

THE INSTITUTE FOR REGIONAL CONSERVATION

100 E LINTON BLVD SUITE 302B DELRAY BEACH, FL 33483

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RE: Participation in Dune Seawall Replacement Project

Patricia Strayer, pstrayer@townofpalmbeach.com

Robert Weber, rweber@townofpalmbeach.com

Town of Palm Beach

Dear Patricia and Robert,

As discussed at our meeting on October 6, 2022, please find this letter as a proposal for The Institute for Regional Conservation (IRC) and the Preservation Foundation of Palm Beach (PFPB, the Foundation) to collaborate with the Town of Palm Beach on native dune biodiversity conservation and restoration components of the project to replace the seawall along South Ocean Boulevard from north of Royal Palm Way to south of Gulfstream Road. This work would be done as part of IRC and PFPB's collaboration on the [Restoring the Gold Coast](#) (RGC) program. RGC was launched by the IRC in 2019 to restore the incredible beauty and diversity of plants and animals native to coastal ecosystems in southeastern Florida.

Prior to learning about the seawall replacement project, we had identified the stretch of beach near the Clock Tower as having high native biodiversity despite the narrowness of the beach in that area. We know that this is due to support from the Town over many years for biodiverse native plantings and invasive species control. With some effort, the beach dune system could harbor an even higher diversity of native plants and beneficial wildlife (e.g., butterflies, songbirds), and serve as best practice for similar beach areas in cities and towns throughout southern Florida.

The official RGC description includes this statement: "A biologically diverse beach dune ecosystem is a healthy dune and our first line of defense against sea level rise, climate change, and catastrophic storms." This statement is supported by science that shows that complex ecosystems with high integrity are more resilient than simplified ecosystems and less likely to collapse into a highly degraded state. Recent conversation with a colleague from Naples Botanical Gardens about the aftermath of Hurricane Ian in southwestern Florida has borne out this assertion. Dunes planted with only sea-oats (*Uniola paniculata*) were eroded away by storm surge and are not recovering, while dunes composed of many species were more resilient to storm surge and have already begun to recover. It is also important to monitor and treat both inappropriate native and nonnative invasive species, as these will ultimately reduce native diversity, have negative impacts on native wildlife, and act as deleterious seed sources for beaches to the south.

Our proposal is to work with the Town to conserve as much of the native biodiversity currently present at the site as possible, and to ensure that the restoration planting implemented after the seawall is replaced is biodiverse and appropriate. This process would involve ten key steps:

- 1) Conduct a rapid assessment of the public beach from just south of Gulfstream Road to just north of Royal Palm Way (completed).
- 2) Mark native plants in the field or using GPS that could potentially be rescued immediately prior to seawall construction, or from which seeds, cuttings, divisions, or other propagules could be collected in advance of the project. Identify high biodiversity areas from which biodiverse “overburden” sand could be collected at early project stages, stored, and later used to trigger natural regeneration through spreading across restored dune topography.
- 3) Collect seeds, cutting, divisions, or other propagules of native species from the site in advance of the seawall replacement project.
- 4) Work with the Town and the Town’s invasive species contractor to identify all nonnative invasive species present within the project area and maximize treatment in advance of the project. Provide expertise to treat invasive species not listed by the [Florida Invasive Species Council](#) (FISC) or that may be otherwise unfamiliar to the contractor.
- 5) Collect and stockpile whole plants or parts of plants (e.g. Spanish bayonet [*Yucca aloifolia*]; Fig. 1) for later reintroduction to the site. Collect and stockpile biodiverse overburden sand for later



Figure 1. Spanish-bayonet that could be rescued (whole or in part) for later reintroduction.

spreading over restored dune topography.

- 6) Work with the Town to design a biodiverse restoration planting and incorporate the native plants and biodiverse overburden sand collected prior to construction.
- 7) Assist Town in replanting dune and spreading biodiverse overburden sand.
- 8) Assist Town with monitoring dune undergoing restoration.
- 9) Conduct adaptive management to respond to monitoring data, to correct deficiencies or take advantage of positive trends in ecosystem recovery.
- 10) Contribute to educating Town residents on the benefits of dune conservation and restoration, and healthy biodiverse native landscapes within the Town.

The first step of this proposed project (rapid assessment) was conducted with Town permission on October 27, 2022. Findings included:

- 33 species of vascular plants were recorded, including 28 native species and five nonnative species; state listed species included beachstar (*Remirea maritima*), beach-peanut (*Okenia hypogaea*), erect pricklypear (*Opuntia stricta*), inkberry (*Scaevola plumieri*), and sea-lavender (*Tournefortia gnaphalodes*); the most common invasive species was Beach naupaka (*Scaevola taccada*).
- Larger plants that could be rescued (number approximate) include Spanish-bayonet (6), Erect pricklypear (5), Mangrove spiderlily (50 clumps [*Hymenocallis latifolia*]).
- Propagules of many native species could be collected.
- Areas with higher biodiversity and few invasive species where biodiverse overburden sand could be collected were identified.

This proposal envisions a collaborative project environment, with no cost to the Town. If approved, the Foundation and IRC are committed to securing funds for the project, which can be implemented to the extent that resources are available to do so.

We look forward to your thoughts and the opportunity to discuss this with the Town Council when and if appropriate.

Sincerely,



George Gann

Executive Director and Chair of the Board, [The Institute for Regional Conservation](#)
International Policy Lead, Chair Emeritus, [Society for Ecological Restoration](#)
Member, North American Plant Red List Authority, [IUCN Species Survival Commission](#)
Member, IUCN [Commission on Ecosystem Management](#)
Profile on [LinkedIn](#)