FINAL REPORT

Date: 6/30/16 **Reporting Period: 10/29/2012 – 6/30/16**

Project Title: Settegast Coastal Heritage Preserve

GLO Contract #: 13-094-000-7126

Sub-grantee: Artist Boat

Project Manger: Amanda Rinehart **Telephone #: 409-770-0722**

Email Address: arinehart@artistboat.org

1.0 PROVIDE A BRIEF DESCRIPTION OF THE PROJECT GOAL(S) (INCLUDE LOCATION OF THE PROPERTY IF LAND ACQUISITION).

The primary goal of this project is to permanently conserve coastal habitat and Galveston Bay shoreline on Galveston Island. A map showing the land acquired through this project is in Appendix A.

The measureable objectives include:

1. Purchase approximately 160 acres of coastal barrier habitat to become part of the Settegast Coastal Heritage Preserve site.

2. Develop a Habitat Management Plan and a Public Access/Education Plan for the Settegast Coastal Heritage Preserve site.

3. Launch an educational program at the site that is utilized by at least 3,000 participants over the project duration and develop and install 4-6 interpretive signs at the site that acknowledge CIAP.

2.0 IDENTIFY WHETHER THE ORIGINAL GOAL(S) OF THE PROJECT WAS MET OR, IF NOT, WHY THE GOAL(S) WAS MODIFIED.

All three project objectives were met.

1. *Objective 1: Purchase approximately 160 acres of coastal barrier habitat to become part of the Settegast Coastal Heritage Preserve site:* Artist Boat conserved 156.7 acres of coastal barrier island habitat on Galveston Island by purchase on October 11, 2013, becoming part of the Coastal Heritage Preserve. Table 1 provides the acreages of habitats conserved by this CIAP project.

Table 1. Habitat types and acreages at the CIAP land.

Wetland Type	Definition	Acreage
E1UB	Estuarine Subtidal Unconsolidated Bottom	1.06
E2EM1N	Estuarine Intertidal Emergent Persistent Regularly Flooded	6.04
E2EM1P	Estuarine Intertidal Emergent Persistent Irregularly Flooded	54.67
E2SS	Estuarine Intertidal Scrub Shrub	0.27
E2USN	Estuarine Intertidal Unconsolidated Shore Regularly Flooded	8.60
E2USP	Estuarine Intertidal Unconsolidated Shore Irregularly Flooded	13.09
PEM1C	Palustrine Emergent Persistent Seasonally Flooded	0.15
PUB	Palustrine Unconsolidated Bottom	0.50
U	Upland	72.36
Total Acreage:		**156.73**

2. *Objective 2: Develop a Habitat Management Plan and a Public Access/Education Plan for the Settegast Coastal Heritage Preserve site:* The Habitat Management Plan for the Settegast Coastal Heritage Preserve was submitted to the GLO in June 2015; the Public Access/Education Plan for the Settegast Coastal Heritage Preserve was submitted to the GLO in September 2015; and a combined Habitat Management Plan and a Public Access/Education Plan for only the CIAP tracts was submitted in October 2016.

3. *Objective 3: Launch an educational program at the site that is utilized by at least 3,000 participants over the project duration and develop and install 4-6 interpretive signs at the site that acknowledge CIAP:* In this project, 7,279 participants were served through the Eco-Art Adventure Program and Public Trip Program through 464 events. Of those participants, 5,157 were students and 2,122 were public participants. The CIAP Final Education Report provides specifics about the program participants. Six interpretive signs were installed at the site in between November 2015 – June 2016. Photos of the interpretive signs at the site, acknowledging CIAP, are in Appendix B.

3.0 SUMMARIZE ALL SIGNIFICANT PROJECT MILESTONES, INCLUDING DATES FOR EACH ACTION.

Table 2 summarizes significant project milestones and dates.

4.0 LIST WORK PRODUCTS COMPLETED AND DELIVERABLE SUBMITTAL DATES (IF APPLICABLE).

Table 3 summarizes all work products completed and deliverable submittal dates.

Table 2. CIAP milestones and dates.

Task	Significant Milestone	Dates of Action
Task 1: Acquire 160 acres of Coastal Barrier Habitat	Conduct an appraisal based on the Uniform Appraisal Standards for Federal Land Acquisitions	January 2013 – August 2013
	Conduct a land survey	January 2013 – July 2013
	Conduct Phase I Environmental Assessment	June 2013 – August 2013
	Conduct land title search	July 2013 – August 2013
	Draft warranty deed for property	July 2013 – August 2013
	Purchase property	November 2012 – October 2013
Task 2: Develop Habitat Management and Public Access/Education Plans	Convene Technical Advisory Group and develop Habitat Management Plan	September 2013 – June 2015
	Convene Public Access/Education Advisory Group and develop Public Access/Education Plan	September 2013 – September 2015
	Combine Habitat Management Plan and a Public Access/Education Plan and submit to GLO	September 2016
Task 3: Launch Education Program at the Site that is Utilized by at Least 3,000 Participants Over the Project Duration	Purchase supplies needed to implement tours at the Settegast location	November 2012- March 2016
	Design educational program content and activities	November 2012 – May 2013
	Install 4-6 interpretive signs at the site	November 2015 – June 2016
	Deliver program to participants and revise as needed	April 2013 – December 2015

Table 3. Work products and deliverables and dates of completion.

Task	Deliverable	Date Submitted
Task 1: Acquire 160 acres of Coastal Barrier Habitat	1. Appraisal	August 19, 2013
	2. Survey	August 8, 2013
	3. Phase I Environmental Survey	August 20, 2013
	4. Draft deed	September 6, 2013
	5. Executed deed	October 21, 2013
	6. Draft CIAP signage	November 3, 2015
Task 2: Develop Habitat Management and Public Access/Education Plans	7. Habitat Management Plan	July 31, 2016
	8. Public Access/Education Plan	July 31, 2016
Task 3: Launch Education Program at Site	9. Report of education and outreach activities	2012-2013 Report – July 17, 2013 2013-2014 Report – July 18, 2014 2014-2015 Report – September 4, 2015 Final Report – June 30, 2016
	10. Individual equipment purchases	On the 10th day of each month with monthly reports
	11. Photos of installed CIAP signage	July 15, 2016 (Appendix H in Ed Rpt)
	12. Final Report	June 30, 2016

5.0 IDENTIFY ANY PROBLEMS OR OBSTACLES ENCOUNTERED AND REMEDIAL ACTION TAKEN (IF ANY).

In the following section we list problems or obstacles that we encountered and the action taken (if any) to remediate each problem or obstacle.

Task 2: Develop Habitat Management and Public Access/Education Plans

Several obstacles were encountered with this task, which caused the planning to run behind schedule. In November 2014, the Habitat and Stewardship Program Manager resigned, putting the Habitat Management and Public Access/Education Plans on hold during the hiring process. Additionally, lengthy discussions in the Public Access Subcommittee during early meetings delayed progress. Another delay resulted from the significant revisions that were needed on the Habitat Management Plan and Public Access/Education Plan after they were reviewed by the GLO.

Due to the delays from the resignation of the Habitat and Stewardship Program Manager and the lengthy discussions in the Public Access Subcommittee, a formal amendment was requested in March 2015 (Amendment 2) to extend the deadlines for the Habitat Management Plan and the Public Access/Education Plan to June 30, 2015. A new Habitat and Stewardship Program Manager was hired in December 2014, which allowed this task to run much more smoothly, and drafts of the Habitat Management Plan and Public Access/Education Plan were submitted to the GLO on June 30, 2015 and September 15, 2015, respectively, with a combined plan submitted December 15, 2015. Because of the revisions required for these plans, the deadline was extended again through a formal amendment in March 2016 (Amendment 3) to June 30, 2016. The Technical Advisory Committee worked to complete these revisions by the extended deadline.

6.0 INCLUDE DIGITAL PHOTOS AND ANY MATERIAL THAT PROMOTES YOUR PROJECT SUCCESS (NEWS ARTICLES, FLYERS, ETC.).

Materials such as digital photos and flyers that promote project successes are in Appendix C.

APPENDIX A

CIAP ACQUISITION TRACTS MAP

Settegast Coastal Heritage Project

Galveston Island, Texas

Coastal Resources GIS
Texas General Land Office
October 2013

N

0 500 1,000
Feet

APPENDIX B

INSTALLED CIAP SIGNAGE

Coastal Heritage Preserve

Welcome to the Coastal Heritage Preserve!

Welcome to the Coastal Heritage Preserve. The formation of the Preserve has been a major Artist Boat initiative since 2003. Without this effort, the land you see around you could be covered with more than 800 housing units and a channelized marina in the coastal prairie.

Thanks to supporting agencies, organizations, and individuals, this bay property is now protected; as of 2015, 522 acres have been set aside with over $7 million dollars in federal, state, and local contributions. Saving this land protects some of Galveston's shrinking tidal flats, salt marshes, freshwater ponds, and coastal prairies.

Formerly part of the Chapoton family's century-old working ranch, this "bay tract" is 360 acres, encompassing one of the last unleveled, dune-swale complexes on Galveston Island. As little as a three-inch change in elevation here reorders the entire plant community and the associated wildlife.

Balanced on the Brink

The Preserve is delicately balanced between opposing forces – salt and fresh, land and water, high and low, hot and cold, storm and calm, native and introduced. Relatively few species are able to survive the upheaval and disruption that characterizes this high-energy landscape.

The species that have adapted to the coastal marsh and prairie thrive in a world with limited competition. The habitat may be inhospitable to many, but the reward is great for the adaptable few. New forces threaten to undo this delicate balance. Adjacent waterfront suburban development and sea level rise are but two examples of change that place the Preserve at risk.

Artist Boat, its supporters, and people like you can help maintain this fragile equilibrium.


Cynthia Clevenger


Monarch (*Danaus plexippus*)/Ted Lee Eubanks


Bonaparte's gull (*Chroicocephalus philadelphia*)/Ted Lee Eubanks


American bittern (*Botaurus lentiginosus*)/Ted Lee Eubanks

Artist Boat's mission is to promote awareness and preservation of coastal margins and the marine environment through the disciplines of the sciences and the arts.

The Coastal Heritage Preserve land acquisition is funded, in part, with qualified outer continental shelf oil and gas revenues by the Coastal Impact Assistance Program, U.S. Fish & Wildlife Service, U.S. Department of the Interior.

CITGO FUELING GOOD®
Caring for our coast.

The Coastal Heritage Preserve is a project of Artist Boat and its supporters. For more information about how you can become involved, contact Artist Boat at www.artistboat.org.

Fermata Inc. and MajaDesign designed the interpretive panels. All photographs are by Ted Lee Eubanks.

Coastal Heritage Preserve

Wildflowers













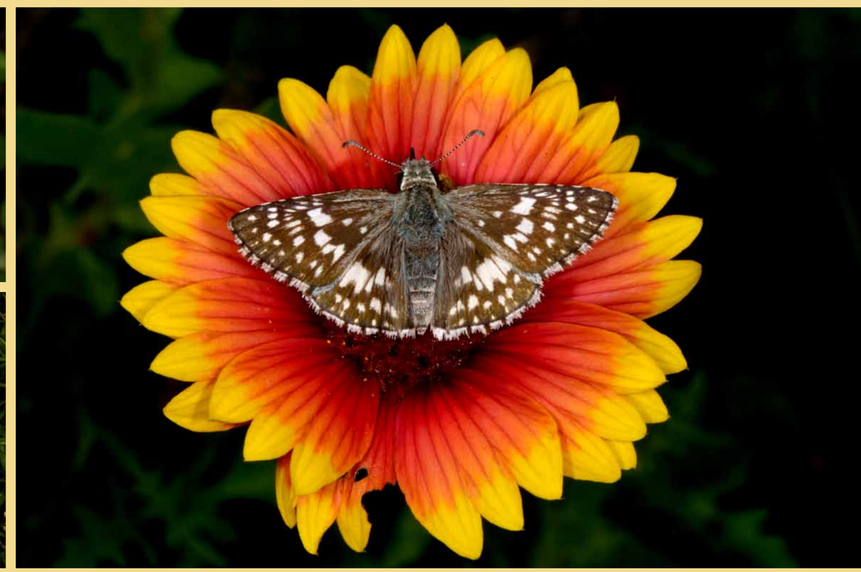






Artist Boat

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FERMATA

Coastal Heritage Preserve

Birds




















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FERMATA

Coastal Heritage Preserve

Insects




















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FERMATA

Coastal Heritage Preserve

Sea Citizens

As goes the salt marsh, so go its citizens

Land animals generally avoid marine (saltwater) habitats. Of the 5,500 mammals known worldwide, only 129 are marine. Seabirds comprise only 3% of the world's approximately 9,700 bird species. There are likely several million insect species in terrestrial habitats, and more than 30,000 in freshwater habitats. However, apart from the sea skaters *(Halobates)*, none are from the open ocean.

Within the Preserve, you will find the types of dragonflies, butterflies, tiger beetles, and birds that thrive in this harsh environment. Wading birds, such as roseate spoonbills and white ibis, visit the marshes to feed on crabs, shrimp, and other marine crustaceans.

Conservation Cue: One impact of global climate change is sea level rise. Scientists project that as global temperatures warm, sea water will expand and glacial ice will melt. Salt marshes are placed at risk of inundation. The sea citizens depend on these marine habitats. As goes the salt marsh, so go its citizens.

Roseate spoonbill *(Platalea ajaja)*

Seaside dragonlet *(Erythrodiplax berenice)*

The seaside dragonlet is the world's only true marine dragonfly. Nymphs are capable of living in tidal pools saltier than seawater. This dragonfly is sexually dimorphic. The adult males are completely black. Females are found in a number of forms. The thorax can be either black or striped yellow, and the wings can have spots or be unspotted. There is also a female dark form that is quite similar to the adult male. Look for this dragonfly during the summer months in the salt marshes.

Clapper rail *(Rallus longirostris)*

The clapper is the rail of salt marshes. This rail is heard more often than seen. Listen for its staccato "kaak-kaak-kaak" at dawn and dusk.

Eastern pygmy blue *(Brephidium pseudofea)*

This tiny butterfly, one of the smallest in the world, is the most common butterfly in the Preserve. A closely related species, the western pygmy blue *(Brephidium exilis),* is also found on the island but only away from the salt marshes. The caterpillars feed on *Salicornia* (glasswort) and other salt marsh plants such as *Batis* (saltwort). The caterpillars are able to survive frequent, prolonged inundations, such as during the high tides that regularly flood the Preserve.

Gulfshore tiger beetle *(Habroscelimorpha pamphila)*

Gulfshore tiger beetles are among the fastest terrestrial insects in the world. They can run as far as 100 body lengths in a second!

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Coastal Heritage Preserve

Shifting Sands

A delicate sliver of sand

Seas rise and fall. The Gulf's depth averaged 5 to 10 meters lower 8,000 years ago than it does today. The barrier islands before Galveston were as much as 50 kilometers farther out to sea.

Waves and storm surges destroyed the original islands as sea levels rose 5,000 to 6,000 years ago. Sand and shell shifted to a new coastline. The Gulf reshaped this sand into new barrier islands, like Galveston.

Galveston's sand piled up in a series of beach ridges separated by swales. The high ridges are typically covered in prairie grasses and forbs. The lower swales are either inundated or are dominated by salt marsh. Human settlement has erased much of this topography. This ridge-and-swale arrangement can still be seen in the Preserve.

Conservation Cue: Anthropogenic climate change is causing sea levels to rise. Conservation efforts like the Preserve will allow habitats to migrate with sea levels.

Salt Pannes and Algal Mats

Salt pannes form when shallow depressions in the high marsh are repeatedly inundated with salt water, only to dry out during periods of normal tides. As salt water evaporates, the salt remains in the depressions. Over time, salinity in the depressions can reach extremely high concentrations. Only the most salt-tolerant species can exist at the panne edges, including blue-green algae.

Low Salt Marsh

Low marsh is flooded daily. Smooth cordgrass *(Spartina alterniflora)* is the predominant vegetation. The seaside sparrow is restricted to the Preserve's low marsh.

High Salt Marsh

High marsh is located above the average high tide. High marsh is flooded only during periods of extreme high tide and storm surge. Plants that are characteristic of the high marsh are glasswort *(Salicornia sp.),* saltwort *(Batis sp.)*, and salt meadow cordgrass *(Spartina patens).* The high marsh is a transitional zone between the Preserve's low marsh and the upland coastal prairie. Shorebirds such as the black-necked stilt *(Himantopus mexicanus)* feed in the high marsh.

Coastal Prairie

Coastal prairie once covered as much as 9 million acres along the Texas and Louisiana coast. More than 99% of this land has been lost to agriculture, range improvement, and urbanization.

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Coastal Heritage Preserve
The Foot-high Forest

Life abounds underneath the prairie's dense cover

Life along the coast is vertically compressed. The grasses and shrubs in this wind-shaped landscape rarely grow much higher than your knees.

Hawks, owls, and coyotes prowl the prairie and marshes, searching for marsh rabbits and cotton rats. At ground level, insects such as dragonflies, robber flies, and tiger beetles replace these large predators.

The challenge for the visitor is one of scale. The marshes and prairies are dense, and the wildlife is often hidden. Be patient, walk slowly, and look closely.

Conservation Cue: Years of cattle grazing have changed the complexion of the Preserve's coastal prairie. Cattle rarely eat western ragweed *(Ambrosia psilostachya)* or baccharis *(Baccharis halimifolia).* As a result, these aggressive (yet unpalatable) native plants have come to dominate the prairie. Only through sustained management will the prairie be brought back into balance.

Citrine forktail
(Ischnura hastata)

The citrine forktail is the smallest damselfly is North America, and is found throughout the New World. This forktail is one of three damselflies found regularly within the Preserve, and it is typically seen in the coastal prairie, well away from the salt marshes. Have you wondered how to tell a dragonfly from a damselfly? Dragonflies typically perch with their wings open, while damselflies close their wings over their abdomens. Dragonflies have fused eyes, while the eyes of damselflies are separate.

Western pygmy-blue
(Brephidium exilis)

The western pygmy-blue is North America's smallest butterfly. This butterfly is rarely seen in the Preserve, and then only in the coastal prairie.

Common nighthawk
(Chordeiles minor)

Most birds within the foot-high forest nest either on the ground, or deep within the prairie grasses. The common nighthawk constructs the most basic nest of them all. This goatsucker scrapes away a few dead leaves and then lays its eggs directly on the sand. In the city, nighthawks often build their nests (called a scrape) on the gravel roofs of office building and warehouses, or even on the surface of shell or gravel parking lots.

Marl pennant
(Macrodiplax balteata)

This pennant perches on the highest twigs or branches that overhang the foot-high forest. This dragonfly preys on other insects.

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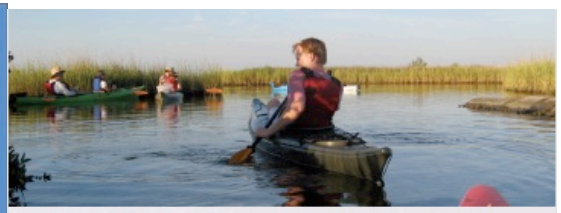
Coastal Heritage Preserve
Birds
Coastal Heritage Preserve
Sea Citizens
As goes the salt marsh,
so go its citizens

APPENDIX C

DIGITAL PHOTOS AND FLYERS

Rack Cards



Join Artist Boat guides for interpretive tours to an area of natural significance on Galveston Bay.

Take a brief online survey to receive a $10 Eco-Art Adventure to the Coastal Heritage Preserve. A $50 value!

- Perfect for families, groups and beginners.
- All equipment and instruction included.
- Discover the estuary guided by biologists and artists.
- Pre-registration required the night before adventure.
- Visit www.artistboat.org to schedule and take survey.
- Completed survey code is applied at checkout.

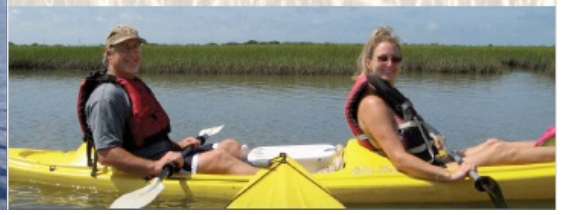
The Coastal Heritage Preserve is one of the largest unfragmented, single-owner, undeveloped properties on Galveston Island. It is a critical piece in the West Bay Corridor Initiative, a multi-agency program to protect and restore critical habitats around West Galveston Bay.

Programs are also available for private and public schools, universities, and non-profit organizations for $150 to $250.
Call (409) 770-0722 for information.

Scan to access the on-line survey
Artist Boat • (409) 770-0722
Email: kayakregistration@artistboat.org
www.artistboat.org

Artist Boat is a 501(c)(3) non-profit organization dedicated to promoting awareness and preservation of coastal margins and the marine environment through the disciplines of the sciences and the arts.

SUPPORTED BY HOTEL/ MOTEL TAX DOLLARS



Coastal Heritage Preserve Kayak Tour

Come join us for a trip with a $40 discount at the future home of the Coastal Heritage Preserve. This 4-hour tour includes kayak training, plein air watercolor instruction and an up-close look of the Galveston Bay ecosystem via kayak.

Explore the natural and restored marshes that protect one of the most pristine examples of a dune and swale complex on Galveston Island during this kayak adventure.

After completing a short survey, this trip is available for only $10.

Visit www.artistboat.org to start or call (409) 770-0722 for more information.

A Partner in Education
2415 Avenue K
Galveston, TX 77550
(409) 770-0722
www.artistboat.org
info@artistboat.org

TEACHERS AND STUDENTS WANTED TO EXPLORE BY KAYAK!!!

The Artist Boat is inviting all interested parties to participate in our Eco-Art Workshop and Adventure Program at the Coastal Heritage Preserve on Galveston Island!

THROUGH OUR GRANT FROM THE TEXAS GENERAL LAND OFFICE, WE ARE ABLE TO OFFER THIS PROGRAM AT A GREATLY REDUCED RATE OF $150 FOR THE ECO-ART WORKSHOP AND $150 FOR THE ECO-ART KAYAK ADVENTURE*

During the four-hour Eco-Art Kayak Adventure, participants go on a guided tour of wetland habitats, where they are involved in hands-on environmental education activities designed to reinforce knowledge about local coastal ecosystems, geological characteristics, and human uses and impacts. While exploring tranquil habitats, participants make their own watercolor painting to reflect the immense beauty, wonder and diversity of life contained in the coastal margins. All participants receive paddling and safety instruction performed by an American Canoe Association certified kayak guide.

During the two-hour Eco-Art Workshop (which precedes the kayak adventure), participants are involved in a one-hour science lesson that utilizes hands-on lessons based on benefits, multiple uses, non-point source pollution, flora and fauna, and historical perspectives of the bay system and the Gulf of Mexico. The one-hour art portion includes a demonstration and application on how to use watercolor materials to interpret nature.

Space is limited as only one kayak adventure per day can occur at the Coastal Heritage Preserve. Please plan on booking well in advance to ensure you get the dates you want.

We are excited to be able to offer you this exciting opportunity. We would love to make this fun, learning adventure available to your students!

LuAnne Ashley
Education Director
409-770-0722
lashley@artistboat.org

Integrating the arts & sciences for exploration & appreciation of coastal habitats.

**Space is limited to 25 participants for the Eco-Art Kayak Adventure*