

jenny.hansen@brevardfl.gov

Phone Number

321-350-8414

Fax Number

Mobile Phone

321-474-9689

Website URL

Website URL

4. (untitled)

3. **Section #1 - Applicant Information**

Which best describes your organization....

Government

5. (untitled)

4. **Section #1 - Applicant Information**

Do you have Partners for the project that are contributing funds, in-kind donations or labors?

Yes

6. (untitled)

5. **Section #1 - Applicant Information**

List Partner Organizations, their roles with the project and match amount. If you have more than (3) Partners please email Deborah at Deborah.Webster@VisitSpaceCoast.com.

Partner Organization Name (A) : Florida Department of Environmental Protection Resilient Florida Program

Partner Role (A) : Grant Funding Agency

Match Amount (A) : \$250,000

7. (untitled)

6. Section #2 - Project Specifics: (A.) Need and Urgency

What Indian River Lagoon (IRL) problem will the project address? Please clearly articulate the need for the project.

Thirty-thousand acres of seagrasses have been lost in the Indian River Lagoon. Modified nutrient cycling and destabilized sediments limit light necessary for seagrass growth by promoting algae blooms and resuspension. In 2020-2021 an unusual mortality event was documented for manatees in the region and attributed to emaciation from limited seagrass and macroalgae food availability (Florida Fish and Wildlife Conservation Commission). By planting a 1.5-acre area of seagrass, this project will contribute to restoration efforts of this critical habitat in the Indian River Lagoon. Seagrass meadows provide many ecosystem services, including attenuation of wave energy and providing food and nursery habitat for many fish species. This project will plant seagrass via multiple methods including herbivore exclusion cages and enhancements to the sediment to better understand how to successfully and efficiently augment seagrass recovery through restoration efforts.

8. (untitled)

7. Section #2 - Project Specifics: (A.) Need and Urgency

Where is the project location? Please identify the project location, articulate why the location was chosen and why this location will achieve success.

The project is planned, subject to permitting, for 4522 Highway A1A, Melbourne Beach, Florida at a property owned by Brevard County and managed by the Environmentally Endangered Lands program. This site provides access for staging, deployment, and future monitoring of the seagrass planting. There are 10 acres available at this location for the 1.5 acres of seagrass planting and additional 0.5-acre control monitoring plots. The project is scalable to grant fund availability and permitting. Benthic surveys were conducted in September 2021, to assess any existing benthic resources (i.e. seagrass, macroalgae) and sediment and water depth suitability for seagrass planting. Water depths are within the range recommended for seagrass persistence (Morris et al. 2022), with appropriate sediment to support seagrass growth.

9. (untitled)

8. Section #2 - Project Specifics: (A.) Need and Urgency

Does the project enhance an important ongoing Tourism + Lagoon Grant Project (not routine maintenance)?

No

10. (untitled)

9. Section #2 - Project Specifics: (B.) Project Alignment with Tourism + Lagoon Grant Program mission

Please demonstrate how the project will have a positive impact on Brevard

County tourism and cite the methodology used to quantify the success of the project.

Seagrass meadows support fisheries as a food and nursery resource. When economic benefits including nutrient cycling and recreational fisheries are included, Florida's Department of Environmental Protection estimated seagrass value at \$20,255 per year per acre (Smithsonian Indian River Lagoon Species Inventory). Species such as bonefish are generally fished from seagrass habitats for recreation, and have been valued at \$3,500 per bonefish (Santos et al. 2017). An increase of species diversity and wildlife in the Indian River Lagoon can increase the value by \$80 million per year (report to the Indian River Lagoon National Estuary Program). As a key habitat of the Indian River Lagoon, 2.5 acres of seagrass meadows can support 100,000 fish and 100 million invertebrates (St John's River Water Management District). Volunteer opportunities related to the planting and maintenance of herbivory exclusion devices will be advertised through website postings to engage participation. Sign in sheets will be used to determine the degree of tourist and local participation. Success of the seagrass planting will be determined through 2 years of post-planting monitoring.

11. (untitled)

10. Section #2 - Project Specifics: (B.) Project Alignment with Tourism + Lagoon Grant Program mission

Please demonstrate how the project will benefit the health of the Indian River Lagoon and cite the methodology used to quantify the success of the project.

This project targets seagrass, providing critical nursery habitat, serving as a food source, dampening wave energy, and stabilizing sediments. If the lagoon's 72,000 acres of seagrass were to be fully restored, it could provide at least \$900 million per year in economic benefits related to commercial fisheries, restoration, carbon sequestration, and nutrient cycling and sequestration. *Halodule wrightii* will be planted in 0.5-acre plots to a total of at least 1.5 acres in the Indian River Lagoon. To best understand the relative success, feasibility, and cost-efficiency of different planting methods, each 0.5-acre plot will vary factors such as herbivory exclusionary cages, density, and substrate enhancement. These plots will be monitored for parameters related to growth and success (i.e. density, percent cover, canopy height, etc.). An additional 0.5-acre unplanted and unvegetated plot will be monitored as a control. Environmental sensors to monitor water depth, dissolved oxygen concentration, and relative light availability will also be deployed at the site to best understand abiotic factors that may influence seagrass growth. Further, testing multiple restoration methods will inform future, larger-scale restoration efforts.

12. (untitled)

11. Section #2 - Project Specifics: (C.) Project Deliverables and Outcomes (Please provide examples)

Please clearly describe the project deliverables - what will be provided at the completion of the project?

Task 1: Design and Permit

Deliverable: Copies of necessary permits submitted prior to construction.

Task 2: 1.5-acre Seagrass Restoration Planting

Deliverable: Copy of Construction Completion Notice, images of installation, G.P.S. coordinates of completed seagrass planting area, and volunteer sign-in sheets including county and state of residence.

Task 3: Sensor Deployment, Monitoring, and Maintenance

Deliverable: Annual progress reports detailing monitoring and maintenance activities. Final report to the Tourism and Development Council summarizing installation of the seagrass plots and any data collected within the first year of the project.

13. (untitled)

12. Section #2 - Project Specifics: (C.) Project Deliverables and Outcomes (Please provide examples)

Describe what is being done, how, and by whom.

Task 1: Finalize project design and obtain any necessary state and federal permits for the construction. Completion of the project design will be guided by Brevard County staff with additional inputs from field experts where applicable.

Task 2: Seagrass Restoration Planting. This task will include the preparation and sourcing of seagrass and related materials for outplanting in the lagoon. Multiple subcontractors will be needed to obtain sufficient seagrass and test multiple methods of outplanting (e.g. Sea and Shoreline, LLC, Florida Oceanographic Society, etc.). Herbivory exclusion devices will also be constructed and/or acquired, prepared, and installed through subcontractors and/or volunteer labor. Additional materials related to seagrass planting test methods may be necessary and are subject to finalization of the project design in task 1.

Task 3: Sensor Deployment, Monitoring and Maintenance. Subcontractors will monitor the seagrass plots for parameters related to growth and success for two years following restoration. Herbivory exclusion devices and environmental sensors will also require periodic maintenance by subcontractors or coordinated with volunteer labor. This monitoring will include biological monitoring such as collecting data on seagrass density, percent cover, and canopy height. Environmental sensors will be deployed to collect data on water column depth, water temperature, relative light levels, and dissolved oxygen concentrations. Maintenance of these sensors will be performed under this task.

14. (untitled)

13. Section #2 - Project Specifics: (D.) Project Readiness

Will your project be 'shovel ready' by October 1, 2022?

No

15. (untitled)

14. Section #2 - Project Specifics: (D.) Project Readiness

Is the design complete?

No

16. (untitled)

15. Section #2 - Project Specifics: (D.) Project Readiness

Please list required permits and provide status. You will be required to upload copies of permits (if they are available) and/or approval letters at the end of the application. If project must go to bid, state when the bid documents will be complete.

Permits will be required to complete the seagrass restoration planting and are in preparation by Brevard County staff (30% complete). Completion of seagrass planting is planned for spring of 2023 to target seasonal influences on planting success. Any required bidding will begin once project contracts are executed in October 2022.

17. (untitled)

16. Section #3 - Applicant Capacity and Performance

Clearly outline who the project team will be and their capability/expertise in implementing the successful completion of the project. NOTE: Letters of commitment from all funding partners must be submitted for Attachment #5.

Brevard County Natural Resources Management staff has significant combined years of experience gathering and processing environmental monitoring data. The project manager, Jenny Hansen, is a certified ecologist with a doctorate of philosophy in Environmental Science and experience with restoration projects and seagrass ecosystems. Subcontractors with expertise in seagrass restoration will be utilized for sourcing seagrass and leading the planting (e.g. Sea and Shoreline, LLC, Florida Oceanographic Society, etc).

18. (untitled)

17. Section #3 - Applicant Capacity and Performance

Please provide examples of similar successful projects completed.

Brevard County Natural Resources Management Department has overseen projects related to ecosystem restoration and rehabilitation through the Save Our Indian River Lagoon Program and the Stormwater Department. These projects have included living shoreline marsh grass and mangrove planting as well as the construction of oyster bars. Seagrass plantings have occurred in the Indian River Lagoon by groups such as Florida Oceanographic Society (Hog Point and Samsons Island), Sea and Shoreline, LLC (Banana River Lagoon), Atkins (Sebastian Inlet), Brevard Zoo Restore Our Shores (Maritime Hammock and Hog Point), and Florida Atlantic University - Harbor Branch.

19. (untitled)

18. Section #3 - Applicant Capacity and Performance

Indicate capacity to complete the project and meet grant reporting requirements.

Brevard County Natural Resources staff will manage the project, permitting, contracting, and reporting. Brevard County has existing continuing service agreements with contractors qualified to perform ecological surveys that may be utilized for monitoring and maintenance. The benthic survey required for permitting was conducted by staff in September 2021 and the permit application is underway. Seagrass may be sourced through subcontractors such as Florida Oceanographic Society or

Sea and Shoreline, LLC. Labor for planting will be coordinated by staff and subcontractors, including any volunteer labor. Acquisition of additional restoration materials and sensors to monitor environmental parameters can be ordered and are readily available. Preparing for the seagrass planting will take at least 6 to 9 months and outplanting will take approximately 3 to 4 additional weeks. The Natural Resources Management Department has previously, successfully completed multiple projects funded through the Tourism and Lagoon Grant Program.

20. (untitled)

19. **Section #4 - Project Funding; Summary (A.) Leveraging with Matching Funds**

If project request is less than \$50,000, no match is required and there are no bonus points. There is a 5-point bonus for project requests less than \$50,000 if there is a match of more than 25%. There is a 10-point bonus for project requests less than \$50,000 if there is a match of more than 50%. If the project is over \$50,000 there must be a match. There is a 15-point bonus for project requests over \$50,000 if the match is 1:1. There is a 20-point bonus if the match is over 1.5:1.

Grant Request : \$250,000
Total Project Cost : \$500,000
Total Match : \$250,000

21. (untitled)

20.

ATTESTATION

I attest that I have full authority to execute this grant request and that all information in the grant application is true and correct. I further attest that I have read the guidelines and will comply with the requirements of the grant, if awarded.



Signature of: Jenny Hansen

22. (untitled)

21. **SPECIAL MESSAGE:**

You have now completed all of the application questions. The next slide is the space for you to upload the required (6) attachments to complete the application package.

Please label each attachment with the correct attachment number.

If you are not able to upload the required (6) attachments you must upload (6) documents (as placeholders) to complete the application and there must be an explanation in the space below.

It is mandatory that all applications are completed online and the required (6) attachments are submitted by uploading with the application or delivered to the Tourist Development Office by 9am on Wednesday, June 22, 2022. No late arrivals will be accepted.

The below text box may also be used to communicate anything that you need to tell us about your application. To be clear, you do need to enter some text as a placeholder to move on.

Project readiness: The project will likely not be shovel ready by October, 2022 unless permits have been acquired. However, seagrass planting should not proceed until the spring to promote success, which allows for the completion and acquisition of appropriate permits before installation of the seagrass plots. Design is currently 80% complete and permit applications are in progress.

Attachment #6 - Permits will be required but have not yet been secured. Preparation is underway and is approximately 30% complete.

23. (untitled)

22. Required Attachments:

Please label each with appropriate Attachment number.

Label as Attachment (1) - Indian River Lagoon Watershed Map

Label as Attachment (2) - Project Boundary Map

Label as Attachment (3) - Project Timeline with Milestones and Deadlines

Label as Attachment (4) - Detailed Budget Table

Label as Attachment (5) - Letter(s) of Commitment from Funding Partner(s) if you have a match

Label as Attachment (6) - Copies of Permits (if available) and/or Letter(s) of Approval to demonstrate 'shovel ready' status

[Attachment1_IRLWatershedMapFINAL_RestoringSeagrass.pdf](#)

[Attachment2_ProjectBoundary_RestoringSeagrass.pdf](#)

[Attachment3_Project_Timeline_RestoringSeagrass.pdf](#)

[Attachment4_DetailedBudgetTableFINAL_RestoringSeagrass.pdf](#)

[Attachment5_FDEP_grant_letter_RestoringSeagrass.pdf](#)

[Attachment6_Approvals_RestorationSeagrass.pdf](#)

24. Thank You!

New Send Email

Jun 22, 2022 09:28:47 Success: Email Sent to: Thank you for submitting your application for the Tourism + Lagoon Grant program. Your application has been completed and received. It will be reviewed by TDO staff for completeness and within (1) business day a follow-up email will be sent to you confirming the receipt of application and required attachments.

Tourism + Lagoon Grant Program application 2022-2023

Response ID:27 Data

2. (untitled)

1. Section #1 - Applicant Information

What is the Project Title?

KBB Flex Team N Banana River Drive Litter Removal

3. (untitled)

2. Section #1 - Applicant Information

Contact Information

Organization Name

Keep Brevard Beautiful, Inc.

First Name

Bryan

Last Name

Bobbitt

Job Title

Executive Director

Street Address

1620 Adamson Rd.

Apt/Suite/Office

none

City

Cocoa

State

FL

Zip

32926

Country

Email Address

bryanbobbittkbb@gmail.com

Phone Number

321-631-0501

Fax Number

Mobile Phone

321-458-4363

Website URL

www.keepbrevardbeautiful.org

Website URL

4. (untitled)

3. **Section #1 - Applicant Information**

Which best describes your organization....

Non-Profit

5. (untitled)

4. **Section #1 - Applicant Information**

Do you have Partners for the project that are contributing funds, in-kind donations or labors?

No

6. (untitled)

Section #1 - Applicant Information

List Partner Organizations, their roles with the project and match amount. If you have more than (3) Partners please email Deborah at Deborah.Webster@VisitSpaceCoast.com.

7. (untitled)

5. **Section #2 - Project Specifics: (A.) Need and Urgency**

What Indian River Lagoon (IRL) problem will the project address? Please clearly articulate the need for the project.

Keep Brevard Beautiful (KBB) has existing contracts with the TDC and other government entities in Brevard County to remove litter from roadways along the Indian River Lagoon (IRL). Specifically, we have had a contract for several years with the TDC that provides for litter removal along four causeways, including SR 528. However, those contracts were constrained on frequency and didn't provide the flexibility for KBB to focus additional attention where needed in order to prevent or minimize litter entering the IRL and damaging the delicate ecosystem. Since the pandemic, there has been a significant increase in the number of visitors enjoying the IRL along the causeways, with a commensurate increase in litter left behind. In the 2021-2022 TDC Tourism + Lagoon grant cycle, the TDC awarded KBB an additional grant to add a 5th location and to augment existing locations with additional pickups. There are other stretches of roadway along the IRL where people congregate to watch the rocket launches and enjoy outdoor activities, leaving trash behind. The 5th location added last year is along North Banana River Drive on Merritt Island. KBB proposes to continue this grant, having a Flex Team that will continue to work every weekend to remove additional litter from problem areas along this roadway, near the SR 528 causeway, but can be refocused, as needed, to other locations along the IRL, as identified by KBB or the TDC. This grant proposal is to extend last year's grant to make this grant able to fund the next three years with an option for two more years following that. This will provide the continuity necessary to ensure consistent litter removal in order to minimize contamination to the IRL.

As human litter and debris finds its way into the IRL, it harms the physical habitat, transports chemical pollutants, and threatens aquatic life, making it more difficult to revitalize the lagoon. Litter also interferes with the human uses of the lagoon and negatively impacts tourism, leading to reduced revenues.

Also, according to the 2009 National Visible Litter Survey and Litter Cost Study commissioned by Keep America Beautiful (of which KBB is an affiliate), 36% of business development officials say that litter impacts a decision to locate to a community. The presence of litter in a community decreases property values by a little over 7%, according to the National Association of Home Builders pricing model. Litter, and littering behavior, remains a persistent and costly problem.

At KBB we understand how important clean, beautiful roadways and the IRL are to our tourism economy. Nobody wants to see litter on their vacation. They come here to enjoy our pristine and enticing environment. Whether buying a home, starting a business or visiting for vacation, cleanliness counts. This is why we partner with our entire community to be more effective stewards of this special place we call home. Our dedicated team understands and trains to be welcoming ambassadors to our many visitors. As Brevard's premier litter reduction and beautification organization serving this community for 36 years, KBB remains as dedicated and committed as ever. The last five years have seen an ever-increasing number of visitors to our communities and an exponential increase in the amount of trash generated, not only on the beaches, but along the roadways leading in and in the adjacent Indian River and Banana River locations.

The IRL is among the most biologically diverse estuaries in North America and is struggling to regain its balance. Anything that can be done to reduce the stress on the ecosystem is worth any effort we can expend.

While many of these roadways are periodically maintained by other organizations, such as FDOT, the Sheriff's Office, KBB and volunteer adoption teams, these cleanups are infrequent and unable to keep up with the increasing daily users of the causeway. Removing smaller, but impactful, litter items such as micro-plastics that can be very harmful to the IRL. As tourism and the resident population has increased over the past many years, so has litter. The inability of current organizations to keep up with litter removal has been the topic of discussion between KBB and many local governments and citizen's groups. KBB has had the privilege to clean and maintain Brevard's beaches, roadways and the IRL for many years and we welcome this opportunity to focus on key arteries to keep them cleaner than ever, environmentally sound, and welcoming to visitors. We look forward to building on our long and successful partnership with the TDC.

8. (untitled)

6. Section #2 - Project Specifics: (A.) Need and Urgency

Where is the project location? Please identify the project location, articulate why the location was chosen and why this location will achieve success.

This litter removal project will occur predominantly along North Banana River Drive on Merritt Island near the 528 Causeway but other problem spots along other causeways may be included, as needed. This road was chosen, because of its extremely high resident and tourist traffic, since it is adjacent to 528, a main artery. Litter along this stretch of road finds its way very quickly into the Banana River from both sides of the road and harms the fragile ecosystem of the IRL.

KBB has focused much of its attention on keeping the beaches themselves clean and welcoming to tourists and residents and has done weekly cleanups along the causeways and in the rivers. However, we had not had the funding to ensure consistent litter removal to the level currently needed, given the significant increase in IRL usage until we were awarded last year's grant. This grant would allow us to continue our efforts to impact tourism and help the IRL. Based on our years of experience managing volunteer cleanups and dedicating staff where volunteers cannot satisfy the need, as well as litter removal in this area during the 2021-2022 grant cycle, we believe KBB will continue to succeed and make a significant impact.

9. (untitled)

7. Section #2 - Project Specifics: (A.) Need and Urgency

Does the project enhance an important ongoing Tourism + Lagoon Grant Project (not routine maintenance)?

Yes

10. (untitled)

8. Section #2 - Project Specifics: (B.) Project Alignment with Tourism + Lagoon Grant Program mission

Please demonstrate how the project will have a positive impact on Brevard County tourism and cite the methodology used to quantify the success of the project.

Litter can have a tangible effect on business and tourism. It can destroy the beauty and enjoyment of an area. This leads not only to a decrease in return visits but fewer people will even make their first trip if they've heard negative things about the area from family and friends who have been there.

If a city or roadway is littered, it illustrates that the area is uncared for by the local population, businesses and government. That may discourage people from visiting the area since they may also question what else the local citizens and government don't care about.

Especially in this era of ever-present social media where pictures, observations and opinions can be very quickly shared with a network of friends and followers around the country and the world, removing any potential for negative impressions is of paramount importance to an area that thrives on tourism.

By removing litter from along this major artery, this project will help keep the area inviting and show that we care, both about our residents and visitors.

We will measure our success based on the pounds of litter removed weekly. KBB has several years' on-the-ground experience and resulting statistics on performing litter removal along the SR 528 Causeway for the TDC, and last year's litter removal under this previous grant. For the first seven months of the grant, we collected 727 bags of trash. For the first five months, we averaged 7.5 bags per day. In the past two months, that has increased significantly to nearly 25 bags per day. Keep America Beautiful estimates and average of 25 pounds of trash per bag. Therefore, we estimate that two extra days of litter removal per week has already yielded 18,175 pounds of trash that has not fallen in and contaminated the IRL. We will continue to track these metrics each month.

11. (untitled)

9. Section #2 - Project Specifics: (B.) Project Alignment with Tourism + Lagoon Grant Program mission

Please demonstrate how the project will benefit the health of the Indian River Lagoon and cite the methodology used to quantify the success of the project.

The IRL has been cited as among the most biologically diverse estuaries in North America. It is home to more than 2,100 different species of plants and more than 2,200 animal species, including some 700 fish species and 310 bird species. Approximately 50 threatened or endangered species can be found in the IRL region, including 12 plants and 36 animals. Litter and debris in the IRL harms physical habitats, transports chemical pollutants, threatens aquatic life, and interferes with human uses of the IRL.

Habitat alteration is caused by trash and debris in rivers. As debris accumulates, habitat structure is modified, light levels are reduced in underlying waters, and oxygen levels are depleted. These changes can undermine the IRL's ability to support aquatic life.

Of all trash, plastic trash has the greatest potential to harm the environment, wildlife and humans. It can be found floating at the surface, suspended in the water, or on the bottom. It is often eaten by birds and fish, concentrating toxic chemicals in their tissues, and filling their stomachs, causing them to starve.

It has been estimated that plastic marine debris adversely affects at least 267 species globally, including 44% of seabirds, and 43% of marine mammals. The most common threats to wildlife include both physical hazards from ingestion and entanglement, and toxicological threats from ingestion.

Problems associated with marine life ingestion of plastics include development of internal and external wounds, the buildup or blockage of the digestive system, decreased mobility and toxicity. Ingestion of plastics by seabirds has been shown to reduce body weight and reproductive capacity.

Chemical impacts associated with plastic aquatic trash include the accumulation and transport of contaminants, such as PCBs and pesticides. Based on a number of studies, including those conducted by the EPA, plastics have the potential to adsorb chemicals of concern from the environment, and serve as a potential global transport mechanism for contaminants into the food chain and potentially to humans who eat seafoods.

A majority of the litter found in the IRL makes its way there not from recreational or commercial boating but from litter first dropped on land in the vicinity. By reducing the amount of litter, plastic and otherwise, that finds its way into the lagoon from land, this project will continue to decrease the negative impacts on the IRL's habitats and marine life and make the Banana River more enjoyable for tourists and residents.

12. (untitled)

10. Section #2 - Project Specifics: (C.) Project Deliverables and Outcomes (Please provide examples)

Please clearly describe the project deliverables - what will be provided at the completion of the project?

The project lead will inspect the road as needed and provide monthly reports to the TDC on the amount of litter removed, any systemic issues encountered, or any additional support needed. This is litter that will no longer be visible to tourists and residents and will not make its way into the IRL to damage the environment. Reduced litter will inevitably help the environment and aquatic life in their recovery efforts. This project should also remove any negative perceptions tourists have resulting from

visible litter,

13. (untitled)

11. Section #2 - Project Specifics: (C.) Project Deliverables and Outcomes (Please provide examples)

Describe what is being done, how, and by whom.

Litter removal will occur two days a week on weekends when the usage of the areas adjacent to the IRL is at max. The primary focus will be on North Banana River Drive, near the 528 Causeway, but the Flex Team may be directed elsewhere, at the discretion of KBB or the suggestion of the TDC.

While much of the litter may be picked up while remaining in the utility vehicle, they will exit the vehicle, as needed, to ensure removal of litter where the utility vehicle can't go, down to and including at the water's edge or tree line, as far as they can reach. All trash will be placed in the back of the utility vehicle for disposal at the end of the run.

The weekend cleanups will be conducted by paid KBB staff. They will trailer the KBB utility vehicle, with special markings for roadside work, to the starting point. After a quick assessment, the crew will begin to pick up litter as they drive the utility vehicle along the side of the road. When they reach the end of that direction, they will cross the road and continue back toward the starting point, removing litter as they go, to include micro-plastics and other small litter items.

When they are finished their route, they will transfer the trash to the KBB truck and load the Utility vehicle on the trailer. The trash will then be disposed of in accordance with County guidelines. They will record the number of bags collected and note any large debris removed.

Crew members are equipped with hand-held grabbers, bags, buckets, gloves, and first-aid kits. They also carry emergency contact information for FWC, Florida Wildlife Hospital & Sanctuary, Brevard County Sheriff's Office, Canaveral Port Authority and KBB management.

Any incidents that occur on the route are reported immediately to the proper agencies. For example, bird injuries or deaths are reported to the Florida Wildlife Hospital & Sanctuary 321-254-8843. Accidents or injuries are reported to public safety or other emergency personnel. After emergency personnel are contacted the crew is required to contact KBB management and to assist agency personnel, if needed.

Crews are trained to seek shelter from dangerous weather such as lightning and extreme wind. Once crew members and equipment are safe from the elements they check their watches and apps and wait the required 30 minutes. Once dangerous weather conditions clear to ten miles away, they return to work. If crews wait for a total of one hour and there does not seem to be a break in the weather, they will return another day to complete the route.

We work closely with municipalities and the county to clean areas prior to the arrival of a hurricane and coordinate with them on cleanup of hazardous items and other debris following the hurricane. This procedure was executed for past storms such as Hurricanes Irma, Matthew, Charlie, Jeanne, and Francis. We also have a hurricane preparation plan for our staff, our office/shop and our equipment to make sure everything is secured, ready and available to be utilized immediately after the storm. We consider this extra effort to be part of our community involvement and within the scope of the proposed contract.

KBB has in place an emergency phone tree for all staff to be mobilized in case of a natural disaster or an environmental emergency, such as a fish kill. KBB's Executive Director has also been certified as a Community Environmental Professional. In the past, once conditions were safe to respond, KBB has been on site for cleanup responses in less than 12 hours of being requested. KBB will use this same strategy to respond to any unexpected litter or debris incident well within a 24-hour time frame. The team is trained and knows what to do and whom to contact. KBB has also employed the local media and social media to activate large groups of volunteers during times when community support has been needed for major events. We will maintain up-to-date contact information with all agencies.

KBB is proudly supported by one of the largest volunteer bases in Brevard County. In 2018 KBB events drew 7,437 volunteers who dedicated 24,503 hours across 1,423 cleanups to collect 290,662 lbs. of litter and debris from throughout Brevard County. KBB will continue to utilize this network under this contract to perform periodic cleanups in designated areas. Each year, we conduct what we call kayak cleanups, which are aimed at engaging volunteers to remove litter from the shoreline via their kayaks, canoes, and other appropriate watercraft. They can get at debris not accessible from land or from larger boats.

KAB and KFB education and information resources help KBB recruit new volunteers and keep our current volunteer base

engaged. We will continue to work and partner with major organizations like Sea World, Universal, Disney, Ron Jon, Embraer, Volcom, Surfrider Foundation, Florida Institute of Technology, Eastern Florida State College, University of Central Florida, Brevard Zoo, L3Harris, Northrop Grumman, Lockheed Martin, NASA, SpaceX and many more organizations, to provide significant numbers of volunteers for litter events. We typically add several new organizations each year.

Through our partnership with Florida Today, we continue to grow volunteer participation in the Summer Series and Winter Series of cleanups, especially reaching out to community and youth groups that are active in the summer. In addition to select locations for the Summer Series, KBB also holds major volunteer cleanup days throughout the year simultaneously in many locations around the County. These include Trash Bash and the International Coastal Cleanup.

With this approach and these multi-faceted resources, we expect to be able to continue to significantly reduce the litter that is visible and/or makes its way into the IRL.

14. (untitled)

12. **Section #2 - Project Specifics: (D.) Project Readiness**

Will your project be 'shovel ready' by October 1, 2022?

Yes

15. (untitled)

13. **Section #2 - Project Specifics: (D.) Project Readiness**

Is the design complete?

Yes

16. (untitled)

14. **Section #2 - Project Specifics: (D.) Project Readiness**

Please list required permits and provide status. You will be required to upload copies of permits (if they are available) and/or approval letters at the end of the application. If project must go to bid, state when the bid documents will be complete.

KBB is a Florida Not-For Profit Corporation, Document No. 759597, Incorporated 1981 IRS 501(c)(3).

All litter crew members have valid Florida Driver Licenses.

We have agreements and relationships with all waste haulers involved to haul away collected litter, and therefore, we currently have no need for a hauling license. However, if that should change in the future, we will obtain a hauling license. There are no permits required.

17. (untitled)

15. **Section #3 - Applicant Capacity and Performance**

Clearly outline who the project team will be and their capability/expertise in implementing the successful completion of the project. NOTE: Letters of commitment from all funding partners must be submitted for Attachment #5.

KBB staff members have as much as 15 years' experience removing litter from roadways, beaches and the rivers of Brevard County. New staff are trained and supervised by the experienced personnel. The specific staff to be assigned to this project have extensive experience on general litter removal and on the existing grant contract for this area, providing continuity of service. Other experienced part-time staff provides vacation and sick leave relief.

The project will be supervised on a daily basis by KBB Executive Director Bryan Bobbitt.

All litter crews are provided with a high-visibility uniform with a company logo that identifies them as litter crew.

Our staff will utilize our fleet of well-maintained utility vehicles, full-size heavy towing pickup trucks, and trailers. Our trucks will be used for changing out utility vehicles for service and to replenish supplies at staging areas. We also have double-axle heavy hauling trailers used for moving the utility vehicles to and from staging areas during service periods and to carry trash for disposal. In addition, we have a utility trailer used to carry supplies to large group events. All of our vehicles are marked with highly visible colored KBB logos.

Each staff member is trained in relating to the public with a positive customer service attitude and assists during emergencies whenever possible. While on the job, litter crew members are not allowed to smoke or wear ear buds and can use their cell phone only for work purposes. Our litter crews maintain a professional appearance, focus their attention on their work and remain approachable by the public.

A staff-only Facebook page and mobile app is used by the crew to provide updates and track special circumstances that may impact response needs. Crews are required to monitor their cell phones regularly to stay in touch with supervisors and to get alerts from agencies.

To augment our litter staff, we have cross-trained all other KBB staff members to pitch in, when needed. Employee training is a major emphasis throughout our program. In addition to proper techniques of cleaning in an environmentally sensitive way, we stress customer service for our residents, businesses, and tourists alike with the understanding that economic growth, tourism and clean roadways, rivers and beaches go hand-in-hand.

18. (untitled)

16. Section #3 - Applicant Capacity and Performance

Please provide examples of similar successful projects completed.

Keep Brevard Beautiful, Inc. was founded in 1981 as a local affiliate of Keep America Beautiful, Inc. with a mission to develop, motivate, educate and activate community partners to reduce litter, recycle, beautify and sustain the environment for the benefit of Brevard County. Using principles developed with Keep America Beautiful, KBB, in partnership with the TDC, has created a comprehensive beach program which we have performed consistently and professionally since 2001. With a combination of paid professional staff and one of the largest volunteer networks in the county, we have ensured clean beaches in Cocoa Beach and Brevard County 365 days a year.

KBB began litter removal in this proposed area in October 2021, under the TDC's 2021-2022 TDC Tourism + Lagoon grant contract. This grant proposal is for a continuation of the contract already being performed by KBB.

KBB successfully performed roadside litter removal under the 2018 TDC Tourism + Lagoon grant contract for the SR 528 Causeway and the SR 520 Causeway since January 2019. In the first 5 months of the contract, through the weekly staff litter removal shifts, KBB removed 16,250 lbs. of litter from the SR 528 Causeway and 6,165 lbs. from the SR 520 Causeway.

The TDC subsequently converted the 2019 TDC Tourism + Lagoon grant to KBB for these and additional roads, to a standard maintenance contract. KBB has been successfully executing, under this contract, litter removal for SR 528, SR 520, US 192, SR 518 and the Max Brewer Causeway. Add 2020 stats for all?

Under the current SR 528 contract with the TDC, KBB also held major volunteer cleanups as part of the KBB/Florida Today Summer and Winter Series. For example, a cleanup held January 11, 2019 was supported by 54 volunteers where 1,800 lbs. of

trash was collected. A smaller volunteer hot spot cleanup was held on April 12, 2019 with 7 volunteers who collected an additional 900 lbs. of trash.

Concurrently, KBB is executing a contract with the City of Palm Bay, begun in November 2018, for roadside litter removal along 4 stretches of the city's major roadways, totaling 16.8 miles. From January through May 2019, KBB removed 4,335 lbs. of litter. KBB has over 7 years' experience partnering with Florida Today to create a series of cleanups over a 3-month summer period that removes litter from the IRL and local beaches. This award-winning program focuses on bringing the public together to improve their community and concludes in social events that encourage discussion of what they found and how it is preventable. This event continues to grow drawing over 100 volunteers locally and from neighboring counties at each series event. Participants also include local, state and national politicians from the area.

KBB has over 40 years' experience organizing volunteer groups for cleanups throughout the county, on the beaches, roads, parks, islands and trails. The annual Trash Bash is a county-wide cleanup involving all the municipalities to recruit volunteers to clean their local areas. The International Coastal Cleanup participates along all Brevard County beaches in an effort to remove litter and collect data to be used to monitor litter reduction throughout the world.

KBB's extensive volunteer base is one of the largest, most active in the nation. For the past 10 years, KBB has consistently ranked in the top 5 Keep America Beautiful affiliates nationwide for our success in mobilizing our large volunteer base to come out for special events and on an ongoing basis to remove litter throughout the county. These volunteers take pride in their beautiful beaches and rivers and want to enjoy and share them proudly. KBB's volunteers learn valuable information about the environment, make friends, achieve common goals and pass on a respect of Brevard County's rare resources to the next generation. Thousands of volunteers find KBB opportunities and activities a rewarding way to show their community spirit. Over the past 40 years, KBB has become synonymous with a clean and beautiful Brevard County and we work diligently every day to assure we live up to our reputation

We have developed partnerships with businesses large and small in the county and the region, as well as with non-profit organizations including environmental organizations such as the Sea Turtle Preservation Society and Surfrider Foundation. Likewise, we work closely with our county, municipal and other government entities such as the Florida Fish and Wildlife Conservation Commission (FWC), Brevard County Natural Resources Management Department, Brevard County Schools, and Canaveral Port Authority to ensure a comprehensive and coordinated effort to keep our community clean, green and beautiful. In addition, we practice local preference purchasing and business.

In addition to our committed staff, KBB credits our success to the dedication of our community leaders, our volunteer cleanup groups, and community-based cleanup events. KBB organizes large-scale annual events such as Trash Bash, International Coastal Cleanup, St. Johns River Cleanup, and KBB/Florida Today Summer Series and Winter Series of cleanups, in addition to multiple weekly organized volunteer cleanups.

In 2016, under the guidance of the Assistant County Manager, KBB staff organized volunteers for the county-wide fish kill cleanup in the IRL. KBB created a 24/7 call-in line and organized and managed all the volunteer cleanup efforts from the north to the south end of Brevard County. From the moment the Assistant County Manager reached out to us, we coordinated the volunteer effort in coordination with the Florida Department of Environmental Protection, FWC, St. Johns River Water Management District, Waste Management and Brevard County Sheriff's office, all while providing daily updates to the Brevard County Assistant County Manager.

KBB performed the same service in October 2018, by coordinating staff and volunteers from around the county to quickly clean the beaches when the Red Tide led to multiple massive fish kills along our coast. We removed 100,000 lbs. of fish (based on dumpster weights), at a total cost of \$27,341.08. We spent over 546 hours of staff time. We estimate over 100 volunteers pitched in and donated 2-3 hours of their time, each.

As a subcontractor through Waste Management, KBB maintains the Minutemen Causeway area and the beaches of the City of Cocoa Beach.

19. (untitled)

17. **Section #3 - Applicant Capacity and Performance**

Indicate capacity to complete the project and meet grant reporting requirements.

KBB has over 20 years' experience submitting oral and written statistical reports to the TDC, including weight of litter removed.

This type of reporting has allowed KBB to anticipate trends and adapt processes to changing needs.

We do similar reporting on a monthly or quarterly basis for our Cocoa Beach, Brevard County, Waste Management and Port Canaveral litter contracts.

As occurs now on other contracts and our previous grant for this area, each crew member will be required to complete a daily report on how many bags of trash are collected and how much debris is removed. These reports will be compiled and submitted directly to the TDC office by KBB staff each month. Reporting is a valuable tool to help KBB anticipate trends and adapt procedures as needed.

Incidents are reported immediately to proper agencies. All of our litter employees are trained and given appropriate resources to contact directly or assist in contacting appropriate agencies as needed. Staff is also required to contact KBB management after they contact emergency personnel or other appropriate agencies. Incident information will be captured and provided on monthly reports.

20. (untitled)

18. Section #4 - Project Funding; Summary (A.) Leveraging with Matching Funds

If project request is less than \$50,000, no match is required and there are no bonus points. There is a 5-point bonus for project requests less than \$50,000 if there is a match of more than 25%. There is a 10-point bonus for project requests less than \$50,000 if there is a match of more than 50%. If the project is over \$50,000 there must be a match. There is a 15-point bonus for project requests over \$50,000 if the match is 1:1. There is a 20-point bonus if the match is over 1.5:1.

Grant Request : \$40,000.00

Total Project Cost : \$40,000.00

Total Match : \$0

21. (untitled)

19.

ATTESTATION

I attest that I have full authority to execute this grant request and that all information in the grant application is true and correct. I further attest that I have read the guidelines and will comply with the requirements of the grant, if awarded.



Signature of: Bryan Bobbitt

22. (untitled)

20. **SPECIAL MESSAGE:**

You have now completed all of the application questions. The next slide is the space for you to upload the required (6) attachments to complete the application package.

Please label each attachment with the correct attachment number.

If you are not able to upload the required (6) attachments you must upload (6) documents (as placeholders) to complete the application and there must be an explanation in the space below.

It is mandatory that all applications are completed online and the required (6) attachments are submitted by uploading with the application or delivered to the Tourist Development Office by 9am on Wednesday, June 22, 2022. No late arrivals will be accepted.

The below text box may also be used to communicate anything that you need to tell us about your application. To be clear, you do need to enter some text as a placeholder to move on.

Thank you for your support!

23. (untitled)

21. **Required Attachments:**

Please label each with appropriate Attachment number.

Label as Attachment (1) - Indian River Lagoon Watershed Map

Label as Attachment (2) - Project Boundary Map

Label as Attachment (3) - Project Timeline with Milestones and Deadlines

Label as Attachment (4) - Detailed Budget Table

Label as Attachment (5) - Letter(s) of Commitment from Funding Partner(s) if you have a match

Label as Attachment (6) - Copies of Permits (if available) and/or Letter(s) of Approval to demonstrate 'shovel ready' status

[Attachment_1-KBB_Flex_Team_Litter_Removal_Project_Indian_River_Lagoon_Watershed_Map-062122.docx](#)

[Attachment_2-KBB_Flex_Team_Litter_Removal_Project_Boundary_Map-062122.docx](#)

[Attachment_3-KBB_Flex_Team_Litter_Removal_Project_Timeline_with_Milestones_and_Deadlines_-_062122.docx](#)

[Attachment_4-KBB_Flex_Team_Litter_Removal_Project_Detailed_Budget_Table_-_062122.docx](#)

[Attachment_5-KBB_Flex_Team_Litter_Removal_Project_Letter_of_Commitment_-_062122.docx](#)

[Attachment_6-KBB_Flex_Team_Litter_Removal_Project_Copies_of_Permits-062122.docx](#)

24. Thank You!

New Send Email

Jun 22, 2022 10:42:15 Success: Email Sent to: Thank you for submitting your application for the Tourism + Lagoon Grant program. Your application has been completed and received. It will be reviewed by TDO staff for completeness and within (1) business day a follow-up email will be sent to you confirming the receipt of application and required attachments.