

# Aransas NWR



## Visitor Interpretive Experience Plan

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Prepared by:

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**BCUY Associates**  
2921 NW Hayes  
Corvallis, OR 97330  
dbucy@comcast.net

# Acknowledgements

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Ken Garrahan, Region 2 Chief of Visitor Services  
Joe Saenz, Refuge Manager  
Laura Bonneau, Visitor Services Manager  
Abra Zobel, Cartographer  
Andy Stetter, Supervisory Wildlife Biologist  
Zachary Piotrowski, Visitor Services Specialist

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# Preface

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## Definitions

The following are brief definitions for terms used in this plan. More detailed definitions can be found in Appendix A.

**Visitor Interpretive Experience Plan (VIEP):** A plan that uses a visitor experience approach to determine the interpretive opportunities to develop. The approach also helps identify orientation and wayfinding information needs, and other actions necessary to develop a high-quality visitor interpretive experience.

**Visitor:** A person who visits the refuge physically or virtually through a website or other channel.

**Stepping Stones of Engagement:** An array of opportunities that afford visitors myriad pathways to move from their current connection with nature, to a strong connection with native flora and fauna.

**Native Nature:** Biota that evolved in an area and therefore are native to that location. This term avoids being forced to label different types of nature as ‘good’ or ‘bad.’

**Transition Zones in Refuges:** Areas within refuges designed to create a transition from land that is more managed to land that is more natural, and is the focus of the refuge’s mission at that site. This zone typically is small, and includes such features as parking areas and visitor centers.

**Information Network Approach:** People commit time conditionally and typically in increments. Consequently, the interpretive network uses an array of interconnected interpretive opportunities to convey the messages.

## Developing the VIEP

This Visitor Interpretive Experience Plan (VIEP) focuses on identifying and conceptualizing the network of orientation, wayfinding and interpretive opportunities to create and facilitate visitor *interpretive* experiences associated with Aransas National Wildlife Refuge (NWR), which are visitor experiences with a significant interpretive component. All visitor interpretive experiences do not have to occur on the refuge itself. For example, people encountering Pollinator Gardens or Butterfly Gardens in public areas planted through partnerships between the USFWS and others are considered visitors and could have a complete visitor interpretive experience associated with that feature without ever physically visiting the refuge. These type of experiences are an important part of the network given the somewhat isolated nature of the refuge.

## The Continuums Used to Develop the Plan

Developing the VIEP for Aransas NWR is based on moving people along two continuums – the Continuum of Active Involvement in Conservation, and the Continuum of Experiences in Native Nature, which moves from an urban environment where a built environment dominates, to a natural environment where Native Nature dominates.

### **Continuum of Active Involvement in Conservation**

One of the goals for the refuge is for visitors to experience nature in ways that make them more aware of and comfortable with (less afraid of) Native Nature, motivates them to actively support the refuge, and inspires them to engage in acts of stewardship regarding natural resources.

Consequently, the interpretive opportunities selected help move people along a continuum of valuing Native Nature in urban (and non-urban) environments as part of their quality of life, and also motivates them to take actions reflecting stewardship, such as by developing natural landscapes.

### **Continuum of Experiences in Native Nature**

Ultimately, the desire is for visitors to have interpretive experiences associated with Aransas NWR that lead to a never-ending string of experiences in natural areas, helping to establish Native Nature as a valued part of a visitor's lifestyle. Not all visitors will venture all the way along the continuum of experiences, but they should always have the opportunity to go further. That goal dictates the following:

- Every interpretive experience should include marketing additional interpretive experiences, especially ones that move visitors closer to an experience in Native Nature;
- The Visitor Center should function as a portal into the more natural parts of the refuge;
- The sequence of experiences at the refuge should progress from environments dominated by built features with some Native Nature to environments dominated by Native Nature with minimal built elements;
- Aransas NWR as a whole should function as a portal to other areas that provide experiences in Native Nature, including other local open space and public lands, and ultimately other refuges.

# Executive Summary

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The Visitor Interpretive Experience Plan for Aransas NWR identifies the interpretive opportunities, supporting infrastructure and any other factors that need to be addressed to create attractive visitor experiences while maintaining the most important purpose of the refuge, which is to protect / conserve / restore migratory waterfowl, native habitat and associated species, especially the whooping crane.

## Goals

The primary interpretive goal is to motivate visitors to become active stewards of the natural resources and supporters of the USFWS and National Wildlife Refuge System. Specific interpretive goals include the following:

**Interpretive Program Goal 1:** Visitor satisfaction with their visit to Aransas increases significantly due in large part to better trip planning, orientation and wayfinding information and to an array of attractive interpretive opportunities.

**Interpretive Program Goal 2:** A significant increase in the number of people - both visitors to the refuge and people outside the refuge – who are reached with key messages.

**Interpretive Program Goal 3:** Achieve a significant increase in the awareness of the refuge and the roles it plays that relate to quality of life for people living in the surrounding area.

**Interpretive Program Goal 4:** Achieve a significant increase in the level of motivation by visitors to engage in stewardship behaviors in their daily lives, leading to an actual increase in stewardship behaviors.

**Interpretive Program Goal 5:** Achieve a significant increase in awareness of, appreciation for, and active support of the work of the USFWS in restoring and conserving Native Nature.

**Interpretive Program Goal 6:** Significantly reduce the perception among urban dwellers that Native Nature is to be feared.

**Interpretive Program Goal 7:** Achieve a significant increase in behaviors of residents living in the upper part of the watersheds of the San Antonio and Guadalupe Rivers that have a positive impact on the quality / quantity of water reaching San Antonio Bay, which in turn affects the wildlife at the refuge, especially the cranes.

## Key Factors

Key factors in developing the plan include the following:

- The general need on the part of the USFWS to connect a national audience that is highly urbanized to nature, as a step on the pathway of making the NWR system and the USFWS more relevant to the public.
- The unique position of Aransas NWR due to the iconic nature of the whooping crane and the story of saving the species from extinction. Because of that, among refuges, Aransas has a higher potential to attract non-traditional audiences from around the United States.
- The Visitor Center was damaged by Hurricane Harvey and must be replaced, creating the opportunity to put it in a better location and improve exhibits and messaging.

- The significant differences between target audiences creates a need for developing different visitor experiences.
- The relative isolation of Aransas NWR renders it more of a destination rather than a rest stop.
- The refuge does not currently have a location where visitors can easily see whooping cranes up close.
- The Visitor Center has to serve – sometimes concurrently – three major groups of people: USFWS staff working on management of the refuge; visitors to the refuge; school groups visiting the refuge on a school field trip.

## Messaging (Themes)

Motivating people to take action regarding resources requires that they value the resource (or the USFWS) as a key part of what they consider quality of life; that they are aware that the resource (and therefore their quality of life) is threatened; and that an ongoing effort to conserve the resource exists and includes people similar to the visitor. If those conditions are met, a Call to Action is much more likely to be successful. The following key messages (themes) were selected with that in mind. The set of messages includes ones that are general because a significant number of visitors do not come from the surrounding area, so their criteria for quality of life is likely to be different, plus the fact that many urban residents don't understand basic biological concepts. Site specific messages were selected as ones that local residents would be more likely to respond to.

- **General Interpretive Theme 1:** Native Nature is important to your (my) quality of life.
- **General Interpretive Theme 2:** Wildlife, along with all other biological organisms, depend on their specific habitat (or habitats) to survive.
- **General Interpretive Theme 3:** A lot of people, including the USFWS, are working to conserve and restore habitat to protect wildlife we value for the people today and for future generations. You can make a difference by helping.
- **Aransas NWR-specific Interpretive Theme 4:** Aransas NWR provides many benefits to the citizens of the area.
- **Aransas NWR-specific Interpretive Theme 5:** Everything in a watershed is linked. Everything that happens upstream affects everything downstream. Aransas NWR and the fish and wildlife it supports are endangered due to actions by urban residents in the north part of the San Antonio and Guadalupe Rivers.
- **Aransas NWR-specific Interpretive Theme 6:** The wetlands at Aransas NWR are valuable to humans for a myriad of reasons.
- **Aransas NWR-specific Interpretive Theme 7:** Without Aransas NWR, the whooping crane would probably have gone extinct, which would have significant negative effects on the surrounding community.

Sub-themes and supporting stories for each theme, which can be found in the section on themes, provide the fodder for the interpretive network.

## Key Recommendations

Recommendations are organized by stage of the visitor experience – Choosing to Engage; Pre-Visit; Travel; Arrival; Primary; Departure; Return Travel; Post Trip. The most significant recommendations come in the Arrival and Primary stages of the Visitor Experience. Many of those recommendations are based on Aransas NWR being a destination attraction for more than just birders. Achieving the goal of

being a destination attraction requires, in large part, developing a set of visitor interpretive experiences that are worth the time and effort of non-traditional users to travel to the refuge, and making the visitors feel welcome.

Key recommendations, *not organized in any particular order*, include the following:

- Improve the Orientation and Wayfinding information network within the refuge.
- Develop an array of loop interpretive trails that start at the Visitor Center. The trail system at this location will include the Heron Flats and Rail Trails, both of which will be loops and also access the Alligator Viewing Platform. To allow for a good transition from a built to a natural environment, and to create the opportunity for visitors in the Visitor Center to look out of windows to the south and see the refuge without seeing a road cutting through it, the access roadway should be re-located so it passes behind the Visitor Center. The existing road and parking between the Visitor Center and the Alligator Viewing Platform would be removed. Not only does this set up an exceptionally good layout for a nested loop of trails, it also helps keep people off roadways.
- Build a Visitor Center structure that has separate entryways, and ideally restroom facilities for the 3 major groups of people who will use it – USFWS staff focused on managing the refuge; visitors; and school groups. The restrooms for visitors would have an outdoor entrance to accommodate after-hours use.
- Design the structure so it has the adjacencies depicted in the bubble diagram in Figure 1. Note that the size of each bubble only approximates the size of the space relative to the others. Note also that the bubbles can be moved around, but it is important to maintain the adjacencies listed after the diagram.

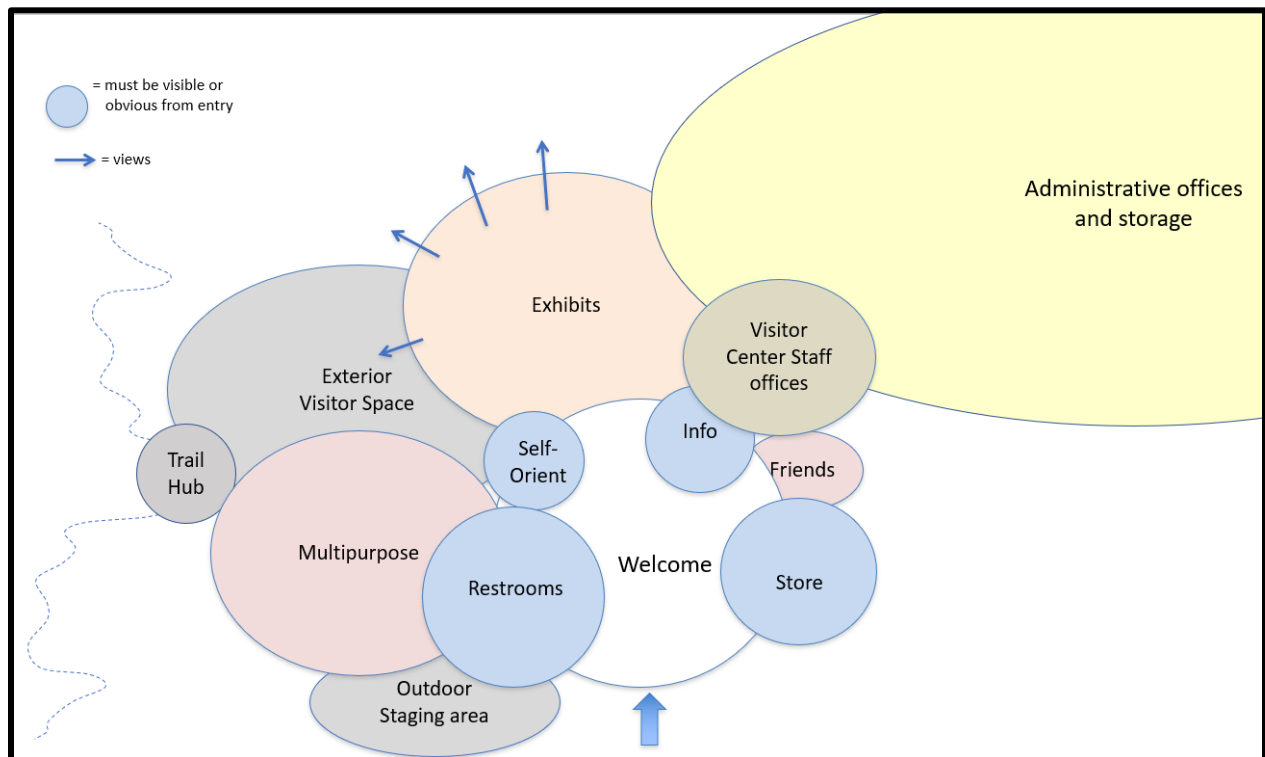


Figure 1: Adjacencies and flow of spaces within and just outside the visitor center.



### **Key Adjacencies in the Visitor Center and the surrounding area**

Myriad options exist to site and design the building, but the following adjacencies should be maintained regardless of design:

**Adjacency:** Information Desk / Visitor Center Staff offices / Refuge Administrative offices,

**Explanation:** Visitor Center staff should be able to move back and forth from the Information Desk in the public area and their offices quickly. They should also be able to easily access the Administrative Area to facilitate interacting with other staff, use the staff restrooms, use the staff break and lunch areas, etc.

**Adjacency:** Information Desk with all of the following – Visitor Center Staff offices, Friends Group offices, and volunteer space (not shown).

**Explanation:** This gives the refuge the most flexibility regarding strategies to staff the Information Desk during all hours it is open.

**Adjacency:** Administrative offices / other structures associated with refuge management, such as the maintenance shed.

**Explanation:** Given the existing infrastructure and layout, the Visitor Center can serve as a boundary between Administrative and public spaces, and also between a built and at least somewhat natural environment. To do so, the administrative space must be on right side as you face the building. That way they can exit heading in the direction of residences, maintenance shed, etc., without passing through visitor space.

**Adjacency:** Store / Friends Group offices and storage.

**Explanation:** The Friends Group will be managing the store, and must be able to access their offices and inventory easily. Note that the store must be securable.

**Adjacency:** Lobby with restrooms and information / Interior Exhibit Space / Exterior Visitor Space / Trail hub.

**Explanation:** Visitors will want information and restrooms (needs) before being amenable to exhibits and other interpretive opportunities (optional). Consequently, the exhibit area should be adjacent to but beyond the lobby, from which the visitor can access areas to meet their needs. Since a major goal is to attract visitors outside where they can 'see' the story, it is important that they be able to see outside natural areas from the inside, be able to access the Exterior Visitor Space directly from the Exhibit Area, and access the Trail Hub from the Outdoor Space.

**Adjacency:** Outdoor Staging Area / Multipurpose Room / Restrooms / Trail Hub.

**Explanation:** Visitors using the Multipurpose Room should be able to access it and the restrooms without going through the visitor areas in the Visitor Center. They should also have the opportunity to exit the space directly into the exterior Visitor Space and Trail Hub.

**Adjacency:** Front of the Visitor Center with the rear of the Visitor Center, ideally through the center of the building complex by way of a breezeway. If a breezeway is designed, the visitor center entry and the entry to the visitor restrooms must be adjacent to the pass through.

**Explanation:** This allows visitors to experience the same transition from a built to a natural environment as those who go through the visitor center, while still having access to opportunities to meet basic needs (restrooms and orientation information).

- To the extent possible work on creating a better opportunity to see cranes close up *on the refuge* than what is currently available at the Observation Tower. This may take care of itself if whooping cranes start using the Heron Flats area on a regular basis, as they have started to do in 2019. Note that seeing whooping cranes is not a critical part of the experience for most visitors. Although some visitors come specifically to see whooping cranes, many other visitors come for other reasons, such as seeing alligators, or just getting into nature.
- Increase the perceived significance of Aransas NWR, and identify it as the '**Whooping Crane Refuge and a Lot More**' by creating a more memorable entry into the refuge so visitors feel like they have arrived at some place special, and for those seeking a glimpse of a whooping crane, that they have arrived at the Whooping Crane Refuge, which is the experience they want. One possibility is a series of metal cut-outs of the whooping crane, a sandhill crane, and similar birds of increasingly smaller size along one side of the entry wall, and a similar type of cut out of a crocodile, and other species on the other side. Ideally, visitors who want to see whooping cranes will know they are in the right place, and for others, they know that Aransas is home for a variety of interesting birds and wildlife. This also becomes a place for them to stop and take a photo, as people do when entering National Parks, and can be a small attraction by itself.

**Note:** *Although it would be ideal for people to value a place because it was a national wildlife refuge, in general they don't because urban audiences in general tend to not consider refuges connected to or important to their quality of life. As a consequence, the USFWS has to seize whatever opportunity is available to bolster support for a part of the refuge that people will consider of value. In this particular case, identifying it as the wintering home of an iconic endangered species will have significant traction with a lot of people. However, it is not the only species that will have traction. Many people will come to see the crocodiles, and others will come just because it is an island of natural habitat in a sea of manipulated lands.*

- From a visitor (and USFWS) perspective, it would be ideal if the first structure visitors see is the visitor center rather than residences. However, budget limitations and site elevation preclude moving the visitor center and rebuilding residences elsewhere. As a short-term solution, the visitor center can still be the first structure they see if visual screening hides the residences and other out buildings. This could be vegetation, but will more likely mean a fence of some sort, such as a privacy fence, which might appeal to the staff living in the residences adjacent to the entry road. Note that if this were a solid structure, it could also have metal cutouts of birds and wildlife 'leading' visitors to the Visitor Center.
- Develop enough interpretive opportunities within the Visitor Center, and along the road (without having to get out of an air-conditioned car for any significant length of time) to offer an experience in hot weather that is worth the time it takes to get there from surrounding communities such as Rockport, Port Lavaca, Victoria, Corpus Christi, etc.
- Close and rehabilitate the Songbird Loop Trail (unless parts of it can easily be incorporated into the nested loop of trails).
- Develop more opportunities at the Oak Motte picnic area by creating a loop interpretive trail connecting it with the Oak Sanctuary Trail and Pier Trail, and developing necessary infrastructure to offer programs at that site, such as a screened shelter. Note that this would

require 2 road crossings because the Oak Sanctuary Trail is on the opposite side of the road from the picnic area.

- Develop interpretive opportunities at the Observation Tower focusing on landscapes.
- Re-configure the Auto Loop road so visitors have the option of looping back to the access road shortly after the Observation Tower.
- Develop guided and self-guided tours by van, bicycle and kayak.

# Introduction

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As a result of the damage from Hurricane Harvey, the USFWS is faced with the task of rebuilding the refuge to continue to function effectively as a place for birds, fish, wildlife and visitors. The extent of the damage, which includes the loss of the existing visitor center, creates the opportunity to consider options for modifying the lay out of the site with the visitor center, and other sites on the refuge open for public use, to increase effectiveness in communicating with the public, a key to increasing visibility and support.

The purpose of the Visitor Interpretive Experience Plan is to guide the development of visitor experiences associated with the refuge that have a significant interpretive component, and through the identification of such experiences, identify the information network to facilitate and support those experiences. That network includes orientation, wayfinding and interpretation.

The following key factors played a significant role in developing the plan:

1. **The need to connect people to nature:** The general need on the part of the USFWS to connect a highly urbanized national audience to nature in ways that lead to support for conservation of natural resources, whether from becoming a hunter or angler, or simply valuing nature for less tangible reasons. Accomplishing this requires reaching non-traditional users of refuges. This is also a step on the pathway of making the NWR system and the USFWS more relevant to the public.
2. **The unique position of Aransas NWR:** The opportunity to take advantage of the unique position of Aransas NWR as critical winter habitat for an iconic species (the whooping crane), and a part of the iconic story of the recovery of the population, to help attract non-traditional visitors to Aransas NWR. Note that visitors do not currently have good options for seeing whooping cranes up close while they are on the refuge. This is not critical for most audiences. Many people visit to see the alligators, climb the towers, and just spend some time in nature. However, if the refuge is going to be marketed (at least in part) as the 'Whooping Crane Refuge,' more visitors will arrive who have an expectation of seeing the bird.
3. **Increasing local support:** The need to increase support for the refuge and USFWS among local residents (within a 50-mile radius of the refuge). (Austwell, Tivoli, Rockport, Port Lavaca, Refugio, Victoria)
4. **The freshwater issue:** The impact of freshwater usage in urban areas located in the upper part of the watershed (San Antonio and Guadalupe Rivers) on the health of the ecosystem necessary to support the refuge in general and whooping cranes specifically. For the most part, addressing this issue will depend more on outreach, such as Table Teasers at restaurants along the San Antonio River Walk. Beyond San Antonio itself, places to target for outreach efforts depends on whether people from San Antonio visit other wildlife refuges, such as Balcones Canyonlands NWR. Note that using Balcones to reach people about the impact of water usage on coastal habitat is still worthwhile.

**Note:** *No major rivers drain the area in which Aransas NWR is located. Surface water is likely generated from precipitation and local groundwater levels (per USFWS). However, the San Antonio and Guadalupe Rivers can have significant impact on the refuge because they discharge into San Antonio Bay, therefore affecting the water quality in the bay, which in turn affects important food sources (blue crab) for whooping cranes and other wildlife.*

### **The Need to Connect People to Nature**

Around 80% of the population of the United States lives in an urban area. Many of those people don't consider the system of National Wildlife Refuges or the USFWS relevant to their lives. To become more relevant will likely require connecting those people with nature – the nature that the USFWS manages. One of the Standards of Excellence identified for Urban Wildlife Refuges is 'Connecting people to nature via Stepping Stones of Engagement.' Aransas NWR is not a designated Urban Wildlife Refuge; however, the concept of Stepping Stones of Engagement still applies. The implication of a 'progression' is apt in that the ideal outcome is for all members of target audiences to find a starting place with which they are comfortable, and become fully engaged in conserving natural resources, a goal that requires a progressive series of commitments, each a step beyond the other. However, the term is a misnomer in that it implies a linear pathway of steps with a specific starting and ending point, which by inference, involves a visit to the refuge.

In reality, Stepping Stones of Engagement includes an *array* of opportunities that constitute potential starting points to expose target audiences to nature, wildlife, refuges, the USFWS and conservation. Most people have some existing relationship with nature, such as having house plants, or a backyard garden. Those existing relationships should be the starting place for Stepping Stones of Engagement. The approach of starting where the audience is currently located reflects the commitment by the USFWS to meet people where they are. As a whole, 'starting stepping stones' offer potential visitors an array of opportunities to experience nature so everyone has an opportunity to interact with and experience nature in a way that they consider 'safe' and within his or her comfort zone. For some it may be a visit to the refuge, but for others it may be a virtual experience on the Internet or some other option that does not involve visiting the refuge.

Each stepping stone not only provides an opportunity to experience nature at a specific level, but also seeks to move a visitor along the journey to becoming fully engaged in conserving natural resources. Consequently, all 'starting stepping stones' are linked to myriad potential 'follow-up stepping stones,' and from those to other Stepping Stones of Engagement in what the USFWS hopes is an endless journey of engagement and associated commitment to conservation that takes the form of actions.

The result of this factor is a recommendation for a series of visitor experiences that move visitors gradually along a continuum from experiences in places dominated by a built environment to experiences in places dominated by a natural environment.

### **The Unique Position of Aransas NWR**

Most people in the United States have heard of the whooping crane, even if they are not birdwatchers or nature enthusiasts, in part because of the remarkable recovery of the species from the edge of extinction. Aransas NWR is a key to the story. It was at Aransas NWR that whooping cranes were 'discovered,' and it is Aransas NWR that provides most of the critical wintering habitat for the crane. Without that habitat, the crane would likely be extinct. Because of the iconic nature of the species and story, non-traditional audiences could be attracted to the refuge, where the USFWS then has the opportunity to engage them, but if the whooping crane story is used to market a visit to Aransas NWR, more visitors will arrive with an expectation of seeing the birds. This can be addressed in part by finding ways to provide good opportunities to see the birds, and also in part by offering some type of unique experience in the Visitor Center that focuses on whooping cranes.

Note that many visitors come to Aransas NWR for other reasons, so the 'tag line' used informally for the refuge should not be 'The Whooping Crane Refuge,' but rather something along the lines of 'The Whooping Crane Refuge and a Whole Lot More!'

### **Increase local support for Aransas NWR and the USFWS**

As a general rule, people value places that contribute to their quality of life. Bird watchers and nature enthusiasts will value the refuge as whooping crane habitat. Other people may value the refuge as whooping crane habitat due to its iconic nature. However, gaining support from others due to increasing the perceived value of the refuge may require focusing on other aspects of the refuge that contribute to quality of life for local residents. For example, Aransas NWR:

- Helps protect gas and oil infrastructure from storms;
- Helps protect homes, farms and businesses from storms;
- Protects coastal marsh that is critical to healthy populations of whooping cranes – a bird that places a role in the local economy by attracting visitors;
- Helps protect fish species important to commercial and recreational anglers;
- Helps protect other sea life important to residents and local businesses, such as crabs, oysters and shrimp;
- Contributes to the economy by attracting visitors who rent rooms and cars and purchase food.

### **The Freshwater Issue**

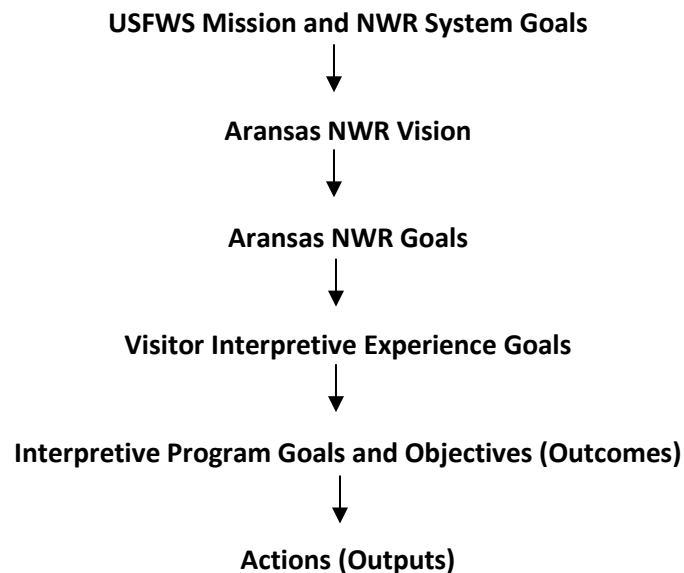
The health of the ecosystems in Aransas NWR depends indirectly on freshwater coming from the upper reaches of the San Antonio and Guadalupe watersheds. Urban areas located in the upper parts of those watersheds, such as San Antonio, also depend on that freshwater. Water saving measures in those urban areas, such as using native vegetation for landscaping, and maintaining the quality of water as it leaves those urban areas would help ensure a continued flow of freshwater at the volume and quality needed to help maintain a healthy ecosystem in San Antonio Bay, which supplies important food resources to the whooping cranes (blue crab). Interpretation on-site can be used to reach visitors from those areas who visit the refuge, but given the distance between the refuge and these urban areas, an outreach component will be needed to increase awareness of the issue among those residents.

# Visitor Interpretive Experience Goal Hierarchy

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## Introduction

The VIEP takes its direction from the **Management Goals** for the refuge, which reflect how the USFWS intends to achieve the **Vision/Mission** for the refuge. The **Visitor Interpretive Experience Goals** reflect impacts on the behavior, knowledge and attitude of the target audience, which, if achieved, result in progress toward the **Aransas NWR Goals**. The **Interpretive Program Goals and Objectives**, if reached, will help make progress toward the **Visitor Interpretive Experience Goals**. Finally, the media prescription and associated actions in the Action Plan that are identified near the end of this planning process are the **Outputs** by the USFWS that are the tools for achieving the desired impacts on target audiences reflected in the **Interpretive Program Goals and Objectives**. All those elements have been captured in the hierarchical structure depicted below.



The following section is a summary of the key parts of the Goal Hierarchy, beginning with the vision for Aransas NWR. Refer to the Appendices for the complete, detailed goal hierarchy.

## USFWS Mission and NWR System Goals

This is a National Wildlife Refuge, an entity with a mission:

*The mission of the U.S. Fish and Wildlife Service is working with others to conserve, protect, and enhance fish, wildlife, plants, and their habitats for the continuing benefit of the American people.*

Every action the USFWS takes should in some way support and make progress towards that mission. The agency also has specific goals for the National Wildlife Refuge system:

## USFWS National Wildlife Refuge System Goals

- Conserve a diversity of fish, wildlife, and plants and their habitats, including species that are endangered or threatened with becoming endangered;
- Develop and maintain a network of habitats for migratory birds, anadromous and inter-jurisdictional fish, and marine mammal populations that is strategically distributed and carefully managed to meet important life history needs of these species across their ranges;
- Conserve those ecosystems, plant communities, wetlands of national or international significance, and landscapes and seascapes that are unique, rare, declining, or underrepresented in existing protection efforts;
- Provide and enhance opportunities to participate in compatible wildlife-dependent recreation (hunting, fishing, wildlife observation and photography, environmental education and interpretation);
- Foster understanding and instill appreciation of the diversity and interconnectedness of fish, wildlife, and plants and their habitats.

## Aransas NWR Goals

Aransas NWR will help achieve the USFWS mission in general by making progress on all National Wildlife Refuge System Goals, and specifically by accomplishing the following goals, which were taken from the 2010 CCP:

**Wildlife:** To protect, restore, and maintain a diversity of native wildlife with special emphasis on Federal trust species and other species of management concern.

**Habitat:** To protect, restore, and maintain the prominent features within the Texas Gulf Coast Ecosystem that include blackland coastal prairie, wetlands, coastal woodlands, barrier island, and tidal and estuary habitats on and near the Refuge while controlling the spread of invasive or exotic plants.

1. Restore and maintain native flora and fauna on the refuge, especially as it relates to migratory waterfowl (that is what the refuge was initially set aside to accomplish, which is why it used to be called the Aransas Migratory Waterfowl Refuge).
2. Restore and maintain habitat supporting endangered species, especially the whooping crane.

**Public Use:** To provide quality, wildlife-dependent recreational and environmental education opportunities to a diverse audience and increase Refuge System support by promoting an understanding and appreciation for the unique wildlife, fish, and habitats at Aransas NWR.

## Aransas NWR Vision – The Refuge in 20 years

If successful in the efforts to reach the target audiences identified for this plan, which supports the goals of the USFWS, the National Wildlife Refuge System and Aransas NWR, the following could be characteristics of the refuge in 20 years in terms of visitation and use:



## **Visitation and Use**

1. Hunters and anglers continue to enjoy high quality experiences on the refuge.
2. Birders and nature tourists flock from near and far to visit what continues to be one of the premier destinations in the world for watching birds and wildlife, including experiencing the whooping crane.
3. Despite multiple visits to the refuge, local residents continue to visit on a regular basis and engage in interpretive experiences because such opportunities are constantly changing and are always relevant no matter the changes to the social environment.
4. Youth consistently engage in activities, and many become outdoors people who support and visit refuges and other natural areas.
5. As a result of effective partnerships, the refuge enjoys use from local schools for field trips, Environmental Education opportunities, research projects, Service Learning projects and intern programs where students from middle and high schools and local colleges serve as interns at the refuge.
6. Locals value the refuge because of the roles it plays in their quality of life, and are aware of the refuge's economic benefit to the community, and of its role in helping protect oil and gas infrastructure from storms coming in off the Gulf of Mexico, protecting homes and businesses (Matagorda Island acts as a protective barrier), and protecting important habitat supporting commercial and recreational activities like waterfowl hunting, fishing, etc.
7. Residents feel the refuge is a part of the community, which is reflected by well-attended community work projects focused on restoring and managing natural habitat both on and outside the refuge, and attendance at special events hosted by the refuge.
8. Residents of the watershed are aware of and support the larger network of USFWS refuges and other sites that engage in conservation of migratory and resident flora and fauna. (This aspect of the vision will require actions beyond the scope of this plan.)
9. Local leaders understand the value of the refuge in terms of increased tourism and the consequent boost to the economy, its role in protecting gas and oil infrastructure and the opportunities it offers residents, so they support the refuge and its activities. They also champion the refuge and refuge programs within the community in gaining congressional support.
10. The refuge continues to attract an increasing number of visitors from around the United States and the world, many of whom have demonstrated increased support for conservation and the USFWS.
11. Over the past 2 decades, Aransas NWR has experienced a significant increase in the degree to which all visitors feel welcome, due in part to an increase in materials that are multi-lingual, and increased understanding by the USFWS of what target audience segments consider of value in a visit.

## **What is happening with the USFWS staff and refuge along the way?**

1. Refuge birding and nature tourism programs continue to develop, which maintains Aransas NWR's status as a premier birding destination.
2. The number of volunteer and employment opportunities increases, whether through the USFWS or youth employment opportunities such as YCC, SCA, AmeriCorps, and interns.
3. Innovative public use programs become the norm rather than the exception.

4. Although visitor services programs and facilities continue to expand, they are planned and managed with input from Law Enforcement, maintenance and biological staff, so they do not contradict the habitat and conservation mission of the USFWS.
5. Aransas NWR continues to develop partners that support the work of the USFWS both within the watershed and within the refuge.
6. The refuge staff take initiative on a regular basis for cross programmatic work and for enhancing the visitor experiences for all visitors, not just traditional visitors.
7. Service leadership recognizes the need for innovation in planning and operations of visitor services.
8. Staff understands the relationship between conservation mission and visitor services activities.
9. The refuge values existing partnerships, and continues to work on new partnerships.
10. Staff understands the need to value visitors, which manifests itself in visitors feeling welcome.

## Visitor Interpretive Experience Program Goal Hierarchy

### Introduction

With the crisis facing natural resources in general, it's not enough for people to simply value natural resources; they need to take actions to help restore and protect the resources, and/or to support the efforts of the USFWS. Motivating people to take action of this kind generally requires caring about whatever they are restoring or protecting, or caring about the USFWS, to the point that the personal benefit they derive from their actions is worth the time and effort they expend. Interpretation can help that effort by creating strong positive emotional, intellectual and physical connections with the refuge and its inhabitants. It can also help facilitate motivating residents of urban areas to visit natural areas by stirring curiosity and interest while removing barriers, such as fear of nature.

It is also important to understand that it is not the interpretive opportunities by themselves that are going to attract visitors to the refuge, rather it is experiences. Interpretive opportunities can increase the attraction power by adding value to those experiences, and can be a key to forging strong emotional and intellectual bonds between the natural world and people, but it needs to mesh with experiences that visitors desire in order to be effective.

### Visitor Interpretive Experience Goals and Objectives

Because of the significant differences in the target audiences, the plan used primary goals identified for both local residents and non-traditional users outside the area in developing the plan. Note that at this level of the goal hierarchy, traditional users are covered by the goals for local residents.

#### **Primary Goal: Traditional and non-traditional users from outside the area**

*Increase awareness among visitors of the connection between the refuge and conservation of natural resources, and what they value in terms of quality of life, which will foster a positive personal intellectual, physical and emotional connection between the public and the refuge and the native flora and fauna it supports, and by extension, the National Wildlife Refuge System.*

This goal reflects Aransas NWR as a destination refuge for both traditional and non-traditional users from outside the local area. It focuses on an attitude that is key to visitors engaging in behaviors that support the mission of the USFWS. If they don't value the refuge or its resources, they are not like to take actions to support either.

The outcomes are difficult to identify because these visitors do not live in the local area so it will be difficult to track what they do as a result of their visit. The hope is that they will become more active in helping conserve and restore natural resources, whether by something as simple as recycling, or something more time consuming, such as volunteering for work parties or becoming a volunteer.

Probably the most cost-effective approach is to gauge changes in attitude as a result of a visit to the refuge. The surveying, which will require a permit from OMB, would survey a sample of visitors prior to their experience and a different sample of visitors who have concluded their visit to determine if significant changes in attitudes toward the USFWS, refuges, fish and wildlife, and conservation occurred.

### **Primary Goal: Local Residents (includes traditional users)**

*Create a network of local residents who actively practice and support conservation, and by extension, support Aransas NWR and the USFWS.*

This goal reflects Aransas NWR and the USFWS as a neighbor. It will manifest itself in the following Outcomes:

- Local residents visit the refuge regularly;
- Families use refuge facilities for picnics and outings with the extended family, in part because they are aware of the opportunities at the refuge;
- Residents attend and help with events at the refuge;
- Local residents volunteer at the refuge for work parties and/or other activities, such as BirdFest, refuge annual celebration, staffing visitor center (hosting), roving interpreters, community ambassadors, etc.;
- College students and adults train as interpretive naturalists and birding guides, resulting in a large trained group of volunteers to help at events and functions at the refuge.
- Local residents use native plants for landscaping in combinations that create good habitat for native flora, fauna and other valuable organisms, such as butterflies and pollinators;
- Local residents volunteer for projects in the community that are 'extensions' of the refuge, such as helping create and maintain Islands of Habitat in schoolyards, neighborhood natural areas and other public spaces;
- Local residents engage in recycling (this indicates an increase in environmental literacy and stewardship behaviors);
- Local residents support community measures focused on conservation, recycling and other actions consistent with the goals of the USFWS;
- Local residents support the refuge through voting behavior, letters to community and government leaders and similar actions;
- As a result of understanding the benefits of conservation, community leaders actively support passage and enforcement of environmental laws and policies, including developing green infrastructure and more green spaces;
- Media advocates for conservation and green spaces;

- The medical community actively supports the refuge because it recognizes Aransas NWR as a healthy destination for families to exercise and reduce stress.

## Interpretive Program Goals and Objectives

### Overarching Interpretive Program Goal

The following overarching interpretive program goal guides the overall development of the recommended interpretive network:

*The majority of visitors will develop strong positive emotional, intellectual and physical connections with nature to the point that they consider nature (Native Nature) an important part of their quality of life, and become active stewards of natural resources.*

### Interpretive Program Goals and Objectives

The following goals and objectives nest under the overarching goal. Note that many can and do apply to almost all the refuges in the system. That is because the goals of refuges in general are consistent – conserve and restore native habitat that supports native flora and fauna.

**Interpretive Program Goal 1:** Visitor satisfaction with their visit to Aransas increases significantly due in large part to better trip planning, orientation and wayfinding information and to an array of attractive interpretive opportunities.

**Note:** *The current visitor experience at Aransas NWR can be improved significantly through changes in infrastructure, such as building a new visitor center, adding trail so the Heron Flats trail is a loop rather than an out and back, and making other changes that facilitate the visitor experience. All such measures should be implemented, and should cause increases in satisfaction. However, the goals in this section are for the interpretive program, so that is the focus of the objectives.*

Achieving this goal requires enhancing the quality of the overall visitor interpretive experience at Aransas NWR. This could be as simple as upgrading the orientation and wayfinding network and making people aware of opportunities they didn't know were available, but should also include upgrading existing interpretive experiences and adding ones that provide a good return on the investment.

#### **Objectives**

Objectives focus on a significant increase in visitor satisfaction due in part to interpretive opportunities. Consequently, it is important to establish a baseline for satisfaction prior to implementing strategies intended to increase the quality of the visitor interpretive experience. To avoid research contamination, a new baseline should be established after each upgrade to the overall experience from changes in infrastructure, such as making the Heron Flats trail a loop trail.

**Note:** *When appropriate, work through the Human Dimensions Branch of the USFWS to conduct evaluation focused on determining if the following objectives have been reached.*

**Objective 1-1:** Visitor satisfaction will improve by a statistically significant amount after implementation of any major interpretive opportunity.

This will require establishing a baseline and then measuring changes. To avoid contamination, information should come from repeat visitors since the baseline was established using the existing visitor base.

**Note:** *Changes in infrastructure are included because of the need to tie visitor satisfaction to actions that focus on visitor experiences rather than on habitat restoration.*

**Objective 1-2:** Visitor opinion of the USFWS will improve by a statistically significant amount after implementation of any major interpretive opportunity or change in infrastructure related to visitor experiences.

**Note:** *Achieving this objective requires that visitors are aware that the experiences offered are due to management by the USFWS.*

**Objective 1-3:** Complaints per capita will decrease by a statistically significant amount after every significant improvement to the visitor experience.

This requires collecting data regarding complaints in an organized fashion, such as by providing staff and volunteers with a form for collecting such data. The form would include date, complaint, audience segment, and any additional information that can be gleaned without asking the visitor questions. It could also include a comment/suggestion box. Although this typically generates responses from people who are either quite irritated or quite impressed, it does provide helpful input. (This should be started as soon as possible, even before the visitor center is built.)

**Interpretive Program Goal 2:** A significant increase in the number of people - both visitors to the refuge and people outside the refuge – who are reached with key messages.

This goal suggests choosing and locating interpretive strategies on the refuge to achieve a high probability of being used, which means in part tailoring them to specific target audiences. It also suggests a significant investment in outreach opportunities, especially to those target audiences who live in urban areas in the upper part of the watershed who can have significant impact on achieving the Interpretive Program Goals.

### **Objectives**

The Objectives focus on communicating the key messages, consequently, gathering data would typically require a formal survey and hence, a permit from OMB. However, it is possible to include an interpretive opportunity in the visitor center where visitors can ‘test their knowledge.’ The answers should mostly fall into the ‘didjknow’ category, but some can focus on awareness of specific messages that the USFWS is trying to communicate.

As with all ‘change’ objectives, the study must include establishing a baseline in order to measure change. Note that measuring change could happen after every major change in interpretive opportunities and outreach strategies. However, given the amount of time involved and the need for an OMB permit for any formal study, we recommend including a ‘game’ type interpretive opportunity in the visitor center that allows collection of data regarding understanding of messages. If and when a

decision is made to do a formal study, it should take place after a number of strategies have been developed, such as at the end of Phase 1. Although this makes it harder to determine which strategies or opportunities were effective and which weren't, it would be a more efficient use of a formal survey.

**Note:** *When appropriate, work through the Human Dimensions Branch of the USFWS to conduct evaluation focused on determining if the following objectives have been reached.*

**Objective 2-1:** A significant increase in the percentage of visitors who are aware of one or more major messages after implementation of significant interpretive opportunities and outreach strategies.

**Objective 2-2:** A significant increase in participant scores in a 'didjknow' type of interpretive opportunity. (This requires that this be one of the first interpretive opportunities developed so data will allow measurement of change after implementing a major interpretive opportunity or outreach strategy.)

**Note:** *An interpretive opportunity of the type suggested also serves to help communicate key messages.*

**Interpretive Program Goal 3:** Achieve a significant increase in the awareness of the refuge and the roles it plays that relate to quality of life for people living in the surrounding area.

Traditional audiences are likely aware of the refuge and what it offers them in terms of quality of life. However, most others probably are not aware of Aransas NWR. In general, lack of awareness of refuges along with lack of awareness that refuges offer visitor opportunities have been noted as common barriers to engagement in all refuges. In the case of Aransas NWR, it contributes to the local lifestyle in myriad ways, including:

- Helps protect gas and oil infrastructure from storms;
- Helps protect homes, farms and businesses from storms;
- Protects coastal marsh that is critical to healthy populations of whooping cranes – a bird that places a role in the local economy by attracting visitors;
- Helps protect fish species important to commercial and recreational anglers;
- Helps protect other sea life important to residents and local businesses, such as crabs, oysters and shrimp;
- Contributes to the economy by attracting visitors who rent rooms and cars and purchase food.

These should be the emphasis in interpretive opportunities geared toward local residents. The whooping crane should be one point of emphasis for non-traditional audiences, as should the alligators, which does not mean the other values would not be communicated, just that they would not be the focal point.

### **Objectives**

Objectives focus on awareness that the refuge exists, the general location of the refuge, specific visitor opportunities at the refuge and the role of the refuge in areas noted.

**Note:** *When appropriate, work through the Human Dimensions Branch of the USFWS to conduct evaluation focused on determining if the following objectives have been reached.*

**Objective 3-1:** Awareness that Aransas NWR exists will increase by a minimum of 10% a year for the next 5 years.

**Objective 3-2:** Ability by residents to provide directions, at least general directions, to Aransas NWR will increase by 5% a year for the next 5 years.

**Objective 3-3:** Among residents who are aware of Aransas NWR, 50% will be able to name at least one visitor opportunity that is not traditional, and at least one visitor opportunity they consider appealing.

**Objectives 3-4:** After engaging in a visitor interpretive experience on the refuge, visitors will be able to name at least two ways in which the refuge makes a positive contribution to their lives (if they live in the surrounding area), or a positive contribution to the quality of life for people who live in the area.

Although a formal study with a baseline component would be the most accurate method for determining change, this is another objective where progress can be assessed informally by using an exhibit in the visitor center, near the end of the exhibits, that asks people (especially children) to write down how they are connected to the refuge on a 4"x 6" card that can be displayed if warranted. Changes in answers over time can then be measured.

**Interpretive Program Goal 4:** Achieve a significant increase in the level of motivation by visitors to engage in stewardship behaviors in their daily lives, leading to an actual increase in stewardship behaviors.

Although the ultimate goal is to increase stewardship behaviors, as noted previously, interpretation by itself is not likely to have a significant impact unless barriers to engaging in the desired behaviors are identified and removed. Interpretation focuses directly on knowledge and attitudes; therefore, the goal is worded to reflect what interpretation can do by itself.

*Note: It is assumed that valuing nature is a necessary precursor to being motivated to engage in stewardship behaviors.*

### **Objectives**

Objectives depend on whether barriers to specific stewardship behaviors have been eliminated, in which case the increased motivation should be reflected in increased levels of those stewardship behaviors. If not, the most that can realistically be hoped for is a significant increase in motivation.

**Objective 4-1:** Motivation among residents to engage in stewardship activities increases significantly (15% a year for the next 5 years) as a result of engaging in interpretive opportunities offered by the refuge.

**Objective 4-2:** Assuming barriers to stewardship behaviors have been minimized, an increase of 15% per year for the next 5 years in residents engaging in at least one additional stewardship behavior, such as engaging in planting of Islands of Habitat, volunteering at the refuge, planting native vegetation in their yard, or significantly increasing the rate at which they recycle.

**Interpretive Program Goal 5:** Achieve a significant increase in awareness of, appreciation for, and active support of the work of the USFWS in restoring and conserving Native Nature.

If people value Native Nature, and they are aware of the role of the USFWS in restoring and conserving it, they are more likely to appreciate and support the USFWS. Ideally this would manifest itself in a variety of ways linked to active support for the USFWS, such as an increase in volunteers and/or an increase in volunteers for work parties' and similar actions at Aransas NWR' or at whatever refuge was closest to where the visitor lives.

### **Objectives**

As with other Interpretive Program Goals, objectives depend on whether barriers to specific stewardship behaviors have been eliminated, such as lack of transpiration, in which case the increased motivation should be reflected in increased levels of stewardship behaviors, including volunteering at the refuge. If not, the most that can realistically be hoped for is a significant increase in motivation. The following objectives focus on attitudinal changes rather than specific behaviors for that reason.

***Note:** Awareness that the refuge exists is likely to be relatively high among local residents due to a variety of factors. However, that doesn't mean that they are aware that the USFWS manages Aransas NWR, nor does it mean that they know what management entails nor the extent of benefits they receive.*

**Objective 5-1:** One year after implementation of the first off-refuge elements (outreach), 50% of local residents and 25% of residents of the watershed will be aware of the refuge, that it is a refuge and not a park, and will be able to name the USFWS as the agency managing the refuge. This will rise to 75% and 50% respectively after the next phase of off-refuge interpretive opportunities is implemented.

**Objective 5-2:** One year after implementation of the first off-refuge elements (outreach), 35% of local residents and 15% of residents of the watershed will be able to explain what the USFWS does and how it differs from other agencies. This will rise to 50% after two years and 65% after three years.

**Objective 5-3:** One year after implementation of first off-refuge elements (outreach), 40% of local residents will be able to name at least 2 ways in which the USFWS has contributed to their quality of life. This will rise to 65% after two years and 75% after three years.

**Objective 5-4:** One year after implementation of the first off-refuge elements (outreach), 30% of local residents will be aware that the USFWS manages a *network* of refuges that are important to migratory birds, and aware of nearby refuges such as Laguna Atascosa NWR, units of the Lower Rio Grande NWR and Balcones Canyonlands NWR, and what they offer in terms of visitor experiences. This will rise to 50% after two years and 65% after three years.

**Objective 5-5:** One year after implementation of the first off-refuge elements (outreach), 5% of all residents of watershed who have visited the refuge will visit another wildlife refuge. This will rise to 15% after two years and 25% after three years.

**Objective 5-6:** Achieve a significant increase in participation of local residents in volunteer activities to support both the refuge proper and the extension of the refuge into the community, such as helping create and manage Islands of Habitat. (This goal pertains to local residents.)



**Interpretive Program Goal 6:** Significantly reduce the perception among urban dwellers that Native Nature is to be feared.

This was included because fear of Native Nature by many urban dwellers has been identified as a barrier to engagement. Reducing fear of Native Nature is likely to require both increased knowledge of this environment (reducing fear of the unknown) and gaining confidence related to exploring such places, which will come through repeated exposure. Efforts associated with achieving this goal should focus on residents of San Antonio and other urban areas since this goal focuses on urban residents.

### **Objectives**

As with other objectives, assessing change requires establishing a base line before implementation of strategies.

An increase in visitation by urban residents could be an indirect method for measuring reduced apprehension, but it would be hard to remove contamination, which in this case is that urban residents are visiting for other reasons, such as increased awareness of the refuge and what it offers.

***Note:** When appropriate, work through the Human Dimensions Branch of the USFWS to conduct evaluation focused on determining if the following objectives have been reached.*

**Objective 6-1:** Apprehension regarding nature will be significantly reduced following exposure to interpretive / outreach materials focused in part on overcoming that barrier.

**Objective 6-2:** Apprehension regarding nature will be significantly reduced following a visit to the refuge. (This addresses the fact that apprehension in large part is due to Native Nature being an 'unknown.')

**Interpretive Program Goal 7:** Achieve a significant increase in behaviors of residents living in the upper part of the watersheds of the San Antonio and Guadalupe Rivers that have a positive impact on the quality / quantity of water reaching San Antonio Bay, which in turn affects the wildlife at the refuge, especially the cranes.

Achieving this goal is likely to be a 2-step process. The first step is to achieve a significant increase in residents in the upper part of the watersheds regarding awareness of impact of their actions on Aransas NWR. The second is for that same group of people to be motivated to reduce negative impacts, which is likely to focus on specific behaviors.

***Note:** Achieving this goal may require interpretive opportunities at sites in the upper end of the watershed.*

### **Objectives**

**Objective 7-1:** A significant increase of awareness by residents living in the upper end of watershed on the impact of their actions on the quality / quantity of water reaching Aransas NWR, and therefore, impact on Aransas NWR.

**Note:** *This could be evaluated to some extent by answers written out by visitors to the question 'How are you connected to Aransas NWR?' but it would need to be accompanied by information about where the visitor was from. Note that this question could be worked into the game referred to under Interpretive Program Goal 2.*

**Objective 7-2:** A significant decrease in behaviors by residents living in the upper end of the refuge that negatively affect the quality / quantity of water reaching the refuge.

# Theme Hierarchy (Messaging)

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## Introduction

This section contains the proposed themes (messages) for the Interpretive Program. They are the core of the stories presented in the interpretive opportunities. However, for the interpretive program to be successful, the USFWS must also communicate the following messages:

- **‘The USFWS is an asset to the community.’** Communicating this message requires not only making people aware of the value of the refuge in terms of fisheries, protecting oil and gas infrastructure, and contributing to the economy, but also by actions taken by the USFWS that the residents consider beneficial to their quality of life, such as programs for their children, helping in the community, etc. Identification of those actions is not a part of this plan.
- **‘The USFWS is a conservation-oriented agency.’** Everything sends a message, and where there is apparent discrepancy between what you say and what you do, people believe your actions. With that in mind, your recycling bins should be obvious; you should use low-flow fixtures and other energy saving strategies in design of the visitor center (and take advantage of those interpretive features by pointing out what you did – especially actions that a person can take in his or her own home). Also include refillable water bottle stations.

## General Themes

***Note:** Themes were developed in the draft VSP in 2011. However, the themes were all based on the assumption that people already cared enough about wildlife to act, so if they only knew that the wildlife was endangered, they would do something about it. Unfortunately, that isn’t true for most Americans. We are an urban people (80% of the population live in urban areas) with diminishing ties to nature, other than the nature you see in urban areas – parks gardens, yards, etc. With the diminished ties comes a diminished sense of connection and personal value. What is worse, we have begun to fear Native Nature, in part because it is an unknown. Consequently, the theme hierarchy for Aransas NWR (and all other refuges) must begin with the message that the nature that is conserved and protected in refuges is important to the quality of our life.*

Although the following themes are not specific just to refuges, they are important because a high percentage of the target audiences live in urban areas, which is causing a decrease in connections with nature and the associated value of native flora and fauna. If the public does not value Native Nature it will be much harder to motivate them to value refuges.

**General Interpretive Theme 1:** Native Nature is important to your (my) quality of life.

**Discussion:** As noted previously, if the audience doesn’t think Native Nature is important, the other messages are pointless in terms of achieving the desired outcomes. This could be expanded to public lands, or be a sub-theme under a theme about public lands being important to our quality of life, but spending time defending public lands in general could distract people from the key point that you want to make, which is that Native Nature is an important component of quality of life, and therefore, USFWS refuges are an important component of your quality of life. This is also an easier theme to communicate

because most people invite nature into their lives in some way, such as by house plants, landscaping, wall photos, walks in a natural area, and in myriad other ways that do not happen on public lands.

This theme can have several sub-themes based on the different lifestyles of the members of the target audiences. Potential sub-themes include the following:

**Sub-theme 1-1:** Pollinators are critical for pollinating local crops and depend on native habitat to survive, so planting native plants will support the agricultural industry.

The focus is on connecting with audiences by the food they eat, so this would be a good theme for interpretive information associated with local bakeries and restaurants.

#### **Examples of Potential Supporting Stories**

- The importance of moths as pollinators;
- The role of hummingbirds as pollinators;
- The importance of pollinators to cotton and sorghum crops.
- Other non-charismatic pollinators, especially native bees.

**Sub-theme 1-2:** Native Nature provides desirable recreational opportunities.

#### **Potential Supporting Stories**

- The role of the refuge system in providing hunting, especially for waterfowl;
- The importance of clean water to support fish populations, which in turn provide opportunities for recreational anglers;
- The importance of having natural areas to walk and hike where people can see wildlife and wild places.

**Sub-theme 1-3:** Nature plays an important role in a healthy lifestyle.

#### **Potential Supporting Stories**

- Research shows that the most effective reducers of stress are bird calls;
- Research shows that simply viewing nature reduces stress;
- Research has long indicated walking is a good activity for maintaining health, so walking in natural areas would both help maintain health and reduce stress.
- The % of medicines that come from native plants.

**Sub-theme 1-4:** Aransas NWR supports the economy of the area

#### **Potential supporting stories**

- Aransas NWR and other natural areas produce waterfowl, fish and crustaceans (crabs, oysters, shrimp) that support commercial and recreational hunting and fishing, which are significant in this area.
- Aransas NWR is important to ecotourism, a significant factor in the economy of the area because of the number of people who come to see whooping cranes.
- Aransas NWR helps protect oil and gas industry infrastructure by acting as a barrier against storms coming in off the Gulf of Mexico.
- Aransas protects home and businesses by acting as a barrier to storms.

### **Other strategies for increasing the perceived value of Native Nature**

It is not the purpose of this plan to focus on other than visitor interpretive experiences, but given how important it is for target audiences to value Native Nature, the following ideas are recorded in this plan:

1. Explore the role of Native Nature in creating motifs and inspiring artworks of the cultural groups who have lived and continue to live in the area.
2. Explore ways in which the ancestors of cultural groups who live in the area used Native Nature to support their lifestyle. This could be in the form of classes, talks, presentations, etc. Topics could include making and using natural dyes; basket making; medicinal plants; food plants (this is essentially the 'incredible edibles' idea in a different format).
3. Conduct a photography contest on Instagram. This would have to be set up to be limited to 'natural' subjects. It could have an additional component requiring the person submitting the photo to explain why this part of nature inspired the photo, thus requiring the person to think about nature. This is a good way to reach younger audiences, and has worked in the past for other refuges when targeting high school students.
4. Ask visitors to hashtag #AransasNWR to share photos with each other.
5. Develop a Facebook group for Aransas NWR photographers.

**Note:** *By the time this plan comes out new technology that could be used for interpretive and other recreational opportunities is likely to be available, so someone should stay abreast of changes in available technology to determine how they might be used to reach audiences targeted in this plan.*

**General Interpretive Theme 2:** Wildlife, along with all other biological organisms, depend on their specific habitat to survive.

This is a key concept that underlies everything that the USFWS does, including the actions on the refuge. The addition of “. . . all other biological organisms . . .” provides the opportunity to at least hint at the concept that nature is a part of human habitat, and is therefore essential for survival of the human species. The story of the decline of pollinators helps tell that story.

The addition of “. . . *specific* habitat . . .” provides the opportunity to emphasize that some species are adapted to very specific habitats, and will go extinct if the habitat disappears. This is important when focusing on whooping cranes.

The milkweed and monarch butterfly are perhaps one of the simpler combination of features that helps tell the story of the importance of habitat to wildlife (and one available to use in an interpretive opportunity because the refuge has milkweeds that are pollinated by monarch butterflies). One of the advantages of the monarch butterfly-milkweed story is that monarch butterflies are one of the few charismatic microfauna, plus, monarchs pollinate a lot of other wildflowers. The best examples are going to be ones where the public values a species in some way.

**Note:** *A lot of other charismatic butterflies, such as swallowtails, can also be found on the refuge and could, therefore, be used in interpretive programs.*

In addition, understanding that this concept applies to humans (a biological organism) is an important step in understanding the dangers of global warming, the loss of native flora and fauna, and other negative impacts on the ‘habitat’ for humans.

**Sub-theme 2-1:** Protecting native flora and fauna focuses on protecting and restoring the habitat they depend on for survival.

**Potential Supporting Stories**

- The ruby throated hummingbird, which enjoys iconic status in nearby Rockport (they hold a Hummer Festival annually) depends on several native plant species for survival. This was an issue after Hurricane Harvey because a significant amount of their habitat was destroyed.

**Sub-theme 2-2:** The habitat necessary to support migratory birds and wildlife extends the entire length of their migration routes.

Migratory waterfowl and other birds depend on a series of resting stops connecting their breeding grounds to their wintering grounds. Without them, they won’t survive. That is why the USFWS protects key resting stops along the migratory pathway in addition to breeding and wintering grounds to ensure the survival of migratory birds.

**Potential Supporting Stories**

- The whooping crane was saved from extinction and continues to survive in part because the critical wintering habitat at Aransas NWR was preserved, the breeding ground habitat was preserved and the resting stops along the migratory route were protected.
- Monarch butterflies depend on milkweed for survival.

Note: One of the potential storylines associated with the whooping crane is the importance of international treaties related to migratory birds and wildlife.

**General Interpretive Theme 3:** A lot of people, including the USFWS, are working to conserve and restore habitat to protect wildlife we value for the people today and for future generations. You can make a difference by helping.

As noted, people take action when they believe that those who are asking for help are doing everything they can, and when they believe that their personal actions will make a difference.

**Sub-theme 3-1:** Because individual actions add up incrementally to significant impacts, you can play an important role in maintaining natural resources, and on conserving and recovering the fish and wildlife.

### Potential Supporting Stories

- The stories of volunteers who help replant refuge lands with native vegetation, and/or who help in other ways.
- People from all over who sent feeders to the area after Hurricane Harvey to support the population of ruby-throated hummingbirds, which had a significant amount of habitat destroyed by the hurricane.
- Many local people are involved in regular beach clean-up events led by other organizations and hosted by the USFWS. The trash represents a danger to native fauna who might mistake it for food.
- Friends Group building the pollinator garden.
- People contributing to the Friends' Water for Wildlife fund.
- The Whooping Crane Strut race put on by the City of Rockport.
- The work by Flatsworthy, a local group of anglers (airboaters, kayakers, motorboaters, etc.) to protect habitat. They have already partnered with the refuge on a restoration project.

## Aransas NWR-specific Themes

The following themes are specific to Aransas NWR and should be a focal point of the interpretive program at the refuge. However, that does not mean the general themes should be ignored.

**Aransas-specific Interpretive Theme 4:** Aransas NWR provides many benefits to the citizens of the area.

**Sub-Theme 4-1:** The fish and wildlife supported by Aransas NWR are important to the quality of life of those living in the area.

### Potential Supporting stories

- Coastal marshes protected on the refuge are nurseries for rearing fish species valued by both recreational and commercial anglers. The recreational fishing includes tourists to the area, who hire guides, book lodging, eat meals, and spend money in other ways that support the local economy. The coastal marshes also support whooping cranes, other birds, waterfowl and crustaceans that are important to birders, waterfowl hunters and hunting guides.
- Aransas NWR is the winter home to the rare and endangered whooping crane, which attracts visitors from all over the world who visit, stay overnight, purchase meals and fuel, and by extension, create jobs, help fund hospitals and schools, and support services we value.  
*Note: A possible action is to help Austwell and Tivoli become known as the Gateway to Aransas NWR.*
- The coastal marshes are important nurseries supporting the shrimp and oyster industries.
- Aransas NWR supports populations of waterfowl that help support hunting.  
*Note: This is an important point because Aransas NWR was purchased with Duck Stamp dollars and was originally established as a rest stop and wintering ground for migratory*

*waterfowl. The USFWS actively manage portions of the refuge to provide food for waterfowl, and portions of the refuge (state-managed marshes around Matagorda Island) are hunted.*

- Deer populations supported by Aransas NWR help support hunting.  
**Note:** *The USFWS currently offers archery and rifle hunts every year, as well as special youth hunts and hunts for Wounded Warriors.*
- The tidal flats at Aransas NWR support a wide variety of seafood valued by local restaurants and residents, such as crabs, shrimp, and oysters.
- The refuge provides significant indirect support for hunting and fishing guides due to managing for fish, shellfish, and wildlife that attract hunters and anglers from outside the area. Those hunters and anglers support the local service economy by buying meals and lodging.

**Sub-theme 4-2:** The flora and landscape of Aransas NWR provides benefits to citizens of the area.

#### **Potential Supporting Stories**

- The live oak forest and wetlands at Aransas NWR helps protect farmland, homes, businesses and gas and oil infrastructure by absorbing the force of wind and soaking up flood waters during storms.
- Matagorda Island is a barrier island, helping protect the coastline from storm surge.
- Aransas NWR provides a wide variety of recreational opportunities.

**Aransas-specific Interpretive Theme 5:** Everything in a watershed is linked. Everything that happens upstream affects everything downstream. Aransas NWR and the fish and wildlife it supports are endangered due to actions by urban residents in the north part of the San Antonio and Guadalupe River watersheds.

This is a combination of a general theme (the connections in a watershed) and an Aransas NWR-specific theme (issues with freshwater due to actions further up the watershed). It is a critical theme because the use of water in the upper parts of the Guadalupe and San Antonio watersheds, especially in the city of San Antonio, affects the quality and quantity of freshwater flowing into San Antonio Bay. The bay is a key source of fish and other aquatic organisms desired by fish and wildlife, and by people. In particular, the bay is a source of blue crab, a preferred food of whooping cranes.

**Sub-Theme 5-1:** Everything in a watershed is linked.

**Note:** *A more typical theme is that everything in an ecosystem is linked, which is supported by the stories of predator-prey relations, food webs and other stories. The issues in communicating that theme is explaining what makes up an ecosystem. It is often easier for people to understand watersheds, and in the case of Aransas NWR and the issue with freshwater supply from further up the watershed, it makes more sense.*

#### **Potential Supporting Stories**

The following are some, but not all of the stories that can support this theme based on the tangible features on the refuge or other features in the area.



- Healthy uplands are critical to healthy wetlands.
- The impact of climate change on a single species, which in turn has an impact on other species in a watershed.  
*Note: Climate change will have significant impact on flora and fauna that depend on coastal marshes due to rising sea level eliminating habitat. This includes habitat that supports whooping cranes.*
- The impacts of changes to river flow upstream affecting the health of downstream ecosystems and the flora and fauna that live there.  
*Note: This is especially an issue in drought years when the river authorities hold water in the reservoirs that would otherwise be available to supplement the freshwater in San Antonio and Matagorda Bays.*

**Sub-theme 5-2:** Humans can determine what organisms live and what die in the watershed by impact on habitat. Those impacts ultimately affect humans since humans are a part of the ecosystem.

*Note: This is another general sub-theme, but in this case, it is an important message regarding flora and fauna in Aransas NWR.*

*Note: This cannot be presented as a 'doom and gloom' story because research has shown that the doom and gloom approach is not effective.*

Another way of stating this is that people are a part of ecosystems, so everything they do has impact on other parts of the system. Even incremental positive changes can benefit the system. Ideally, we want this to be taken to the individual level, so people feel that they can make a difference by planting native plants in their yards, recycling, conserving water, and engaging in other actions associated with a sustainable lifestyle.

### **Potential Supporting Stories**

The following are some, but not all of the stories that can support this theme based on the tangible features on the refuge or other features in the area.

- The absence of many biological organisms in the area outside the refuge due to modification of habitat by humans.
- The return of species as habitat is restored.
- The impact of hogs and other invasives introduced by humans.
- Many pollinators that are crucial for plants that provide foods we enjoy are endangered due to human activities.  
*Note: Proving this story requires showing how pollinators affect foods we enjoy, which could involve any business or institution that sells food, and showing how human activities have both positively and negatively affected pollinators. This should be followed by a Call to Action to let people know what they can do on an individual basis.*
- The major loss of prairie habitat causing a severe decline of grassland birds. (Coastal prairie habitat can be seen on the one-way section of the auto tour loop, but the best viewing opportunity is at the rest top on Hwy. 35 run by the Tatton Unit.)
- Only 5% of native habitat in Texas remains due to human activities, putting native flora and fauna that depend on those habitats in danger of extinction.

- Human activities, including development, have fragmented wildlife habitat, which has a negative effect on many species of wildlife.

**Sub-theme 5-3:** Freshwater is critical to the ecosystems at Aransas NWR that support native flora and fauna. The supply of freshwater is endangered due to human activity in upper parts of the watershed.

*Note: Although this is a supporting story for Sub-theme 2-2, it is such an important issue that it was moved to the status as a sub-theme (designers can pick and choose amongst supporting stories to determine the ones to tell, so it is possible that some supporting stories are never told).*

**Sub-theme 5-4:** Because individual actions add up incrementally to significant impacts, you can play an important role in maintaining natural resources, and on conserving and recovering the fish and wildlife at Aransas NWR, including the endangered whooping crane.

There are myriad ways of saying this, including, “you are either a part of the solution or part of the problem.” I am more in favor of the one used in the sub-theme because it speaks specifically to the reader and is positive. Regardless, the key is to empower people so they have confidence that whatever small part they can play is important in the grand scheme of things. This will be important when trying to motivate people to plant native plants in their yards and take other small steps that help the environment. The Schoolyard Habitats are perhaps one of the key features in communicating this concept, but it may be one that you have to get people to take on faith, and then hope that faith is rewarded when they see a bird in a plant in their yard that they had never seen there before.

#### **Potential Supporting Stories**

The following are some, but not all of the stories that can support this theme based on the tangible features on the refuge or other features in the area.

- The story of the ruby-throated hummingbird, the habitat it values, and how humans have affected the population in positive ways by individual actions, specifically by planting flora that supports this species.
- Actions taken by residents on a daily basis that causes positive and/or negative impact on the natural environment. You can have a positive or negative impact – the choice is yours.
- The work of the Johnson family locally to provide habitat for whooping cranes on their land.

**Aransas-specific Interpretive Theme 6:** The wetlands (including coastal marshes) at Aransas NWR are valuable to humans for myriad reasons.

This is also a general theme, but it was included as an Aransas NWR-specific theme since the supporting stories need to come from Aransas NWR.

#### **Potential supporting stories**

The following are some, but not all of the stories that can support this theme based on the tangible features on the refuge or other features in the area.

- Wetlands do the work of many man-made structures by soaking up flood waters, thus protecting people from flooding naturally.
- Wetlands filter and cleanse water, helping maintain water quality and consequently, fish and other aquatic life.
- Wetlands trap topsoil so it isn't lost through erosion, which also keeps it out of rivers and streams where it could destroy fish spawning habitat.
- Wetlands support many species of birds that people enjoy, such as herons, egrets and songbirds.
- The coastal wetlands (marshes) are important rearing grounds for fauna that support commercial and recreational fishing, birding, hunting waterfowl.
- The coastal marshes support species that attract birders and nature photographers.
- Some people simply enjoy being in such environments (aesthetic value).

**Aransas-specific Interpretive Theme 7:** Without Aransas NWR, the whooping crane would probably have gone extinct, which would have had negative impacts on the surrounding community.

This has two themes tied into one – the importance of Aransas NWR in saving the whooping crane from extinction, and the resulting negative impacts extinction of the crane would have on the surrounding area. This is essentially a sub-theme or even a supporting story of some of the other themes, but it is presented as a specific theme because of its importance.

#### **Potential supporting stories**

The following are some, but not all of the stories that can support this theme based on the tangible features on the refuge or other features in the area.

- Aransas NWR contains the critical wintering habitat of the whooping crane.
- Loss of the whooping crane would likely be accompanied by a drop-in birders and non-birders who come from around the world to see the crane, which would result in a drop-in revenue from ecotourism. (People coming to bird and/or see the crane are not a majority of the visitors to Aransas NWR, but they are significant in terms of numbers.)

# Visitor Interpretive Experiences and Interpretive Strategies

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## Introduction

The flow of information in the information network to support any visitor experience reflects the typical sequence of information desired by visitors, which starts with trip planning, moves to orientation and wayfinding, and continues – ideally – through interpretation. For example, people typically initially want information on what to take, what the site offers in terms of visitor opportunities, what to be prepared for and other information that helps them plan a trip. They then need wayfinding information to get to the site. After arrival, first-time visitors will need site-specific orientation and wayfinding information to locate the restrooms and plan their visit. Most will want to obtain a map of the area and get answers to basic trip planning questions such as, "What is there to do around here?" "Where can I see whooping cranes (and other wildlife)?" "Where can I see crocodiles?" and, "Is it safe?"

Since orientation and wayfinding information is a need, it has priority over interpretive opportunities, which for most travelers are *options* for spending time. Consequently, to facilitate a good interpretive experience, orientation and wayfinding information to the refuge should be available at the beginning of the visitor experience, before they start their trip, and throughout, whenever the visitor might want it. Site-specific orientation, wayfinding and visit planning information should be readily available immediately upon arrival. In addition to offering such information upon entry to the Visitor Center, it also means that it must be available outside the Visitor Center, so visitors have access when the facility is closed. Interpretive information is also presented sequentially, beginning with thematic overview followed by detail. This increases the probability of visitors being exposed to the key messages. It is also easier for them to absorb and process the detailed information if they have an overview first.

## Stages of Visitor Interpretive Experiences

Typical visitor experiences to this type of site all move through the following continuum of stages.

### Choosing to Engage

The first challenge is to motivate visitors to engage with information about the refuge. One role of the off-site information network is to market experiences at the refuge so potential visitors are aware of Aransas NWR, that the refuge welcomes visitors, and that it offers attractive (and safe) experiences for visitors. The network must use a variety of strategies to market the experiences at the refuge because members of the target audiences differ on how they gather information. For some of the members of the target audiences, awareness of the refuge and the fact that it has intriguing visitor experiences will not be enough – barriers must also be addressed.

With little experience outside of nature found in a built environment, some may fear the Native Nature they would experience at Aransas NWR. Although marketing information in general can probably make some progress in that regard, it will be important to market the experiences as 'safe.'

Some members of the target audience may fear the uniform. Overcoming that barrier is likely to take some time and repeated exposure outside the refuge to the uniform and logo coupled with a deliberate attempt to draw the distinction between the USFWS logo and others, particularly law enforcement.

### **Pre-Visit Experience**

Whether they follow up on the Internet, call the refuge, or pick up a brochure at an off-site location, people interested in visiting the refuge need information to plan their trip (Trip Planning Information). They typically gather such information on the Internet.

### **Travel Experience**

For those in charge of travel, wayfinding information is needed, again offered in a variety of strategies that stand alone but also serve to reinforce each other. For example, visitors can obtain a map from a distribution point or by printing it off from the Web, and use it alone to find the refuge. However, directional signage at key intersections and adequate signage at the entryway can reassure them that they are going in the right direction. Note that GPS does not always work efficiently in the area in which the refuge is located, so other, more traditional wayfinding strategies, such as a map and directional signage, are even more important.

### **Arrival Experience**

Upon arrival, visitors must have immediate access to restrooms and orientation, wayfinding and visit planning information because these are needs and interpretation is an option. When they finish with this stage of their experience, they must be aware of the location of the restrooms (even if they don't use them on arrival), aware of sources of information regarding upcoming programs and events, aware that a person is available to answer questions, aware that the Visitor Center has a Nature Store, have a plan for their visit, and know how to begin their experience.

### **Primary Experience**

Visitors then engage in the experience that attracted them to the refuge. Regardless of the experience / opportunity, they should all be exposed to elements of the interpretive network. In other words, all experiences should have interpretive components that motivate visitors to want to engage more fully in the interpretive network, which guides them intellectually and physically through the refuge as it is and as it could be, all the while establishing emotional and intellectual connections critical to motivating the visitors to take action, not only to help the refuge, but to protect their natural heritage.

### **Departure Experience**

After engaging in the Primary Experience, visitors prepare to leave, which typically involves another trip to the restrooms and a visit to the Nature Store. This is the part of the experience when they are most receptive to information on upcoming programs, events and other reasons for a repeat visit. The motivation to come again can be increased by adding incentives for repeat visitors. This is also a good time to offer information about the Friends Group and what it does to help the USFW at Aransas NWR. Finally, this is also the best time to offer information on complementary experiences in the surrounding area, and along the travel routes leading from the refuge to population centers in the state. For example, complementary sites in San Antonio would be important because they might be more effective in communicating key messages that focus on the freshwater issue. As another example, the refuge has a partnership with the Dallas Zoo, so it would be a good complementary experience to market.

### **Return Travel Experience**

Visitors need orientation and wayfinding to guide them back to the highway.

### **Post Trip Experience**

Unless visitors have requested information from the refuge, such as notices of upcoming programs and events sent via email, they don't have a need for continued contact. However, it is in the best interests of the USFWS that they have a communication channel so they can continue to market experiences and opportunities. This can be email and/or social media.

## **Recommended Visitor Interpretive Experiences by Stage**

### **Introduction**

The following section is organized on the basis of the stage of the visitor experience. References to the current experience are noted where applicable, but because of the destruction by Hurricane Harvey, many aspects of the visitor experience, such as the experience in the Visitor Center, do not currently exist. In such cases the current experience is not included. The Design Concepts can be found in the next section of the plan.

### **Choosing to Engage**

#### **Introduction**

Most visitor experiences with the refuge are likely to begin off-site, typically within the context of a potential visitor's existing lifestyle, and not usually with a visit to the refuge's website. Therefore, potential visitors must first become aware of the refuge and that it has opportunities in which they might be interested to motivate them to visit the website. That necessitates inserting marketing elements of the network into places already frequented by the target audiences, whether physically or digitally. This will vary by target audience. For example, reaching seniors may involve putting information at retirement communities, community centers, doctor's offices, health centers and other locations frequented by this audience. Reaching families may mean using radio and TV, reaching children in schools (who will take information to their families), and putting an exhibit in a community center, mall, local restaurants, RV parks and similar places frequented by this audience.

Regardless of the strategy, all should be trying to make people aware of Aransas NWR, that it is open to the public, that it offers attractive visitor opportunities, that it welcomes visitors, and of where a potential visitor can get additional information. Marketing strategies should also reassure potential visitors that a visit will be safe (if they follow the rules).

#### **Choosing to Engage: Current Experience**

A wide array of people are probably already familiar with the refuge for a variety of reasons:

- Bird enthusiasts are probably already aware of Aransas NWR because it is the wintering grounds of whooping cranes;
- Residents of Port Aransas and surrounding communities are probably familiar with the association of the refuge with whooping cranes because of the Whooping Crane Festival held in Port Aransas;
- Many locals are probably familiar with the refuge because they engage in activities on or adjacent to the refuge, such as fishing;

- Local residents may be aware of the refuge indirectly because their children have visited the refuge on a field trip;
- Many people are familiar with the refuge because friends have posted images on Facebook or Instagram.

However, awareness does not necessarily transfer to choosing to engage with interpretive opportunities on or off-refuge, nor does it mean they are familiar with other visitor opportunities on the refuge.

In terms of direct attempts by the USFWS to catch attention and motivate people to visit the website, the refuge is active on Facebook, and has a Rack Card. Although the Rack Card is important for visibility, the card by itself is not likely to cause a significant increase in visitation. Its role is to motivate people to want more information and let them know where they can find that information (on the Internet).

### **Choosing to Engage: Future Experience**

In addition to current strategies that increase the visibility of the refuge, such as field trips attended by children (who then tell their parents), Rack Cards, a presence in the Whooping Crane festival, and features in traditional mass media outlets, residents of the watershed encounter information about the refuge in so many additional locations and at so many other functions that the ubiquitous nature of strategies highlighting the refuge, including an Interpretive Panel Cluster at the Rest Area on Highway 35, motivate them to delve further by checking out the refuge website. Perhaps the most effective marketing strategies are Facebook and Instagram posts by others in their personal networks.

In addition to increasing involvement in the Whooping Crane Festival and facilitating field trips to the refuge, strategies include the following:

- Islands of Habitat and Specialty Gardens in local communities that were developed by a partnership of the community and the USFWS;
- Impromptu Interpretive Presentations by refuge staff at local events and areas that potential visitors frequent, such as parks and local festivals;
- Traveling Exhibit;
- Posts by the refuge on social media, such as Facebook;
- Table Teasers in restaurants;
- An interpretive panel cluster at the Rest Area on Highway 35 that is managed by the Tatton Unit.

All provide tantalizing glimpses of the refuge along with take home information (when possible) that facilitate a visit to the website and/or Facebook page.

### **Summary of Strategies**

The following information strategies and actions will facilitate engagement by potential visitors by heightening interest in the whooping crane and other aspects of the refuge. Full Design Concepts are located in the section following this one.

**Table Teasers:** These present interesting tidbits of information ('didjacks') associated with the stories covered by the interpretive network. They can take the form of place mats, laminated cards, or booklets to name a few possibilities, and are typically found in restaurants where people browse them while waiting for food. Restaurants in Rockport, Tivoli and Port Lavaca would be good starting places to check on interest in Table Teasers, but the refuge should check with restaurants in Corpus Christi and other places within an hour of the refuge.

**Rack Cards:** The current Rack Card has an image of a whooping crane on the front, which helps establish the refuge as ‘The Whooping Crane Refuge,’ but does not immediately present the refuge as a place where visitors are welcome, nor does it effectively communicate the rest of the tag line “. . . and so much more!” Ideally, the card should show visitors enjoying experiences on the refuge to clearly communicate that visitors are welcome at the refuge, and that the site does have visitor opportunities. When the card is ready to be reprinted, it could be redesigned so it still contains an image of a whooping crane on the front, but it would be surrounded by images depicting visitors engaged in other activities on the refuge.

**Islands of Habitat:** These are pockets of native flora designed to reflect typical native plant communities found on the refuge. They are planted outside the refuge in locations frequented by the public, such as in school yards (where they are often referred to as Schoolyard Habitats), parks, community centers, and backyards. These Islands of Habitat support native fauna, pollinators, and other native biota. They can be effective Stepping Stones of Engagement for urban audiences because they tend to be highly visible, easily accessible, and are likely to be considered ‘safe.’ A key to being effective as a Stepping Stone is the interpretation and/or environmental education associated with each Island of Habitat, which would communicate key messages, and also market the refuge as a visitor destination.

**Note:** *The Private Lands program may be a source of funding for Islands of Habitat.*

**Specialty Gardens:** These gardens are planted outside the refuge in locations that target audiences frequent. A wide variety of Specialty Gardens could be planted, such as ones made up of native plants traditionally used as medicines, native plants traditionally used for food or in food preparation, pollinator gardens, and butterfly gardens. Associated interpretive information focuses on communicating key messages and marketing the refuge as a visitor destination.

**Traditional Mass Media:** This includes newspapers, radio stations and television stations used by target audiences.

**Impromptu and Partner Event Interpretive Presentations:** These are presentations by an interpreter at locations frequented by target audiences, such as events, parks, etc. To be most effective, interpreters must have the flexibility to choose and deliver a program on the spot that caters to a specific crowd in a specific setting. Consequently, they need quick access to a wide variety of objects to help with a presentation. The more props and basic strategies available to the interpreter, the higher the probability of having something that fits the situation and audience. One possible tool is a vehicle outfitted with props and interpretive opportunities (InterpVan) such as the one shown below. An interpreter drives the vehicle to places where members of the target audience gather, such as events, parks, and Farmer’s Markets, and presents programs. The vehicle could be painted to attract attention and help create visibility for the USFWS and the refuge.





Example of an InterpVan

**Traveling Exhibits:** The traveling exhibit recommended for this network is one that can be set up easily and the components changed out quickly. Specific exhibit layouts could be designed, and all the necessary information packaged together with instructions for assembly, so the exhibit could be used in a variety of settings and easily set up by anyone. Note that a key difference between this strategy and Impromptu Presentations is that Traveling Exhibits should tell a complete story without requiring a person. Presentations require a person.

**Social Media:** Facebook may be the most effective strategy for making people aware of the refuge and what it has to offer (Aransas NWR has a Facebook page with more than 11,000 followers.) The key to an effective site is to post interesting images or tidbits of information on the Aransas NWR Facebook page that followers are likely to react to with a 'like,' and share it with others in their personal network. In a sense, this is social selling, which has always been the most effective marketing strategy. Many members of the target audiences use Instagram and Twitter, so those social media platforms should be used by the refuge.

**Interpretive Panel Cluster at the Rest Area on Highway 35:** The panel cluster would use a story of the loss of coastal prairie habitat and resulting negative impacts on fish and wildlife as a lead-in to a focus on Aransas NWR and what it has to offer. Note that travelers encountering the signage may choose on the spot to visit the refuge, but they are still likely to look up information on the website using their smart phones (if coverage is available).

## Pre-Potential Visit Experience

### Introduction

After learning that the refuge exists and has visitor opportunities, the visitor's next need is for additional information to help make the decision to visit, and, if such a decision is made, they need trip planning information. Note that visiting a website or a source for additional information about the refuge does not indicate that people have made a decision to visit. Consequently, the tasks of strategies in this stage of the experience are to market the refuge as a destination attraction, and to provide trip planning information.

Many people will look for more information on the Internet. For those without access to the Internet, the telephone is usually an option. Regardless of the source, potential visitors should be able to easily find out all they need to know to plan a trip, such as hours of operation, what to bring, how to get to the refuge, how long a visit might take, etc. If a fee is going to be charged, this must be made clear to potential visitors before they make the decision to visit.

### **Current Experience**

Potential visitors can go to the website for more information, but the site is not organized particularly well for planning a visit, nor does it appear to be particularly welcoming to visitors, in part because the site typically loads on the home page, which does not depict anyone having a recreational experience on the refuge. The same can be said for the information associated with 'Plan Your Visit,' and 'Visitor Activities.' The seeming lack of interest in people visiting is reinforced on the home page of the refuge's Facebook page because the list of primary categories of information on the left side does not include one that focuses on visiting the refuge. Finally, the trip planning information is not clear in places. For example, it suggests visitors wear appropriate clothing, but does not define what is appropriate clothing for a visit to the refuge. Changes are important because National Wildlife Refuges are believed by many to be areas that are not open to the public, so they don't ever consider a visit.

***Note:** Changes in the format of the USFWS websites will occur at a national scale at some point. Hopefully, most of the problems with usage will be addressed. Regardless, the key take-away is that the current version doesn't work well.*

***Note:** Although this is the 'whooping crane' refuge, the focus of the website is so heavily on this bird that it appears as if there isn't much else to do, and not much reason for visiting the refuge other than when whooping cranes are present. That should be corrected, if possible, to show potential visitors that Aransas NWR has a lot more to offer, including seeing wild alligators.*

### **Future Experience**

After learning about the refuge, potential visitors have the option to seek more information from a large array of options. The refuge's Facebook page has a link for planning a visit that takes the visitor directly to that information on the refuge website. The 'Plan Your Visit' section is complete with information on visitor activities and opportunities organized by month, along with information on how to prepare for a visit at that particular time of year. For more information on specific activities, the visitor can go to the 'Visitor Activity' section, which uses a combination of images of people taking part in recreational activities, such as birdwatching from the two observation towers, watching alligators, bicycling the auto tour route, picnicking at the Oak Motte picnic area, and fishing from the fishing pier, along with information specific to that activity. If they visit the website, potential visitors will have the option of viewing an In-Depth Video Tour of the refuge, downloading the Aransas NWR Map/Brochure, and connecting with the refuge's Facebook site, Twitter site, Instagram site or any other strategies employed by the refuge.

***Note:** It is difficult to prescribe the types of social media to invest staff time into because the options continue to change on a regular basis. At this point, the most effective tools include Facebook, Instagram (used heavily by the younger generation), and Twitter. Of those, the refuge currently only uses Facebook.*

### **Summary of Strategies**

The following information strategies and actions will facilitate trip planning by potential visitors by providing effective trip planning information while also continuing to promote the refuge as a destination attraction.

**Social Media:** The refuge is already active on their Facebook site. Instagram and Twitter should be added as platforms for communicating with target audiences, which means dedicating some staff time to a regular posting.

**Aransas NWR Website:** This strategy exists, but needs to be modified if possible. To be most effective, the website should be re-organized so it is a marketing and trip planning strategy first and foremost. This does not mean eliminating information currently on the site. Rather it means moving information so it is accessed with the use of tabs.

**In-depth Video Tour (on Website):** The purposes of this strategy are twofold. The first is to attract visitors to the refuge while also sending key messages. The second is to provide an in-depth experience of the refuge for people not physically able to visit Aransas NWR with the intent of creating an emotional connection.

**Aransas NWR Map/Brochure:** The refuge has a trail map, but the format as a single standard-sized sheet of paper makes it more difficult to distribute and use than a typical map/brochure. In addition, it does not include information about hazards nor about other visitor opportunities on the refuge. The map/brochure contains a site map, trail information, auto tour information, hazards, notes on other recreational opportunities, such as biking.

## **Travel Experience**

### **Introduction**

This is the part of the experience between when visitors leave home and when they pass through the entryway to the refuge. The key information needed during this part of the experience is wayfinding information. Although many visitors will likely use GPS on cell phones, many will still rely on a map and directional signage. Even those using GPS use directional signage for confirmation of a route.

### **Current Experience**

Visitors following GPS do not always end up at the refuge (the staff is working on this). The network of wayfinding signage is not complete due to damage from Hurricane Harvey (the staff is currently working with TXDOT to replace/update damaged signage).

### **Future Experience**

Visitors are guided to the refuge without problems due to GPS sending them to the right location and a complete network of wayfinding signage. In addition, they can listen to an auto tour that focuses on landscapes they pass through on their way to the refuge.

### **Summary of Strategies**

The following information strategies and actions will facilitate travel by potential visitors by providing effective wayfinding information. Note that full Design Concepts can be found in the section following this one.

**GPS:** Likely the most used strategy to find the refuge. As noted, currently it does not always guide people to the refuge, an issue that the staff is currently working on.

**Directional Signage:** Located at key intersections on the highway and on the access road.

**Note:** *The refuge is currently working with the Texas Department of Transportation to replace directional signage associated with the refuge that was damaged by Hurricane Harvey.*

**Audio Tours – Approach Routes:** These tours use landscapes and features that can be seen for awhile to communicate key messages about the coastal plain habitat and the flora and fauna that live there.

## **Arrival Experience – Exterior**

### **Introduction**

The arrival experience involves first impressions, parking, paying the entry fee, using the restrooms, obtaining a map and any other orientation/wayfinding information for the refuge, and conducting some visit planning.

Ideally, the first impression should tell the visitor that the USFWS thinks Aransas NWR is an important refuge, that the whooping cranes are important, that the refuge has a lot more to offer than just whooping cranes, and that visitors are a high priority and very welcome. Ideally, the first structure people see/encounter upon entering the refuge is the Visitor Center.

Aside from making visitors feel welcome, the initial goal for the information network in the exterior part of the Arrival Experience is to motivate visitors to stop at the Visitor Center and facilitate the transition from vehicular travelers to confident pedestrians, which requires travelers knowing where they are going when they exit their vehicles. The next goal is to move them quickly and with little mental effort on their part from where they parked to the location where they can meet their needs (restrooms, drinking water, place to get a map). It is important within the Arrival Experience to make visitors feel confident in their ability to find their way around this unfamiliar environment because that is a need. If the desire is for them to explore, they must feel comfortable exploring. Until then, they cannot give their complete attention to the interpretive experience, which is an option.

### **Current Experience**

The current approach and entry to the refuge does identify the refuge, but does not communicate that it is the 'whooping crane' refuge, that it contains a lot of other visitor opportunities, or that visitors are particularly welcome. Currently, upon entering the site, visitors pass by residences and an access road that does not go to the Visitor Center before getting to the parking area for the facility, which could create some confusion, and does not add to the impression that visitors are a high priority.

**Note:** *The existing Visitor Center is closed and slated for demolition due to mold issues that make the facility unsafe. A trailer is currently used as the 'visitor center.' Because this site is currently in transition, and because a new Visitor Center will be built, the current experience is not typical of pre- or post-Hurricane Harvey. Consequently, the planning approach to this site is that nothing is fixed, although the new Visitor Center will be located in the same general footprint as the old Visitor Center because it is the highest point on the site.*

### **Future Experience**

The future experience includes ones in the short term when the existing visitor center is still closed and/or being demolished and the new visitor center is being built. During that time an 'Excuse or Mess' sign of some type, ideally with information linking the damage to Hurricane Harvey, will help put that experience into context.

They also feel that they have entered someplace special because of the whooping crane images at the entry (metal outline, statue, etc.), and the combination of the title, 'Welcome to Aransas National Wildlife Refuge' followed by 'Winter Home of the Rare Whooping Crane.' They also get the message that the refuge offers a lot more because the images at the entry include more species than just the whooping crane, and because of the complete tag line, 'Aransas National Wildlife Refuge: The Whooping Crane Refuge, and a whole lot more!' The feeling of importance is enhanced by the word 'Welcome' in several different languages, indicating that this refuge is important on a world basis.

As they enter, a sign tells them that the Visitor Center is 1/4 miles down the road. It is the first building they see because of screening along the roadway that hides the residences and other supporting infrastructure.

**Note:** *The screening can be accomplished by vegetation, although to be effective in the near term it will be important to plant either fast growing species, or plant more mature specimens. Vegetation is preferable because it helps support a 'natural look' and avoids adding to the 'built' environment.*

**Note:** *Aransas NWR is a lot more than the whooping crane site, but many people visit because it is the 'whooping crane refuge,' and would like to feel like they have 'arrived.' However, that can be accomplished while still sending the message that Aransas NWR has a lot more to offer.*

**Note:** *The USFWS recognizes that the entrance needs a lot of enhancement to make it more attractive and welcoming, and would like to work with (local) artists to create a large statue of a whooping crane at the entryway - the kind that people will pull over to take iconic photos with – along with images of some of the other wildlife that a visitor might see, such as an alligator, and a sandhill crane. Ideally this would be a photo op that would include the name of the refuge so it appears constantly on images visitors share with others.*

As they turn into the parking area for the Visitor Center from the access road, they note a trailhead on the side of the main road opposite the visitor center, and a sign indicating the directions to the restrooms, which can be accessed from the outside when the Visitor Center is closed. As they park, they note an information kiosk with panels and a fee station, the visitor center, and what appears to be a hub for trails in the immediate area. If the Visitor Center is open, they are likely to go inside to complete their Arrival Experience. If not, they use the restrooms and head to the Information Kiosk, which

contains a Site Orientation Panel, a fee payment station, and a dispenser for the Aransas NWR Map/Brochure. It also includes a Recreating Safely panel.

### **Summary of Key Actions to Enhance the Arrival Experience**

- Enhance the entryway with the addition of some type of image of whooping cranes and other wildlife, identification as the 'whooping crane' refuge and a whole lot more, and the word 'Welcome' in several languages.
- Visually screen the residences and other buildings along the route to the Visitor Center.  
*Note: The USFWS is planning on moving the residences away from the access road when possible, which would eliminate people mistaking them for the visitor center. However, this is not likely to happen soon.*
- Lay out the site so it includes a trail hub connecting the Rail/Heron Flats nested loop of trails, the interpretive trail in back of the visitor center, the Alligator Viewing Platform, and a new trail connecting the site to the Heron Flats Trailhead.
- Build a structure for the Site Orientation Panel, Recreating Safely Panel, fee payment station and, ideally, images with a short explanation of what has been accomplished with fees from visitors. (It could be a benefit if visitors could see that their money was going to something tangible that somehow enhanced their experience.) This could be a 'Rec Fee \$\$ at Work' panel depicting people working on projects that enhance the recreational experience, such as trails, restrooms, picnic facilities, and other features.

### **Summary of Interpretive / Information Strategies**

**Site Orientation Panel:** A simple panel intended more for orientation than to dispense a lot of information (fixed orientation strategies are good for orientation and basic planning, but not particularly effective as wayfinding strategies except to provide the initial direction of destinations).

**Recreating Safely Panel:** A panel to encourage visitors to engage in outdoor recreational activities, while at the same time providing information about how to do so safely. The site has hazards, and they should not be minimized, but visitors should also not be frightened away from recreational opportunities.

*Note: This information should also be included in the Aransas NWR Map/Brochure.*

**Sign to Restrooms:** This needs to be clearly visible to visitors **as** they enter the parking area.

**Trail Hub Directional Signage and Site Orientation Panel:** The directional signs contain the name of the trail, destination, distance, and difficulty. The Hub also contains a Site Orientation Panel.

*Note: Although the Site Orientation Panel is a duplicate of the one on the Information Kiosk, it is important because some people may not go to the kiosk (opting to go into the building instead), and because it helps give them a better sense of the trail system at the point in their experience where they really need that information.*

**Rec \$\$ at Work panel:** As noted, this panel focuses on highlighting how recreational fee money is being used to directly improve the visitor recreational experience.

## Arrival Experience – Interior

### Introduction

This is a continuation of the Arrival Experience that visitors will have available to them in the new Visitor Center. Since the current Visitor Center is not open and scheduled to be demolished, a ‘current experience’ doesn’t exist.

### Future experience

Figure 1 on the next page contains a bubble diagram depicting one possible arrangement of spaces in the new Visitor Center, with adjacencies and the relative location based on the sequence of a typical visitor experience and on the functioning of the facility. The sizes of the bubbles roughly approximate the size of the space relative to the other spaces, but the size and position can be tweaked. However, the adjacencies described in the section after the bubble diagram should be maintained.

People will enter the facility into the building lobby. The purpose of the lobby in a Visitor Center of this type is to meet people’s basic needs (restrooms, drinking water and orientation information), direct visitors to different locations in the Visitor Center if necessary, and facilitate all visitor experiences on the refuge.

Traffic flow in the entry area works most effectively when visitors entering the building can immediately identify the location of the restrooms, a source of site-specific orientation information (ideally both self-serve for those who prefer not to interact with anyone associated with the refuge yet and a staffed information counter for those who would prefer to talk to someone), and a sense of what else the building contains, such as an Exhibit Hall, Nature Store and Multi-Purpose Room, and in what direction those spaces are located. The Nature Store should be visible as people enter so visitors know it exists, although most will not stop until the Departure Experience. Ideally, it will be located adjacent to the exit route. (Studies show that such stores located adjacent to exit routes show the greatest amount of purchases by visitors.)

**Note:** *It is important for visitors exiting the restrooms to immediately know which way to the information desk, exhibits, exit, etc., so consider line-of-sight from that point in the layout of the building.*

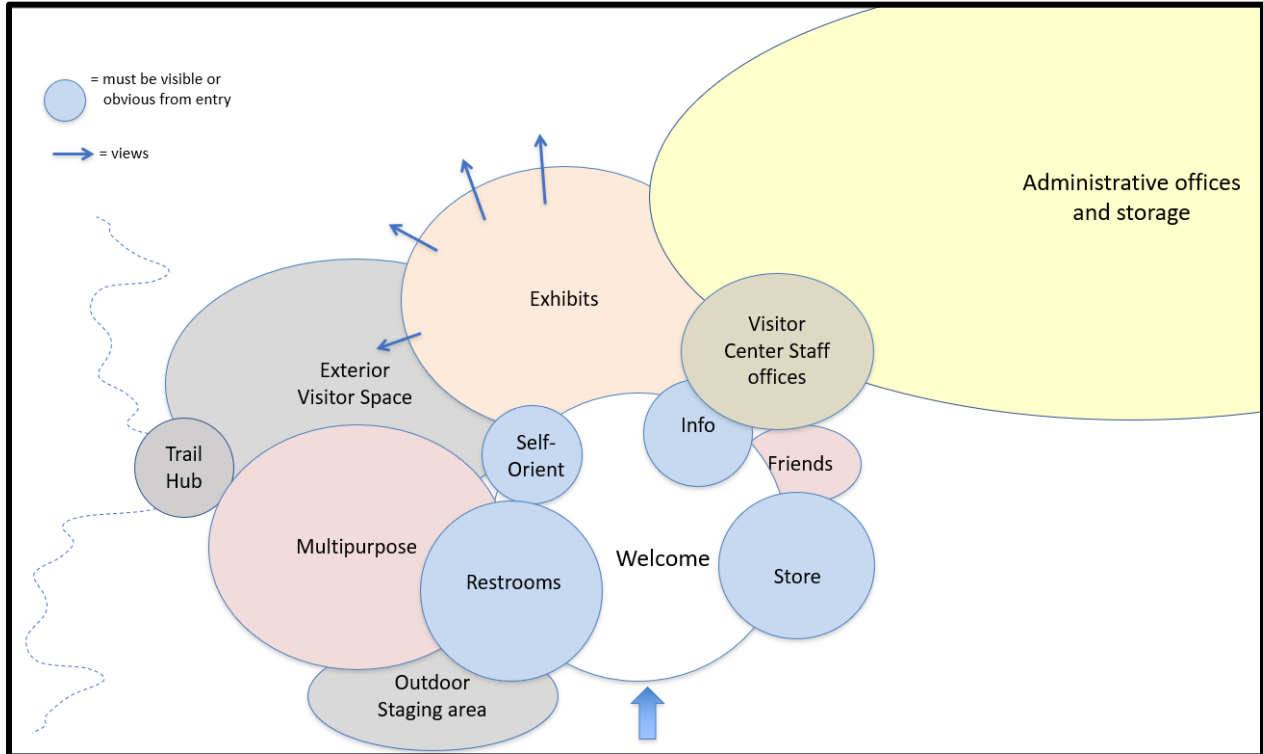


Figure 1: Adjacencies and flow of spaces associated with visitor center.

### **Key Adjacencies in the Visitor Center and the surrounding area**

Myriad options exist to site and design the building, but the following adjacencies should be maintained regardless of design:

**Adjacency:** Information Desk / Visitor Center Staff offices / Refuge Administrative offices.

**Explanation:** Visitor Center staff should be able to move back and forth from the Information Desk in the public area and their offices quickly. They should also be able to easily access the Administrative Area to facilitate interacting with other staff, use the staff restrooms, use the staff break and lunch areas, etc.

**Adjacency:** Administrative offices / other structures associated with refuge management, such as the maintenance shed.

**Explanation:** Given the existing infrastructure and layout, the Visitor Center can serve as a boundary between Administrative and public spaces, and also between a built and at least somewhat natural environment. To do so, the administrative space must be on right side as you face the building. That way they can exit heading in the direction of residences, maintenance shed, etc., without passing through visitor space.



**Adjacency:** Information Desk with all of the following – Visitor Center Staff offices, Friends Group offices, and volunteer space (not shown).

**Explanation:** This gives the refuge the most flexibility regarding strategies to staff the Information Desk during all hours it is open.

**Adjacency:** Store / Friends Group offices and storage.

**Explanation:** The Friends Group will be managing the store, and must be able to access their offices and inventory easily. Note that the store must be securable.

**Adjacency:** Lobby with restrooms and information / Interior Exhibit Space / Exterior Visitor Space / Trail hub.

**Explanation:** Visitors will want information and restrooms (needs) before being amenable to exhibits and other interpretive opportunities (optional). Consequently, the exhibit area should be adjacent to but beyond the lobby, from which the visitor can access areas to meet their needs. Since a major goal is to attract visitors outside where they can ‘see’ the story, it is important that they be able to see outside natural areas from the inside, be able to access the Exterior Visitor Space directly from the Exhibit Area, and access the Trail Hub from the Outdoor Space.

**Adjacency:** Outdoor Staging Area / Multipurpose Room / Restrooms / Trail Hub.

**Explanation:** School children and Visitors using the Multipurpose Room should be able to access it and the restrooms without going through the visitor areas in the Visitor Center. They should also have the opportunity to exit the space directly into the exterior Visitor Space and Trail Hub. This should work especially well for children.

**Adjacency:** Front of the Visitor Center with the rear of the Visitor Center, ideally through the center of the building complex by way of a breezeway. If a breezeway is designed, the visitor center entry and the entry to the visitor restrooms must be adjacent to the pass through.

**Explanation:** This allows visitors to experience the same transition from a built to a natural environment as those who go through the visitor center, while still having access to opportunities to meet basic needs (restrooms and orientation information).

### **Summary of Strategies**

**Information Desk:** The Information Desk provides the opportunity to gather information from and ask questions of the staff. It is a critical part of the experience in part because some people prefer to get information personally, and in part because it sends the message that the USFWS thinks that serving the public is important enough to dedicate staff to that function. That is becoming more and more significant as society moves increasingly to non-personal strategies for conveying information to visitors. Visitors should be able to download the Explore Aransas NWR App from here, the Self-Serve Orientation Area, and the Trail Hub area just outside the center.

**Self-Serve Orientation Area:** The Self-Serve Orientation Area allows visitors to get all the orientation and wayfinding information they need without having to go to the Information Desk, although to do so probably requires setting up a self-pay fee station, ideally with a pay option that allows visitors to use credit/debit cards. Availability of the information eases pressure on the Information Desk when the facility is crowded, and serves visitors who prefer to gather information this way rather than engage in personal contact. Key information needs include answers to basic questions (Where can I see wildlife? What is there to do here?), and orientation and wayfinding information facilitating a visit to other parts of the refuge.

*Note: You probably need at least a basic Self-Service Orientation Area outside with an iron ranger or some other means to collect fees.*

**Recreating Safely Exhibit:** Although this could be just a duplicate panel to the one outside, it would be more effective to present information in a video format to catch people's attention. A prominent display in the lobby will reach more people, including those who are not specifically seeking out this information because they are not aware of the need to be informed on the subject.

## Primary Experience

### Introduction

*Note: If Aransas NWR is to be a destination attraction for more than just birders during the winter season when whooping cranes are present, it needs to develop a larger array of experiences – with interpretive components – for visitors to choose from. These could include various types of guided and self-guided tours, such as auto tours, birding tours, kayak tours and bicycle tours. In addition, it could consider offering short courses, such as wildlife photography (a person from the area could be the leader and get some financial compensation). It should also have enough interpretive opportunities within the visitor center so a visitor can spend a few hours. This is especially important for attracting visitors during the hot summer months. Finally, consideration has to be given to providing relatively unique experiences that people can't get elsewhere, such as a naturalist-led bicycle tour of Matagorda Island.*

The approach used to develop the recommended Visitor Interpretive Experiences at Aransas NWR is to provide an array of opportunities that represent a continuum of 'entry points' into an experience in nature so all visitors can find an experience that they are comfortable with and consider 'safe.' For urban residents who have almost no exposure to nature other than what is found within a city, the experience they are comfortable with may be a Window to the Wild in the visitor center; for others it might include a picnic in a developed area of the refuge; and for others it might be walking the loop trails. Ideally, each experience will be a stepping stone to experiences that involve more immersion in Native Nature. To maximize the probability of a visitor going to the next step, the figurative 'distance' between opportunities is small.

In this network the following sequence of opportunities reflect a gradual immersion into nature:

1. Visitor center exhibits
2. Window to the Wild
3. Short, fully accessible interpretive trail that starts and ends at the visitor center

4. Auto Tour (staying in car)
5. Observation Towers
6. Jones Lake Overlook
7. Other trails on the refuge (Heron Flats Trail, Rail Trail, ideally as part of a set of nested loop trails that begin and end at the Visitor Center)
8. Guided tours (bicycle, birding, kayaking, etc.)
9. Self-guided tours (bicycle, birding, kayaking, etc.)

For ease of understanding the Primary Experience it is organized into the following sub-sections:

- Inside the Visitor Center
- Exploring Around the Visitor Center
- Exploring the Refuge in General
- Sites accessible along the main road (Jones Lake, Observation Towers, etc.)

#### **Primary Experience Visitor Center: Current**

With the existing Visitor Center closed and slated for demolition, regular interpretive opportunities (not tours during events or on special occasions) for visitors are currently limited to approximately 22 interpretive panels at various locations around the refuge.

#### **Primary Experience Visitor Center: Future**

After picking up the **Aransas NWR Map/Brochure** and the **Sense-ational Discovery Guide**, downloading the **Exploring Aransas NWR App** onto their smart phones, and paying their fee, visitors are ready to begin their Primary Experience. Those in the Visitor Center have an array of possibilities, beginning with small 'didjaknow' panels (**Walking the Talk**) in the restrooms that note resource conservation measures in the choice of fixtures. They find a number of these panels throughout the building, each focusing on materials or building techniques used that further reduce resource consumption.

Many visitors will begin with the primary exhibit, **Life Zones of Aransas NWR**, where they learn the story of the whooping crane, and 'discover,' through reveals, that the refuge has a lot more than cranes. They are also likely to stop at the **Pollinator Exhibit**. They may try their hand at the interactive exhibit '**Can You Keep the Water Flowing?**' which gives visitors the opportunity to try to manage water in the upper part of the watershed to ensure the refuge gets what it needs. Other opportunities include:

- A **Window to the Wild**, which offers the opportunity to sit and observe birds and other wildlife outside the window;
- '**Where Am I Going?**' which gives visitors the opportunity to see if any birds from the refuge also pass through where they live;
- '**Who Do You Want to Invite Home?**' which offers information on what they can plant in their yards to attract specific species of birds and wildlife;
- '**What's So Special About Aransas NWR?**' which focuses not only on the whooping crane, but also on the coastal prairie it protects and the wildlife that depend on that habitat;
- **Audiovisual Programs**, including the In-Depth Video Tour that is on the website.

After checking out an Explorer's Backpack, they head out to explore the refuge.

## Summary of Interpretive Opportunities in the Visitor Center

**Life Zones of Aransas NWR Exhibit:** This is the primary exhibit. It consists of a series of elements representing the gradation of life zones on the refuge, which serves as a backdrop for an array of reveals that contain interpretive information. (See image on next page.) The information focuses on what lives in each zone, the connection of the biota to the habitat, and the interconnections within and between zones. The exhibit should contain key species that are managed by the refuge, including alligators and whooping cranes. The latter is a sub-exhibit briefly covering the discovery of the crane and the battle to bring them back from extinction. The following exhibits highlighting specific components of the life zones or aspects of the overall story are either integrated into this exhibit, or are located on the wall opposite the relevant point on the primary exhibit.



Visitors to the Exhibit Hall at the new Kenai NWR Visitor Center



Using interactives within the primary exhibit at Kenai NWR Visitor Center

**What's so Special About Aransas NWR and a Refuge System? Exhibit:** This begins with the point that it is the wintering ground for the endangered whooping crane, which leads into a focus on the need for a *system* of refuges because of fauna that migrate. It then expands to focus on the loss of coastal prairie, the impact on the flora and fauna, and the resulting impact on our quality of life.

**Can You Keep the Water Flowing?** This is an interactive computer game where the participant gets to manage the freshwater in the San Antonio and/or Guadalupe watersheds, including what is used by people in urban areas to the north. The goal is to keep the freshwater flow into San Antonio Bay sufficient to maintain the habitat, and with it, species that the whooping cranes and other fish and wildlife depend on. The point is not necessarily to solve the problem, but to make people aware that how water is used by residents of urban areas of the watershed affects the health of the habitat at Aransas NWR, and consequently, the fauna that depend on that habitat, including the whooping crane.

**Note:** *This could be a mechanical game with real water if space allows, although maintenance might be an issue.*

**Where am I going?** This focuses on birds that migrate through Aransas NWR and on their route, which helps visitors identify any species that also occur where they live. Although information on flyways should be included, it is not the major focus of this exhibit. The goal is to connect to visitors. For that reason, species should be selected that are charismatic and/or that connect a visitor to an area for which he or she has an existing connection. They should also be species that are at risk due to habitat loss or other factors. One possible approach is to create an opportunity where visitors can type in where they are from and a computer can provide information on what species that pass through south Texas also pass through or end up where the visitor lives. If such a program were used, it could also provide information on native plants visitors could plant that would help these species.

**Who Do You Want to Invite Home?** This exhibit offers the opportunity to see and hear birds at the same time, with the hope that people will become enamored with a specific species and will want to plant native vegetation in their yards to attract that species. It could also motivate visitors to engage in projects that involve planting native vegetation in other locations, such as Islands of Habitat. Since the goal is for visitors to plant native vegetation in their yards to help support native wildlife, the focus should be on birds that are likely to use specific species of plants in an urban environment, such as ruby-throated hummingbirds and orioles.

**Window to the Wild:** A Window to the Wild is a place within the Visitor Center where people can view nature from the protection of an interior space, thus it provides the next 'safe' Stepping Stone of Engagement. It should look out onto a natural area with native plants that attract birds and other wildlife, so visitors can begin focusing on the outside environment and what lives there, and so they can potentially see wildlife. The sounds from the outside, including bird calls, can be piped inside. In addition to providing identification keys and binoculars, information would link species to habitat, and make visitors aware that they can plant vegetation in their yard to attract specific species of birds.

**Audiovisual Programs:** The intent of the primary AV program (In-Depth Video Tour of Aransas NWR) is to provide a big picture overview of the key stories and within that framework, to communicate the key themes (messages). In addition to the video about the refuge, other related programs should be developed and used in this space, such as one on the watershed, and one on the whooping crane story.

**Note:** *The size of the visitor center will likely preclude offering an array of exhibits that would take a viewer a couple of hours to go through. One way to increase the potential time spent in the visitor center is to offer several audiovisual programs.*

**Walking the Talk:** This is a series of small panels at appropriate locations around the facility highlighting the conservation measures used in the design and construction of the building, such as low flow water fixtures, taking advantage of natural insulation (only if the building is partially buried), and similar measures with emphasis on those that can be adapted for use by homeowners. The actual topics will be determined by the design of the building.

**Pollinator Exhibit:** This would focus especially on pollinators that are responsible for common foods in the area and the potential crisis if those pollinators are eliminated due to loss of habitat. Accompanying this exhibit should be instructions and supplies for planting a pollinator garden. Ideally, food made from ingredients that are available because of specific pollinators could be offered as a lead-in to the main focus.

**Note:** *If interior space is an issue, this could be moved outside and associated with the Demonstration Gardens. However, it may be so important that it needs an inside exhibit, perhaps one that is associated with a glass tube connecting it with the outside leading to a place where bees could construct a hive that is visible to people in the Visitor Center.*

#### **Primary Experience – Area around the Visitor Center: Current**

Visitors can easily access the trail around the Pollinator Garden, and the Alligator Viewing Platform, which offers interpretive panels, although they do have to cross the road. They can also take a short walk down the road to access the Rail Trail and Heron Flats Trail, which also offer interpretive panels.

#### **Primary Experience – Area around the Visitor Center: Future**

Ideally, all visitors will have had the opportunity to obtain the **Aransas NWR Map/Brochure** and the **Sense-ational Discovery Guide**, download the **Exploring Aransas NWR App** onto their smart phones and check out an Explorer's Backpack. Armed with these strategies, visitors set out to first explore the area around the Visitor Center on foot. They start with the Specialty Gardens adjacent to the building, each containing a different array of native plants, and each attracting a different array of birds and wildlife. They then move on to the sheltered Trail Hub, where they can choose to take the short interpretive loop trail from the Visitor Center to the Alligator Viewing Platform, or take one or more of a nested loop of trails that includes the Rail Trail and the Heron Flats Trail.

### **Summary of Actions to create the desired experiences**

- Construct a sheltered Trail Hub adjacent to the new Visitor Center. Trails connecting to the hub include the Self-Guided Interpretive Trail associated with the Visitor Center, the short trail to the Alligator Viewing Area, and a connector to the Rail Trail and the Heron Flats Trail.
- Construct a connector trail to turn the Heron Flats Trail into a loop, and connector trails as necessary to convert the Rail Trail and Heron Flats Trail into a nested loop of trails.
- Re-route the access road so it is on the other side of the Visitor Center and rehabilitate the area in front of the facility.
- Develop a loop trail connecting the Visitor Center with the Alligator Viewing Area, and consequently, to the nested loop of trails.
- Plant vegetation to help screen the view from the trail in the front of the Visitor Center to the access road on either side.

**Note:** Consider closing the Songbird Trail and rehabilitating the habitat.

### **Summary of Strategies: Area Around the Visitor Center**

In addition to the Sense-ational Discovery Guide, Smart Phone App and Explorer's Backpack, the following opportunities are available in the area around the Visitor Center:

**Specialty Gardens:** The purpose of these gardens is to show visitors examples of what they can plant in their yards. Associated interpretive information would focus on the value of the plants in the gardens, such as for habitat for wildlife, sources of traditional medicines, sources of spice and foods, sources of dyes and materials used in cultural practices, and other uses. In addition, visitors can obtain a guide that provides instructions on planting these specific gardens and other native habitat in their yards. The refuge could also give away seeds and plants that would go in any of these gardens to encourage visitors.

**Self-Guided Interpretive Trail:** This is a ¼-mile maximum loop trail beginning and ending at the Visitor Center, and accessing the Alligator Viewing Platform. The focus of the trail is on the relationship of wildlife to habitat, which is the underlying reason why the refuge exists, in addition to the various management activities of the agency.

**Interpretive Panel Cluster – Alligator viewing platform:** These panels already exist.

**Interpretive Panels– Heron Flats / Rail Trail:** These panels already exist.

### **Summary of Strategies for Exploring the Refuge**

The following strategies include information or can be used around the Visitor Center and on any part of the refuge:

**Sense-ational Discovery Guide:** This publication focuses on helping visitors connect with history of the refuge by making them 'Detectives of the Landscape.' Clues addressing all senses help visitors discover evidence of the past, of the forces that shaped and continue to shape Aransas NWR and of the flora and fauna that live here.



**Smart Phone App:** This strategy uses beacons along the trails and on other parts of the refuge to let people know that information is available on a smart phone at that particular point in the trail. The information can be similar to what is on the other devices, but this could be a specific sequence of stops designed to act together.

**Explorer's backpack:** These are daypacks full of tools for exploring the environment, such as inexpensive binoculars, identification keys for plants, birds, wildlife and animal tracks, a magnifying glass, and any other items that would help youth discover nature on their own. It could also contain a simple camera with 12 pictures so youth can take pictures of their favorite features. Those pictures could be submitted and USFWS could post them on a bulletin board in the Visitor Center. This could be a way of encouraging return visits, visits by other family members and relatives, etc. The backpack could be sold or checked out.

### **Primary Experience – Sites Along the Auto Tour Route: Current Experience**

After leaving the Visitor Center, visitors have a sequence of opportunities along the main access road, beginning with the Oak Motte Picnic Area and associated Fishing Pier, followed by the Dagger Point Trail, the Jones Lake Overlook, and the Observation Tower site, which includes the Big Tree Trail. Interpretation in the form of new interpretive panels have been installed in all these locations. Visitors also have the opportunity to drive the entire auto tour loop, although all the stops are currently along the first part of the auto tour.

**Note:** *Given the length of the route and the relative lack of places to stop, especially on the latter part of the route, it is important to increase the quality of existing stopping places, such as the Oak Motte Picnic Area, and to consider making a much smaller loop after the Towers to bring visitors back to the main access road. The rest of the loop could be maintained for bicycles.*

**Note:** *At this time I do not see the YETA site being used for interpretive opportunities, except on an occasional basis when the amphitheater or screened shelter is needed for interpretive programs or events. It does not have any significant features relative to the rest of the refuge, does not have access to the beach, and is some distance off the main road. Perhaps the best use for it is as an Environmental Education site (which can be used for special events).*

### **Primary Experience – Sites Along the Auto Tour Route: Future Experience**

In addition to the interpretive panels, visitors have the opportunity to build on the ideas and concepts on the signage through a smart phone App keyed to beacons for use on trails and other locations where a visitor is outside their vehicle, and a podcast separated into chapters matching the sites visitors can stop. The podcast should include several chapters where visitors do not have to leave their vehicles. Visitors also have the option of using an Auto Tour Brochure. Visitors with kayaks can also take a self-guided kayak tour that starts at the kayak launch at the towers.

**Note:** *Having an array of activities that can be enjoyed indoors and within a vehicle are important for attracting visitation when the cranes are not present, especially when a visitor might encounter a lot of bugs, or hot weather.*

**Note:** *I do not recommend any additional signs at this time. They are essentially a 'one-and-done' opportunity that does not typically contain much information. Their best use is to grab attention and*



*pique interest. The visitor can then delve more deeply into the subject with other, less obtrusive strategies. However, Site Orientation Panels should be located at every major stop.*

During peak season (winter) they can sign up for a variety of guided tours, including birding, bicycling and kayaking.

**To be considered in the future:** Develop a guided bicycle tour of Matagorda Island. Such a tour would require participants to bring their own bicycle. The key issue at this time is transportation to and from the island.

### **Summary of Actions: Along the Auto Tour Route**

In addition to developing interpretive opportunities, the following actions need to be taken to facilitate the interpretive opportunities:

- Shorten the Auto Tour route for cars by looping it back to the main access road soon after it leaves the Observation Towers. Leave the rest of it open for bicycles.
- Develop a formal Kayak Launch in the vicinity of the Observation Towers. (The refuge currently allows kayaks to launch under the towers between April and October, but it is not a formalized launch point.)

### **Summary of Strategies: Sites Along the Auto Tour Route**

The following are in addition to the existing interpretive panels, Sense-ational Discovery Guide, Smart Phone App and Explorer's Backpack. Note that the Smart Phone App is essentially a self-guided tour of locations where people get out of their cars. Additional strategies include:

**Auto Tour (Audio):** The information on the audio tour is keyed to landscapes and stops, so visitors can listen to information about the refuge that is supported by the surrounding visuals. The sections focused on landscapes are meant to be listened to as the vehicle moves, which is why those sections would focus on features that can be viewed while driving. Specific stops with audio segments must be locations where people can see features from their vehicle (so Jones Lake Overlook would not have a separate segment).

**Guided Tours:** These can either be tours led by USFWS staff or volunteers, or by people not associated with the refuge. The focus depends on the location, mode of travel and time of year. Some of these tours already exist, so the goal with those is to infuse the information presented with the key themes identified in the plan. Potential Guided Tours include the following:

- Birding Tours
- Kayak Tours
- Basic Interpretive Tours

**Note:** *This should be supported by a Guide Packet and required Guide Training to ensure quality of the tour and that the information presented is accurate.*

**Self-Guided Kayak Tour:** The first strategy in developing the tour is to provide orientation and wayfinding information in the form of a map, safety information focusing on hazards, and resource protection information focusing on what kayakers should avoid doing while on the refuge to avoid

having negative impacts on the resource. The map can be one they can download and put on a smart phone (waterproof version). Ideally it would be something similar to an Avenza map that automatically indicates a person's position on the map that is called up.

## **Departure Experience**

### **Current Experience**

Visitors have the option of using the toilet and dropping into the Visitor Center in the trailer before leaving. They have the option of asking staff how to return to the main highway and from there how to get to their next desired destination.

### **Future Experience**

The Departure Experience will be essentially the same. Visitors will use the restrooms at the Visitor Center and stop in to purchase items from the Nature Store. Items for sale should include ones that facilitate the visitor engaging in desired experiences. Such items include a planting guide for specific species, seeds, etc.

***Note:** Technology is available to produce a hologram of a crane so visitors can get a photo of themselves next to the bird. This is a possible experience to offer inside the visitor center as part of a Departure or Arrival Experience.*

## **Return Travel Experience**

### **Current Experience**

An incomplete set of directional signs at decision points (intersections) guide visitors back to the main road. (Several signs were purportedly taken out by Hurricane Harvey and simply need to be replaced.)

### **Future Experience**

A complete set of directional signs guide visitors back to the main highway. A sign at the main highway indicates what lies in each direction on the road.

## **Post-Visit Experience**

Ideally, the USFWS wants visitors to be inspired to learn more and get involved as active stewards of the resources. It would help if they supplied that information on the website so visitors get used to going to the website for information. If that occurs, marketing of special events, sightings, work parties and other opportunities will be much more effective. But that requires making a concerted effort to provide information visitors want and need on the website rather than what the USFWS wants to tell people.

### **Current Experience**

Visitors have the option of going to the website for Aransas NWR or the Friends of Aransas and Matagorda Island National Wildlife Refuges to have an Extended Experience by learning more about the

refuge, the whooping crane and related subjects. They can also find out about upcoming events and happenings at the refuge. They can also follow the refuge on Facebook.

**Future Experience**

The future experience will be essentially the same, with some modification of information on the websites to strengthen communication of the key themes, and to make visitors aware of Extended Experience options not just in relation to the refuge, but also at refuges closer to where people in the northern part of the watershed live (Balcones Canyonlands NWR).

# Design Concepts

**Note:** Although there may be a desire to focus on a lot of other topics relevant to Aransas, such as geology, the visitor has a limited amount of time, so it is important to use that limited time to communicate the key messages that, if they have the desired impact on visitors, will help reach refuge goals. It's not that other stories can't be told, but they should be relegated to chapters on a vodcast or podcast rather than having them as a focal point on signs. In other words, this is a focused effort to communicate key messages, not a textbook on Aransas.

## Strategies to Catch a Person's Attention

### Table Teasers

#### Objectives

After interacting with and of these opportunities, visitors will:

- Know that Aransas NWR exists;
- Know that the refuge is not only open to the public, but offers interesting visitor opportunities;
- Be motivated to check out the website for more information;
- Feel that the experiences offered at the refuge are safe;
- Have or know where to obtain trip planning information (directions, hours open to public, schedule of activities, etc.).

#### Description and Concept

Table Teasers, all in Spanish and English, are intended to grab a visitor's attention and interest so he or she is more likely to seek out more information about the refuge. Table Teasers can take the form of place mats, laminated cards, or booklets to name a few possibilities, and are typically found in restaurants where people browse them while waiting for food. They can also be available anywhere a potential visitor is waiting for something, such as coffee shops. Table Teasers focus on presenting interesting tidbits of information ('didjacks') associated with the stories covered by the interpretive network. They should contain directions to the site and contact information, such as phone numbers, so visitors can obtain more orientation and/or interpretive information. All restaurants and coffee shops in the area should have Table Teasers. Feedback indicated that the Dairy Queen and possibly the Canales Café in Tivoli would be good places for cards because a lot of people stop there.

**Note:** It is important that all entities developing Table Teasers use the same design guidelines (branding) to ensure a unified look and visual recognition that the Table Teasers are associated with the refuge.

**Note:** All a visitor needs to locate the web site is the name of the refuge.

### Rack Cards

#### Objectives

After interacting with and of these opportunities, visitors will:

- Know that Aransas NWR exists;

- Know that the refuge is not only open to the public, but offers interesting visitor opportunities;
- Be motivated to check out the website for more information;
- Feel that the experiences offered at the refuge are safe;
- Have or know where to obtain trip planning information (directions, hours open to public, schedule of activities, etc.).

### **Description and Concept**

These need to be colorful to catch a person's attention, and ideally should show visitors enjoying an experience on the refuge such as existing interpretive or recreational opportunities and/or events to clearly communicate that visitors are welcome at the refuge and the site does have visitor opportunities. Ideally the focus would be on opportunities that would be of interest to urban residents rather than traditional users. As with other strategies trying to market visitor experiences at the refuge, these must provide information on where a visitor can get additional information, such as the website, by telephone, etc. In addition, information should be presented in Spanish and English.

The current Rack Card has an image of a whooping crane on the front, which helps establish the refuge as 'The Whooping Crane Refuge,' but does not immediately present the refuge as a place where visitors are welcome, nor does it effectively communicate the rest of the tag line ". . . and so much more!" Ideally, the card should show visitors enjoying experiences on the refuge to clearly communicate that visitors are welcome at the refuge, and that the site does have visitor opportunities. When the card is ready to be reprinted, it could be redesigned so it still contains an image of a whooping crane on the front, but it would be surrounded by images depicting visitors engaged in other activities on the refuge.

### **Islands of Habitat with Interpretation**

This term 'Islands of Habitat' has been coined for planted pockets of native flora designed to reflect typical native plant communities. They are planted outside the refuge in locations frequented by the public, such as in school yards, parks, community centers, and backyards. These Islands of Habitat support native fauna, pollinators, and other native biota. They can be effective Stepping Stones of Engagement for urban audiences because they tend to be highly visible, easily accessible, and are likely to be considered 'safe.' A key to being effective as a stepping stone is the interpretation and/or environmental education associated with each Island of Habitat.

Development should be with a partner and the planning should be participatory, particularly in schools where The USFWS could help by supplying plants, overseeing planting, supplying information on why certain plants are associated and what wildlife they can expect, and working with teachers to develop curriculum materials and a discovery guide that youth can use with their parents to 'discover' nature in the Islands of Habitat in school yards.

### **Locations**

These could be located in a variety of settings, including schools, parks and other public places. The best locations are places that they are likely to be used by more than one group of people. For example, in schoolyards they could be used by teachers for courses relating to natural history and could also be used by community members during hours the school is not in session.

### **Objectives for interpretive strategies**

After encountering the interpretive information associated with Islands of Habitat, visitors will:

- Be aware of and motivated to visit other Islands of Habitat that have different vegetation;
- Be aware of and motivated to visit the refuge;
- Understand the concept – at some level – that wildlife depends on specific habitat for survival, therefore, managing wildlife is all about managing habitat;
- Be interested in planting native vegetation in their own yard (if they have one).

### **Themes**

The following themes and sub-themes can all be communicated at Islands of Habitat:

**General Interpretive Theme 1:** Native Nature is important to your (my) quality of life.

**Sub-theme 1-1:** Pollinators are critical for pollinating local crops and depend on native habitat to survive, so planting native plants will support the agricultural industry.

**General Interpretive Theme 2:** Wildlife, along with all other biological organisms, depend on their specific habitat to survive.

**Sub-theme 2-1:** Protecting native flora and fauna focuses on protecting and restoring the habitat they depend on for survival.

**Sub-theme 2-2:** The habitat necessary to support migratory birds and wildlife extends the entire length of their migration routes.

**General Interpretive Theme 3:** A lot of people, including the USFWS, are working to conserve and restore habitat to protect wildlife we value for the people today and for future generations. You can make a difference by helping.

**Aransas-specific Interpretive Theme 5:** Everything in a watershed is linked. Everything that happens upstream affects everything downstream. Aransas NWR and the fish and wildlife it supports, are endangered due to actions by urban residents in the north part of the San Antonio and Guadalupe River watersheds.

**Sub-Theme 5-1:** Everything in a watershed is linked.

**Sub-theme 5-2:** Humans can determine what organisms live and what die in the watershed by impact on habitat. Those impacts ultimately affect humans since humans are a part of the ecosystem.

**Sub-theme 5-4:** Because individual actions add up incrementally to significant impacts, you can play an important role in maintaining natural resources, and on conserving and recovering the fish and wildlife at Aransas NWR.

## Specialty Gardens with Interpretation

### Locations

Specialty gardens could be located in a variety of settings frequented by target audiences, including schools, parks and other public places. The best locations are places where they are likely to be used by more than one group of people. For example, in schoolyards they could be used by teachers for courses relating to natural history and could also be used by community members during hours the school is not in session. The choice of the type of garden in a particular location might depend on what else is in the area. For example, Pollinator Gardens might be a good choice for places close to businesses associated with food, and gardens with native plants traditionally used for medicinal and/or health reasons might be appropriate for hospitals or senior living centers. Suggestions coming from reviewers include Austwell Community Center and the TXDOT rest stop along 35 before travelers coming from the west get to the turn-off for the refuge.

### Objectives for interpretive strategies

After encountering the interpretive information associated with specialty gardens, visitors will:

- Be aware of and motivated to visit other Specialty Gardens;
- Be aware of and motivated to visit the refuge;
- Understand the concept – at some level – that wildlife depends on specific habitat for survival, therefore, managing wildlife is all about managing habitat;
- Feel empowered to make a difference by planting native plants;
- Be interested in planting their own Specialty Garden at home.

### Themes

Different themes are likely to be more appropriate for different types of gardens. For example, themes about the relationship of wildlife to habitat would be appropriate for Butterfly Gardens and Pollinator Gardens, but not for some of the gardens where the focus is on the plants rather than what the plants attract. As another example, the concept that Native Nature contributes to our quality of life would be highly appropriate for Pollinator Gardens and ones that focus on plants related to health. As with Islands of Habitat, almost any of the themes could be used to drive the development of the associated interpretive opportunities, but the following are the key ones:

**General Interpretive Theme 1:** Native Nature is important to your (my) quality of life.

**Sub-theme 1-1:** Pollinators are critical for pollinating local crops and depend on native habitat to survive, so planting native plants will support the agricultural industry.

**Sub-theme 1-4:** Aransas NWR supports the economy of the area.

**General Interpretive Theme 2:** Wildlife, along with all other biological organisms, depend on their specific habitat to survive.

**Sub-theme 2-1:** Protecting native flora and fauna focuses on protecting and restoring the habitat they depend on for survival.

**General Interpretive Theme 3:** A lot of people, including the USFWS, are working to conserve and restore habitat to protect wildlife we value for the people today and for future generations. You can make a difference by helping.

**Sub-theme 3-1:** Because individual actions add up incrementally to significant impacts, you can play an important role in maintaining natural resources, and on conserving and recovering the fish and wildlife at Aransas NWR.

**Aransas-specific Interpretive Theme 5:** Everything in a watershed is linked. Everything that happens upstream affects everything downstream. Aransas NWR and the fish and wildlife it supports, are endangered due to actions by urban residents in the north part of the San Antonio and Guadalupe River watersheds.

**Sub-Theme 5-1:** Everything in a watershed is linked.

**Sub-theme 5-2:** Humans can determine what organisms live and what die in the watershed by impact on habitat. Those impacts ultimately affect humans since humans are a part of the ecosystem.

## Traditional Mass Media

### Objectives

The specific objectives will vary depending on the information included, but all should be designed with the same objectives in mind as those used for the Table Teasers.

### Description and Concept

No specific design concepts are included because the context for which the information must be designed is often already determined (radio spots, television spots, newspaper articles). However, all of these strategies must focus on opportunities that would be of interest to urban residents rather than traditional users, and all must provide information on where a visitor can get additional information, such as the website, by telephone, etc. In addition, information should be presented in Spanish and English.

## Impromptu and Partner Event Interpretive Presentations

### Location

Anywhere that people from target audiences gather in the target communities of Rockport, Austwell, Corpus Christi, etc., such as at parks, events, etc.

### Objectives

Specific objectives will depend on the presentation, but regardless, all visitors after attending a presentation will:

- Be aware of Aransas NWR;



- Be motivated to visit the refuge;
- Be more comfortable with the USFWS;
- Have information to help facilitate that visit (flyer, brochure, etc.);
- If appropriate, be more able to visit the refuge due to a decrease or elimination of barriers (such as having bus passes).

### Key Themes and sub-themes

These will vary based on the presentation.

### Description and Concept

There is no specific concept that provides a blueprint for presentations because the context will always be different. The key is to provide the interpreter with flexibility in choosing and delivering a program on the spot that caters to a specific crowd and setting. The more props and basic strategies available to the interpreter, the higher the probability of having something that fits the situation and audience. One possible tool is a vehicle outfitted with props and interpretive opportunities. An interpreter drives the vehicle to places where members of the target audience gather, such as events, parks, and Farmer's Markets, and presents programs. The vehicle could be painted to attract attention and help create visibility for the USFWS and the refuge.



Example of an InterpVan

**Note:** *Impromptu presentations are a good tool for creating opportunities to get into conversations with residents to find out what they would like to have help with from the USFWS.*

### Traveling Exhibits (with accompanying literature)

Traveling Exhibits would require an initial investment of time and resources, but could then be used with minimal demands on staff time. If the Friends group managed the schedule and shipping of the exhibit, the demands on USFWS time would be even less.

### **Locations**

They could be used at partner sites and anywhere a representative of the refuge was giving a presentation or staffing a booth.

### **Objectives**

The specific objectives will depend on the content of the exhibit, which should be adjusted for the target audience. However, at a minimum, people interacting with this exhibit will:

- Know about Aransas National Wildlife Refuge;
- Know that the refuge is not only open to the public, but offers interesting visitor opportunities;
- Be motivated to check out the website for more information;
- Feel that the experiences offered at the refuge are safe;
- Have or know where to obtain trip planning information (directions, hours open to public, schedule of activities, etc.);
- Know that Aransas NWR is one in a network of refuges;
- Be motivated to visit the refuge to take part in visitor opportunities;

### **Themes**

The themes driving the content will depend on the topic, but exhibits should be developed that communicate all the themes and subthemes.

### **Description and Concept**

One of the more common traveling exhibits is a set of surfaces covered with cloth to which a person can attach images, text, and even brochure holders using Velcro. They are commonly seen at conferences and trade shows. Specific exhibit layouts could be designed, and all the necessary information packaged together with instructions for assembly, so the exhibit could be used in a variety of settings and easily set up by anyone.

Another type of traveling exhibit / marketing strategy are pop up banners. These are perhaps more effective at attracting attention to strategies that have more information, such as traveling exhibits.

Finally, a strategy that works well both to market the refuge and provide an effective interpretive opportunity for those unable to visit the site are virtual tours. Ideally, these use 360° video and other approaches to provide a refuge experience.

**Note:** *Aransas is currently working with Parks Canada/Canadian Wildlife Service to create some shared exhibits/banners that highlight both Aransas NWR and sites in Canada where whooping cranes nest.*

**Note:** *Given that there is an existing annual Whooping Crane Festival at Port Aransas, it makes sense to use that festival as an attractor to motivate people to visit the refuge. However, the people who attend that festival are typically winter Texans and older birders, who are probably already aware of Aransas NWR, so the marketing of the refuge might not generate a significant increase in attendance. Other events held at locations within the watershed may be better targets for traveling exhibits and other strategies to attract attention to the refuge.*

## Social Media

### Objectives

At a minimum, after interacting with a social media site with information on Aransas NWR, potential visitors will:

- Be motivated to get additional information on the refuge whether to satisfy curiosity, or preferably, to determine whether it is a place they want to visit.

***Note:** Social media sites such as Facebook can do more than just motivate people to want more information, but in terms of its use at this stage of a visitor experience, it is to heighten interest in the refuge to the point that people want more information.*

### Description and Concept

Facebook may be the most effective social media platform for making people aware of the refuge and what it has to offer. The key is to post interesting images or tidbits of information on the Aransas NWR Facebook page that followers are likely to react to with a 'like,' and share it with others in their personal network. In a sense, this is social selling, which has always been the most effective marketing strategy. Of key importance when using most social media is to use it actively on a regular basis. Otherwise people stop paying attention. Other social media platforms to seriously consider include Instagram and Twitter.

## Strategies to Help People Plan a Visit

### Aransas NWR Website

***Note:** This site already exists. It is included because it is part of the Information Network necessary to support visitor interpretive experiences, and because it can be modified to work more effectively as a tool to facilitate visitation. Note that the USFWS websites are scheduled to be converted into a new format / content management system that will be more user-friendly for tourists.*

### Objectives

Ideally, when people finish interacting with the information on this website, they will:

- Be motivated to visit the refuge;
- Have the information necessary to plan a visit to the refuge (they should be able to print off a map/brochure);
- Be aware of upcoming projects in which they could be involved;
- Be aware of upcoming events;
- Be aware of USFWS projects in the community;
- Be aware of additional sources of information about the refuge;
- Be motivated to connect with the refuge through one or more social media platforms.
- Be aware that a Friends Group exists, and know where to find out more information about the Friends Group.

## Description and Concept

This is probably one of the first places a potential visitor would go to gather additional information about the refuge to determine if a visit is worthwhile, and if so, to plan a visit. However, the current organization, layout and choice of images on the site is not as effective as it could be in supporting visitation. The website should be thought of first as a marketing tool to motivate people to come to the refuge and a trip planning tool to help facilitate that visit by providing maps and directions. That doesn't mean it can't include the information it now offers, but rather to move that information into sections accessed by tabs and leave the home page for marketing and directing visitors to information they are seeking. Possible modifications include the following:

- Use images of people recreating on the refuge on the home page, the 'Plan Your Visit' page, and the 'Visitor Activities' page. Ideally, images on the latter page would include all visitor activities.
- Use images of people recreating in the spring and summer months.
- Use images to illustrate what to bring along with a description.
- Use images to illustrate hazards, along with supporting information, but without scaring people off. The message should be that people can recreate at Aransas safely by following a few simple precautions, just like any other place in the world.
- Re-do the home page so it is more of a marketing and trip planning focus, but with wildlife as a key attraction, even for bicycling, kayaking, etc. Everything else can be accessible with tabs. The point is to retain the identity of the agency as caring for the nation's fish and wildlife, while promoting an identity as an attractive place to visit.

As additional visitor information strategies are developed, such as the Video Program on Aransas and any Apps, they should be made available on this site.

## Introductory Video

### Objectives

This video should be available on the website, but could also be shown in the visitor center if a viewing space is available. Objectives depend on where it is viewed. If it is viewed off-site, after viewing the video potential visitors will:

- Know all the major themes;
- Want to know more about the refuge and visitor opportunities;
- Want to plan a trip to the refuge;
- Have a preliminary idea of places on the refuge they want to go and activities they want to engage in;
- Know that they can go any time and have a good experience, regardless of the presence or absence of whooping cranes;
- Want to see whooping cranes, but also want to see other birds and wildlife.

If viewed on-site, after viewing the video, visitors will:

- Know all the major themes;
- Feel inspired to view the exhibits and experience the outdoor exhibits and interpretive trails;
- Have a preliminary idea of places on the refuge they want to go and activities they want to engage in;
- Feel inspired to explore the refuge.

## Themes

All themes should be covered in this opportunity.

## Description and Concept

This video program has multiple purposes, including:

- Provide a big picture overview of the key stories of the refuge;
- Excite people about exploring the refuge;
- Communicate the key themes;
- Marketing the visitor opportunities;
- Marketing other interpretive opportunities.

The video should be short (2-3 minutes), to maximize the probability of keeping a visitor's interest and attention through the entire opportunity.

Given that one of the purpose is to market an experience on the refuge, one possible treatment is to present the information as if it was a video developed by a visitor to document what they did while on the refuge. That could be a single 'chapter,' or it could be a short 'chapter' for each month. The latter video could be longer if the visitor could select which month(s) they wanted to view. Presumably if it were shown on the refuge visitors would want to see the segment about the month during which they are visiting.

## Strategies to Help People Find Aransas NWR

This will consist of a combination of signage, maps and ensuring that the GPS takes them to the right location.

### Directional and Site Identification Signage

#### Locations

Directional signage at key decision points (intersections and lead time to slow down to turn) potentially encountered by visitors trying to find the refuge.

#### Objectives

After encountering directional and site identification signage visitors will:

- Be able to quickly make a choice as to direction to go with confidence.

#### Description and Concept

The design is dictated by existing standards – Texas Department of Transportation for directional signs and the USFWS for site identification signage. The information on directional signs should be limited to direction, and possibly distance if needed.

## Arrival Experience: Strategies to Meet Visitor Needs

### Site Orientation Panel (Exterior)

#### Locations

As needed. They should be placed at all major locations with significant visitor opportunities, including trailheads, the observation towers, the Visitor Center area and major trail intersections.

#### Objectives

After viewing the panel visitors will:

- Be inspired, informed, and eager to explore the refuge;
- Know where they are in relation to other locations on the site;
- Know where to go next to continue their experience;
- Be aware of key interpretive/recreational opportunities on-site;
- Feel comfortable in their ability to navigate the refuge;
- Be aware of the opportunities that are fully accessible.

#### Description and Concept

The following are key aspects of the design and placement of the Site Orientation Panel that will increase its effectiveness:

1. Limit information to that which helps with its function and avoid putting symbols and information that does not help, especially on the map. Adding unnecessary information clutters the sign and increases the difficulty in getting the desired information, which usually focuses on answering the questions, "Where am I?" "What is there to do here?" and, "How do I get where I want to go?" At a minimum the Site Orientation Panel should contain the following:
  - Simple map of the site including roads, parking areas, trails, structures and key features;
  - Mileages and times for walking the trails;
  - A "You Are Here;" (This means a separate Site Orientation Panel for each location, which you would have to do anyway to make sure that all panels were oriented in the direction a visitor is facing.)
  - Visuals of key interpretive and recreational opportunities tied to location with information on which are fully accessible;
  - North arrow;
  - Legend scale, such as 1 inch = 100 yards (you might want to have the scale provided in a metric system also since many visitors may be coming from other parts of the world).
2. Orient the panel in the direction that the visitor is facing when looking at the sign instead of north. People expect information at the top of a map on a panel to be in front of them. This requires determining location and orientation for panels prior to design and fabrication. It also means that you may have several versions of the Site Orientation Panel.
3. Use the same map on the sign that is used in the Map/Brochure and on the Website. Viewing the same map on a panel as is used in an associated brochure helps visitors move back and forth between the two.

4. Use a 3-dimensional look to the map to help visitors recognize features. This is not always possible, especially if you are trying to match maps used elsewhere, but studies show it is significantly easier for many people to use a map with 3-dimensional orientation rather than a flat map.

One possible concept is to use a stylized illustration of the site from an oblique aerial perspective as the major orientation element and as a backdrop for all the basic orientation information. Arrange images of recreational opportunities around the perimeter of the map, with a graphic element (line) connecting the image to the appropriate location on the map.

## Recreating Safely Panel (Exterior)

### Locations

Recommended locations include the following:

- Information kiosk associated with the Visitor Center parking lot;
- At the Trail Hub;
- At all major trailheads;
- In the Oak Motte Picnic area;
- At the base of the Observation Towers.

### Objectives

After interacting with this opportunity, visitors will:

- Be aware of the hazards related to plants and wildlife associated with recreating in this area, and the low probability of encountering a problem, especially when practicing appropriate behaviors;
- Be aware how to avoid hazards;
- Be aware that thousands of people engage in recreational activities in this type of environment without experiencing any problems with native vegetation or wildlife;
- Be aware of the need for drinking water to avoid heat-related issues;
- Know that the Nature Store carries items such as insect repellent, sun screen, and other items that would help facilitate a safe trip;
- Feel comfortable engaging in recreational opportunities on the refuge.

### Description and Concept

The key to a panel accomplishing the goals of encouraging visitors to engage in outdoor recreational activities, while at the same time educating them about how to do so safely, is a challenge. The site has hazards, and they should not be minimized, but visitors should also not be frightened away from recreational opportunities.

The information can be presented in a variety of ways, but it is important to use visuals to depict key pieces of information, including depicting people behaving correctly, and what they wear and take with them on the trails. The key hazards to focus on include those related to heat and dehydration and any biological hazards, such as rattlesnakes and alligators, and how to avoid negative encounters.

**Note:** *The store will sell items that a visitor should have on a trip into the refuge proper, such as sun block, hats, insect repellent, etc.*

**Note:** The 'dos and don'ts' approach, particularly without visuals, should be avoided because the information visitors need, such as how to behave when exploring the refuge, does not fit neatly into such categories.

**Note:** A 'Recreating Safely' exhibit will be located in the Visitor Center.

### Aransas NWR Map/Brochure (Visitor Guide to Aransas NWR)

**Note:** The refuge currently distributes a Trail Map with Visitor Information on a single sheet of paper. Although it does include good information on trails, it does not have information on how to recreate safely, which should be included in this type of publication. It also focuses heavily on people using trails. A driving tour could be included in addition to information on angling.

**Note:** This strategy will be used off-site even if it is not distributed off-site because visitors may share the brochure with others when telling them about the refuge. For that reason, it needs to have directions to the refuge as well as on-site wayfinding information.

#### Objectives

After interacting with this opportunity visitors will:

- Have had most if not all their orientation and wayfinding questions answered, especially, "What is there to do here?" and "Where can I see wildlife?"
- Be excited about exploring the refuge;
- Feel comfortable in their ability to find their way around the site;
- Have all the information they need for planning and having their desired experience;
- Are aware that the refuge offers programs and stages events, and that they can get a schedule in the visitor center or sign up to get notices on-line.

#### Description and Concept

The primary part of the brochure is a simple map of the site with images of interesting features, images of people engaging in visitor / interpretive opportunities, directions to the refuge, site-specific orientation and wayfinding information so visitors can find their way around on-site, and other information that helps facilitate a visit. The primary purposes are to provide basic orientation and wayfinding to and within the site and to market experiences within Aransas NWR (this is the publication that is likely to be passed from friend to friend). One possible design approach is to create a 3-D illustration of the site from an oblique aerial perspective to use as a backdrop for the rest of the information. This allows people to be able to identify where they are based on features they can see rather than having to use a flat map, which many people cannot do. In addition, a 'menu' of experiences based on time required should be included, along with suggestion about what a visitor should do if they have limited time.

**Note:** Actual design and content is likely constrained by the USFWS template. If that is the case, and the constraints prevent designing an effective map/brochure, consider having the Friends Group take this project on.



## Information Desk

### Location

In lobby of Visitor Center.

### Objectives

After interacting with the opportunities in this area visitors will:

- Have had most if not all their orientation and wayfinding questions answered, especially, "What is there to do here?" and "Where can I see wildlife?"
- Be excited about exploring the refuge;
- Have all the information they need for their desired experience (including the Map/Brochure);
- Know how to download and use any phone Applications (after they have been developed);
- Feel comfortable talking to USFWS personnel;
- Have paid their fee;
- Be aware that the refuge offers programs and stages events (and have a copy of the event and program schedule), and that they can receive information on upcoming events and programs via email if they supply their email address.

### Description and Concept

The Information Desk provides the opportunity to gather information from and ask questions of the staff. It is a critical part of the experience because some people prefer to get information personally, and because it sends the message that the USFWS thinks serving the public is important enough to dedicate staff to that function. That is becoming more significant as society moves increasingly to non-personal strategies for conveying information to visitors. Information available at the Information Desk includes:

- Aransas NWR Map/Brochure;
- Area map highlighting sites in the surrounding area (outside the refuge) with opportunities to explore nature;
- Information on upcoming and regular events and programs;
- All publications associated with the refuge and partner sites;
- An optional sign-in book that can be used to market events and programs (if people leave their email addresses), and used in any type of 'achievement' opportunity that involves getting credit for visiting the refuge more than once.

## Self-Serve Orientation Area

The Self-Serve Orientation Area allows visitors to get all the orientation and wayfinding information they need without having to go to the Information Desk. Availability of the information eases pressure on the Information Desk when the facility is crowded, and serves visitors who prefer to gather information this way rather than engage in personal contact. Key information needs include answers to the same basic questions (Where can I see wildlife? What is there to do here?), and orientation and wayfinding information facilitating a visit to other parts of the refuge.

### Location

In lobby of Visitor Center.

## Objectives

After interacting with the opportunities in this area visitors will:

- Have had most if not all their orientation and wayfinding questions answered, especially, "What is there to do here?" and "Where can I see wildlife?"
- Be excited about exploring the refuge;
- Feel comfortable in their ability to find their way around the site;
- Have all the information they need for their desired experience;
- Have paid their fee;
- Are aware that the refuge offers programs and stages events (and have a copy of the event and program schedule).

## Description and Concept

To function effectively, visitors entering the facility must be able to quickly identify the type of information offered at this station. One possibility is to use a large title and visual element, such as the questions "What is there to do here?" and/or "Where can I see wildlife?" accompanied by a collage of people engaging in a variety of activities at the refuge. All the information available at the Information Desk would be available at this station. It would also contain a fee-payment station.

## Recreating Safely Exhibit

*Note: Although a panel with similar information will be located outside so it is accessible when the building is closed, a significant number of people coming from the parking area will bypass that information if the Visitor Center is open and come into the building instead.*

## Location

Next to the Self-Serve Orientation Area.

## Objectives

After interacting with this opportunity, visitors will:

- Be aware of the hazards related to plants and wildlife associated with recreating in this area, and the low probability of encountering a problem, especially when practicing appropriate behaviors;
- Be aware how to avoid hazards;
- Be aware that thousands of people engage in recreational activities in this type of environment without experiencing any problems with native vegetation or wildlife;
- Be aware of the need for drinking water to avoid heat-related issues;
- Know that the Nature Store carries items such as insect repellent, sun screen, and other items that would help facilitate a safe trip;
- Feel comfortable engaging in recreational opportunities on the refuge.

## Description and Concept

Although this could be just a duplicate panel to the one outside, it would probably be more effective to present information in a video format to catch people's attention. A prominent display in the lobby will reach more people, including those who are not specifically seeking out this information because they are not aware of the need to be informed on the subject. One possibility is to use an LCD screen to play a looped sequence of video clips with captions depicting the necessary information. Aside from the

information being accessible to people with hearing impairments, it would be hard to hear audio if the lobby area was noisy and because the repetitive dialogue would likely irritate staff working at the nearby Information Desk.

Visitors should be able to download this information onto a smart phone so they can refer to it later as necessary.

## Primary Experience: Interpretive Opportunities in Visitor Center

**Note:** *It is unlikely that the interpretive area of the new Visitor Center will be large enough to accommodate all the exhibits and opportunities listed in this section, but they should be discussed in terms of goals and objectives, themes and the target audiences before determining what should be included inside the building.*

### Life Zones of Aransas NWR

#### Objectives

When visitors finish interacting with this exhibit, they will:

- Know all the themes;
- Be inspired to go out and explore the refuge;
- Be inspired to learn more;
- Be amazed at the variety of wildlife supported by the refuge;
- Understand the interconnectivity of all elements of the system, both biotic and physical;
- Feel empowered to make a difference by engaging in stewardship behaviors.

#### Key Themes

This is a thematic overview exhibit, so all themes and sub-themes should be included.

#### Description and Concept

This centerpiece exhibit is essentially a long narrow 'island' containing a continuous sequence of flat images and three-dimensional elements representing a sequence of life zones that begins with a 'rural' zone and ends with the aquatic zone in the ocean. It will include a sea grass zone. The rural zone is included to help emphasize that we are a part of the system and what we do in the rural zone has impact on life zones in the refuge. The diorama will be used as a backdrop to present information focused on the native flora and fauna, connections with other zones, and human impacts.

**Note:** *Depending on the design, an urban zone could be added that represents the urban areas in the upper parts of the watershed. My concern is that it might throw the scale off for visitors so they don't understand that what they are looking at is real.*

The continuous exhibit island could be broken up by passageways within which could be interpretive elements focusing on stories to be discovered under the surface, such as the underground flow of freshwater, the geomorphology and artifacts from previous cultural groups, but that might necessitate

making a passage so wide that it takes away from the intent of showing that the zones are connected. To that end, if a passageway is created, the "land" should continue over the top to emphasize that the zones are all connected. For the aquatic zones, visitors could be walking on a boardwalk, and when in the other zones, on a trail as if the visitor was actually exploring a particular zone in the refuge.

The integration of a variety of elements into a single exhibit reflects the holistic quality of nature and avoids the compartmentalization of information, which tends to be an obstacle in communicating interactions and connections. To avoid giving the impression of a vast quantity of information to digest, while at the same time motivating visitors to engage, much of the information will be hidden in drawers, recesses, flip plates and other reveals (strategies involving manipulation to find additional information) waiting to be 'discovered' as visitors 'discover' the life zones, the refuge and Native Nature. As noted previously, these are all elements that can be changed out periodically.

Emphasis, as with all the exhibits, will be on providing brief snippets of information and then posing questions to stimulate thought rather than offering conclusions. Information will be presented using a variety of strategies and media, and with the opportunity to use multiple senses, with emphasis on 'discovering' the life zones of the refuge and what lives in each. Exhibit elements within each zone will provide opportunities to 'discover' different aspects of that zone using all senses. These are all elements where the information can be changed out periodically as a means of staying up to date and attracting repeat visitors. All aspects of the zone - plants, wildlife, fish, birds, humans, and the natural forces that continue to shape the land and its inhabitants - can be found in the array of strategies to emphasize that all occur in the same place at the same time and that they are connected. The issues facing the refuge and potential impacts can also be found in the array of strategies.

**Note:** *Alligators should be a major focus within the diorama because they are a species of interest, and one that is endangered, and they are not a featured exhibit in the rest of the Visitor Center.*

The development of this exhibit will require working closely with the USFWS, particularly those at the refuge, to continue gathering and assessing additional potential stories and information that could be included.

As a whole, the components in every zone should establish the following:

- The zone supports different wildlife than other zones because it contains different habitat;
- The refuge is in the zone or is linked to the zone through a web of connections;
- Because of those connections, what happens in zones upslope have impacts on zones located downslope. This helps communicate the basic concept that what happens upslope in a watershed affects elements downslope, which is a concept to be expanded on when focusing on the impacts of urban communities in the San Antonio and Guadalupe River watersheds on the refuge, which means protecting the refuge depends on actions of those communities.

#### **Exhibit Complex Framework**

Each zone will have, at a minimum, the following elements:

##### **'Didjknows'**

Fun facts.

### **'What If?' Why? and 'Why not?'**

These are questions posed on the outside of a door or other type of reveal, such as "What will happen to native plants and wildlife if global climate change continues?" The answer is on the inside. The answer should be visual if possible, but if text is required, it should be brief.

### **Who lives here?**

These questions are posed on the outside of a door that is located on an image of something associated with birds or wildlife, such as a woodpecker hole, coyote scat, and badger holes. The identity of the organism is revealed upon opening the door, along with a tidbit of information about that piece of evidence, and how a visitor might find that piece of evidence.

Another approach is to use the question on the front of a reveal. Upon opening a reveal, the question is answered by "Depends. Pick a season." Visitors can then push a button to choose a season and see what organisms use it in what season and for what. The key concepts to convey are that some species of wildlife use resources from more than one zone, and that migratory birds and wildlife use it during specific seasons.

### **Why do I live here?**

Some form of this question would be located on an image of a species of wildlife. A reveal would contain an answer that focuses on the link between the species of wildlife and habitat.

### **What's the Connection?**

This is an image of something in one zone with a visual link to another zone and the question, 'What's the Connection?' A reveal would highlight the connection between the two. For example, the aquatic zone could contain an image of a person fishing in San Antonio Bay with the question "What's the Connection?" and an image of San Antonio on the outside of a flip plate. Upon opening the door, the viewer finds out that contaminants and erosion from the urban area can get into the river, causing negative impacts on fish and other species in the nearshore ocean.

### **What's Going on Down There?**

This exhibit element highlights what can be found underground in a zone, such as burrows, contaminants, the water table, artifacts from previous inhabitants, etc.

### **What are We Doing?**

This exhibit element highlights activities of the USFWS, such as research and habitat restoration.

Ideally, all secondary exhibits would be located either within the diorama, or more often, on the perimeter directly across from the place on the diorama that includes the story. For example, a whooping crane exhibit would be located opposite the 'tidal flat zone' on the diorama. A reveal on the diorama combined with visuals will make people aware of the exhibit behind them that provides additional information on the topic. The secondary exhibits, when possible, would also direct visitors to opportunities outside the visitor center where they can get more of the story. Potential secondary exhibits include the following. Note that this is simply a listing of possibilities – they do not all have to be included, although all would help communicate themes. Understanding the available space and the configuration of that space is necessary to start narrowing the list down.

## The Whooping Crane Story or Winged Winter Texans

### Objectives

When visitors finish interacting with this exhibit, they will:

- Be inspired to engage in conservation;
- Be inspired to learn more;
- Be amazed at the story of a species coming back from so few remaining individuals;
- Understand the importance of Aransas NWR to whooping cranes.

### Key Themes

The following are the key themes to focus on in designing the exhibit, but that does not mean other themes and sub-themes cannot be included.

**General Interpretive Theme 2:** Wildlife, along with all other biological organisms, depend on their specific habitat to survive.

**Sub-theme 2-1:** Protecting native flora and fauna focuses on protecting and restoring the habitat they depend on for survival.

**Sub-theme 2-2:** The habitat necessary to support migratory birds and wildlife extends the entire length of their migration routes.

**General Interpretive Theme 3:** A lot of people, including the USFWS, are working to conserve and restore habitat to protect wildlife we value for the people today and for future generations. You can make a difference by helping.

**Sub-theme 3-1:** Because individual actions add up incrementally to significant impacts, you can play an important role in maintaining natural resources, and on conserving and recovering the fish and wildlife.

**Aransas-specific Interpretive Theme 7:** Without Aransas NWR, the whooping crane would probably have gone extinct, which would have negative impacts on the surrounding community.

### Description and Concept

This is the story of the whooping cranes, from discovery to now. One possible approach is to use a timeline above the exhibit with a graph depicting population numbers. The story would be told chronologically, using visuals primarily, with a minimal amount of text. It should finish by emphasizing that there is more to be learned. The exhibit should also provide a link to the following site, which contains more detailed information on Whoopers:

[https://tpwd.texas.gov/huntwild/wild/wildlife\\_diversity/texas\\_nature\\_trackers/whooper-watch/](https://tpwd.texas.gov/huntwild/wild/wildlife_diversity/texas_nature_trackers/whooper-watch/)

A second part of the journey could focus on the migration of the crane. Using new media and technology, visitors could 'fly' the route of the cranes from Aransas NWR to Wood Buffalo National Park in Canada, stopping to rest and feed at other National Wildlife Refuges along the route. That would be a good segue into the 'Supporting Continental and Trans-Continental Journeys' exhibit since it focuses on the need for a refuge system to support migratory waterfowl.

This exhibit should also include an opportunity for children to see how they ‘measure up’ to a crane, both in terms of height and wingspan.

## Supporting Continental and Trans-Continental Journeys

### Objectives

When visitors finish interacting with this exhibit, they will:

- Be inspired to learn more in general;
- Understand the need for a network of wildlife refuges;
- Want to learn more about the species of migratory birds that travel near where they live;
- Feel empowered to make a difference by engaging in stewardship behaviors.



Migrating birds need wintering and breeding grounds, and all the stops in between to rest and feed

### Key Themes

The following are the key themes to focus on in designing the exhibit, but that does not mean other themes and sub-themes cannot be included.

**General Interpretive Theme 2:** Wildlife, along with all other biological organisms, depend on their specific habitat to survive.

**Sub-theme 2-1:** Protecting native flora and fauna focuses on protecting and restoring the habitat they depend on for survival.

**Sub-theme 2-2:** The habitat necessary to support migratory birds and wildlife extends the entire length of their migration routes.

**General Interpretive Theme 3:** A lot of people, including the USFWS, are working to conserve and restore habitat to protect wildlife we value for the people today and for future generations. You can make a difference by helping.

**Sub-theme 3-1:** Because individual actions add up incrementally to significant impacts, you can play an important role in maintaining natural resources, and on conserving and recovering the fish and wildlife.

### **Description and Concept**

This exhibit has several purposes. First, it supports the need for a network of wildlife refuges to support migratory waterfowl; second it supports the need for international cooperation to protect some species; finally, it helps to connect visitors with waterfowl that come their way. Although information on flyways could be included, it is not the major focus of this exhibit. The goal is to connect to visitors. For that reason, species should be selected that are charismatic and/or that connect a visitor to an area for which he or she has an existing connection. They should also be species that are at risk due to habitat loss or other factors. One possible approach is to create an opportunity where visitors can type in where they are from and a computer can provide information on what species that pass through south Texas also pass through or end up where the visitor lives. The visitor can then find out when and where to see the species as it passes through.

## **Can You Keep the Water Flowing?**

### **Objectives**

When visitors finish interacting with this exhibit, they will:

- Understand the importance of quality and quantity of freshwater to the refuge, and to the estuary that supports fish and other aquatic organisms important to the quality of life of those who live here;
- Understand the importance of actions by residents in San Antonio and elsewhere in the watersheds of the San Antonio and Guadalupe Rivers;
- Feel inspired to engage in stewardship behaviors to protect the fish and wildlife in the watershed in which they live;
- Want to know more about the fish and wildlife that live in the watershed in which they live.

### **Key Themes**

The following are the key themes to focus on in designing the exhibit, but that does not mean other themes and sub-themes cannot be included.

**General Interpretive Theme 1:** Native Nature is important to your (my) quality of life.

**Sub-theme 1-2:** Native Nature provides desirable recreational opportunities.

**Sub-theme 1-4:** Aransas NWR supports the economy of the area

**General Interpretive Theme 2:** Wildlife, along with all other biological organisms, depend on their specific habitat to survive.



**Sub-theme 2-1:** Protecting native flora and fauna focuses on protecting and restoring the habitat they depend on for survival.

**General Interpretive Theme 3:** A lot of people, including the USFWS, are working to conserve and restore habitat to protect wildlife we value for the people today and for future generations. You can make a difference by helping.

**Sub-theme 3-1:** Because individual actions add up incrementally to significant impacts, you can play an important role in maintaining natural resources, and on conserving and recovering the fish and wildlife.

**Aransas-specific Interpretive Theme 4:** Aransas NWR provides many benefits to the citizens of the area.

**Sub-Theme 4-1:** The fish and wildlife supported by Aransas NWR are important to the quality of life of those living in the area.

**Aransas-specific Interpretive Theme 5:** Everything in a watershed is linked. Everything that happens upstream affects everything downstream. Aransas NWR and the fish and wildlife it supports are endangered due to actions by urban residents in the north part of the San Antonio and Guadalupe River watersheds.

**Sub-Theme 5-1:** Everything in a watershed is linked.

**Sub-theme 5-2:** Humans can determine what organisms live and what die in the watershed by impact on habitat. Those impacts ultimately affect humans since humans are a part of the ecosystem.

**Sub-theme 5-3:** Freshwater is critical to the ecosystems at Aransas NWR that support native flora and fauna. The supply of freshwater is endangered due to human activity in upper parts of the watershed.

**Aransas-specific Interpretive Theme 6:** The wetlands (including coastal marshes) at Aransas NWR are valuable to humans for myriad reasons.

### **Description and Concept**

This is an interactive computer game where the participant gets to manage the freshwater in the watershed, including what is used by people in urban areas. The goal is to keep the freshwater flow sufficient to maintain the habitat, and with it, the whooping cranes. The point is not necessarily to solve the problem, but to make people aware that how water is used by residents of urban areas of the watershed affects the health of the habitat at Aransas.

**Note:** *This is a game that could be developed and downloaded from the web as an educational and outreach strategy to raise awareness regarding this issue.*

## Window to the Wild

### Objectives

When visitors finish interacting with this opportunity, they will:

- Be inspired to go out and walk the nearest nest loop trail, which will take them to the Alligator Viewing Platform;
- Be inspired to learn more.

### Key Themes

The following are the key themes to focus on in designing the exhibit, but that does not mean other themes and sub-themes cannot be included.

**General Interpretive Theme 1:** Native Nature is important to your (my) quality of life.

**Sub-theme 1-2:** Native Nature provides desirable recreational opportunities.

**General Interpretive Theme 2:** Wildlife, along with all other biological organisms, depend on the availability and health of their specific habitat to survive, which for many species is a serious issue due to the widespread loss of critical habitat.

**Sub-theme 2-1:** Native wildlife depend on native plants as part of their habitat. (Plus the corollary theme: If you want to support native wildlife you need to plant native vegetation.)



**Example of a Window Wall in a visitor center**

### Description

A Window to the Wild is a place within the Visitor Center where people can view nature from the protection of an interior space, thus it provides the next 'safe' Stepping Stone of Engagement (see image above). It should look out onto a natural area with native plants that attract birds and other wildlife, so

visitors can begin focusing on the outside environment and what lives there, and so they can potentially see wildlife. The sounds from the outside, including bird calls, can be piped inside. In addition to providing identification keys and binoculars, information would link species to habitat, and make visitors aware that they can plant vegetation in their yard to attract specific species of birds. To be most effective it should be set off from the main exhibit area and welcome area to minimize distractions.

## Pollinator Exhibit

### Objectives

When visitors finish interacting with this exhibit, they will:

- Be inspired to plant a pollinator garden;
- Be inspired to learn more;
- Feel empowered to make a difference by engaging in stewardship behaviors.

### Key Themes

The following are the key themes to focus on in designing the exhibit, but that does not mean other themes and sub-themes cannot be included.

**General Interpretive Theme 1:** Native Nature is important to your (my) quality of life.

**Sub-theme 1-1:** Pollinators are critical for pollinating local crops and depend on native habitat to survive, so planting native plants will support the agricultural industry.

**General Interpretive Theme 2:** Wildlife, along with all other biological organisms, depend on their specific habitat to survive.

**Sub-theme 2-1:** Protecting native flora and fauna focuses on protecting and restoring the habitat they depend on for survival.

**Sub-theme 2-2:** The habitat necessary to support migratory birds and wildlife extends the entire length of their migration routes. (Note that this includes migratory pollinators.)

**General Interpretive Theme 3:** A lot of people, including the USFWS, are working to conserve and restore habitat to protect wildlife we value for the people today and for future generations. You can make a difference by helping.

**Sub-theme 3-1:** Because individual actions add up incrementally to significant impacts, you can play an important role in maintaining natural resources, and on conserving and recovering the fish and wildlife.

### Description and Concept

This would focus especially on pollinators that are responsible for common foods in the area and the potential crisis if those pollinators are eliminated due to loss of habitat. Accompanying this exhibit should be instructions and supplies for planting a pollinator garden.

One possible approach is to use a game concept where participants must match pollinators to plants they depend on all along their migration route, while at the same time trying to manage human impacts to preserve necessary habitat along the pollinator's migration route. Note that this game must include the barriers that migrating pollinators face, with a potential outcome of not reaching their destination, or reaching it in reduced numbers. The impact must connect to availability of food and/or other products humans value.

***Note:** If interior space is an issue, this could be moved outside and associated with the Demonstration Gardens. However, it may be so important that it needs an inside exhibit, perhaps one that is associated with a glass tube connecting it with the outside leading to a place where bees could construct a hive that is visible to people in the Visitor Center.*

## What do You Want to Invite Home?

### Objectives

When visitors finish interacting with this exhibit, they will:

- Be inspired to learn more;
- Be motivated to plant native plants in their yards to attract specific species;
- Understand the relationship between wildlife and habitat;
- Feel empowered to make a difference by engaging in stewardship behaviors, specifically, by planting native vegetation.

### Key Themes

The following are the key themes to focus on in designing the exhibit, but that does not mean other themes and sub-themes cannot be included.

**General Interpretive Theme 2:** Wildlife, along with all other biological organisms, depend on their specific habitat to survive.

**Sub-theme 2-1:** Protecting native flora and fauna focuses on protecting and restoring the habitat they depend on for survival.

**Sub-theme 2-2:** The habitat necessary to support migratory birds and wildlife extends the entire length of their migration routes.

**General Interpretive Theme 3:** A lot of people, including the USFWS, are working to conserve and restore habitat to protect wildlife we value for the people today and for future generations. You can make a difference by helping.

**Sub-theme 3-1:** Because individual actions add up incrementally to significant impacts, you can play an important role in maintaining natural resources, and on conserving and recovering the fish and wildlife.

### Description and Concept

This exhibit offers the opportunity to see and hear birds at the same time, with the hope that people will become enamored with a specific species and will want to plant native vegetation in their yards that is

part of the habitat required by that species. It could also motivate visitors to engage in projects that involve planting native vegetation in other locations, such as Islands of Habitat. Since the goal is for visitors to plant native vegetation in their yards to help support native wildlife, the focus should be on birds that are likely to use specific species of plants in an urban environment, such as ruby-throated hummingbirds and orioles.

One possible approach is to use images of interesting birds that could be attracted to backyard habitat in the area, along with a push button to hear the bird call (using directional speakers to avoid sound migration), to attract a visitor's interest, along with the heading, 'Which Birds Would You Like to See and Hear in your Yard?' Additional information would focus on what species to plant along with what other landscaping would help attract the specific bird.

### **Walking the Talk (Working Title)**

This is a series of small panels at appropriate locations around the facility highlighting the conservation measures used in the design and construction of the building, such as low flow water fixtures, taking advantage of natural insulation (only if the building is partially buried), and similar measures with emphasis on those that can be adapted for use by homeowners. The actual topics will be determined by the design of the building.

### **In-depth documentary of the Refuge**

*Note: A video of this type is currently available on YouTube, however, it needs to be updated for accuracy (name of refuge), and enhanced with new techniques (360° video, etc.). It should also be broken into short segments.*

#### **Location**

Multi-Purpose room

#### **Objectives**

In addition to basic awareness of the refuge and what it offers in terms of visitor opportunities, after interacting with this opportunity, visitors will:

- Be motivated to visit;
- Be motivated to contribute in some way to the refuge and/or conservation of natural resources;
- Be aware of the importance of the refuge system in general and Aransas NWR specifically;
- Feel a positive emotional connection to the refuge;
- Feel empowered that he/she can make a positive contribution.

#### **Themes**

All the key messages should be woven into the video.

#### **Description and Concept**

This tour is more extensive than the Introductory Video because it serves an additional purpose – to provide a positive, in-depth experience with the refuge for those who are unable to visit, with the intent of creating an emotional connection to nature in general and the refuge specifically. Ideally it would use

cutting edge technology, such as using drones to get desirable footage and images, and using 360° video and photos. This could include links to live cams on the refuge strategically placed to show wildlife.

One possible approach is to organize the documentary in a series of short programs focused on different areas/features (points of interest) of the refuge, such as whooping cranes (with information about refuges protecting breeding grounds), history; other birds and wildlife; etc. The short segments avoid requiring the visitor to commit a long chunk of time to watching the entire video in one sitting. Although anyone can use the documentary, but it is especially useful for people who cannot come to the refuge and for 'armchair travelers.'

**Note:** *The size of the visitor center will likely preclude offering an array of exhibits that would take a viewer a couple of hours to go through. One way to increase the potential time spent in the visitor center is to offer several audiovisual programs.*

## Primary Experience: Interpretive Opportunities around the Visitor Center

The following interpretive opportunities can be easily accessed from the Visitor Center.

### Demonstration Gardens Self-Guided Walk

#### Location

Adjacent to the Visitor Center.

#### Objectives

After taking part in the associated interpretive opportunity, visitors will:

- Be motivated to plant a garden similar to one of the Demonstration Garden;
- Feel empowered to make a difference regarding conservation of natural resources;
- Know that pollinator and butterfly populations are endangered due to loss of habitat;
- Know that loss of pollinators can have a negative effect on their quality of life;
- Feel a connection (intellectual and/or emotional) to at least one of the gardens;
- Know that Native Nature has and continues to enhance the quality of life for many people (ideally for the visitor also).

#### Themes

Different themes are likely to be more appropriate for different types of gardens. For example, themes about the relationship of wildlife to habitat would be appropriate for Butterfly Gardens and Pollinator Gardens, but not for some of the gardens where the focus is on the plants rather than what the plants attract. As another example, the concept that Native Nature contributes to our quality of life would be highly appropriate for Pollinator Gardens and ones that focus on plants related to health. As with Islands of Habitat, almost any of the themes could be used to drive the development of the associated interpretive opportunities, but the following are probably the key ones:

**General Interpretive Theme 1:** Native Nature is important to your (my) quality of life.

**Sub-theme 1-1:** Pollinators are critical for pollinating local crops and depend on native habitat to survive, so planting native plants will support the agricultural industry.

**General Interpretive Theme 2:** Wildlife, along with all other biological organisms, depend on their specific habitat to survive.

**Sub-theme 2-1:** Protecting native flora and fauna focuses on protecting and restoring the habitat they depend on for survival.

**Sub-theme 2-2:** The habitat necessary to support migratory birds and wildlife extends the entire length of their migration routes.

**General Interpretive Theme 3:** A lot of people, including the USFWS, are working to conserve and restore habitat to protect wildlife we value for the people today and for future generations. You can make a difference by helping.

**Sub-theme 3-1:** Because individual actions add up incrementally to significant impacts, you can play an important role in maintaining natural resources, and on conserving and recovering the fish and wildlife.

### **Description and Concept**

This can either be a series of separate gardens, or one garden that contained all elements of the separate gardens noted. On the plus side, one garden supports the concept of interrelationships, however, it may be easier for a visitor to focus on a single type of garden. The concept is the same. This is essentially a collection of gardens in the same location so a visitor can get an interpretive tour of specialty gardens all in one place, with a focus on the species of birds, wildlife and other biota that benefit from the gardens. All gardens should be ones that visitors can plant in their yards. Possible gardens include the following:

- Pollinator Garden
- Butterfly Garden
- Hummingbird Garden
- Scent Garden
- Songbird garden
- Wetland/water garden
- Native plant garden
- Xeriscape garden

All should use only native plants. The purpose of these Demonstration Gardens is to show visitors examples of what they can plant in their yards. Associated interpretive information would focus on the value of the plants in the gardens, such as for habitat for wildlife, sources of traditional medicines, sources of spice and foods, sources of dyes and materials used in cultural practices, and other uses. In addition, visitors can obtain a guide that provides instructions on planting these specific gardens and other native habitat in their yards, and how to become a Certified Backyard Habitat through the Friends group. The refuge could also give away seeds and plants that would go in any of these gardens to encourage visitors.

**Note:** Consider partnering with a local nursery so visitors can purchase plants for these gardens when they leave. Also consider offering vouchers for people to obtain plants from local nurseries. The advantage of having plants available at the refuge is that it may be the point in time the visitor is really excited about planting a garden, and it does not require any extra effort or much time. Given that storing plants would require space and time, offering plants may be something that occurs on specific days.

**Note:** Although some of these gardens may not provide critical habitat for native wildlife, they are 'Native Nature' that visitors might be willing to plant in their yards because they value what it offers. That would represent a Stepping Stone of Engagement in that they are planting 'Native Nature' in an urban setting.

**Note:** The Certification Program must take into account what a person is capable of doing in the yard (or lack of yard) that they have. It may be better to call it a Certified Backyard Conservationist with different levels. A visitor could attain the first level simply planting a native plant in his or her yard. (Note that the Friends Group has already started such a program.)

The interpretive information supporting this self-guided walk should be available in at least a few formats to increase the probability that all members of the target audiences have a format available to them that they are comfortable with and have no difficulty accessing the information. That means that Spanish and English versions should be available in all formats. Given that technology is changing so quickly, rather than identify specific information-delivery strategies, the recommendations will be for types of strategies.

At a minimum, the information should be available through cell phone technology in an audio format and by way of a publication (that visitors can recycle when they leave). For the gardens that provide habitat for specific species of wildlife (pollinator garden, butterfly garden, songbird garden, etc.), visual identification keys should also be available, both in the publications and as visuals using cell phone technology.

It is important in the design of the interpretive strategies to stay away from the encyclopedic approach, which would manifest itself in pure identification keys combined with facts about how plants were used or what wildlife associates with what habitat. The preferred approach is to tell stories that contain the same information. For example, instead of simply noting that the Monarch butterfly is associated with milkweed, tell the story of the Monarch's migration from the butterfly's perspective – what does it look for when seeking food, or a place to nest

## **Nested Loop of Trails**

### **Location**

Originating at the Trail Hub adjacent to the Visitor Center, and encompassing the existing Rail Trail and Heron Flats Trail to the south. To do so, an extension should be built to connect the Alligator Viewing Platform to the Rail Trail, and if possible, a trail extension to connect the Rail Trail to the Heron Flats Trail so a visitor could, if desired, walk from the Visitor Center directly across the two connectors to access the Heron Flats Trail. This will be especially important if seeing whooping cranes on the Heron Flats Trail becomes a common occurrence.



## Objectives

After engaging in these experiences, visitors will:

- Feel as if they have had a great experience on the refuge even if they don't go any further;
- Be motivated to want to explore more of the refuge;
- Be inspired to learn more about the fish and wildlife of the refuge.

## Themes

The following themes will drive much of the interpretation on these trails:

**General Interpretive Theme 1:** Native Nature is important to your (my) quality of life.

**Sub-theme 1-2:** Native Nature provides desirable recreational opportunities.

**General Interpretive Theme 2:** Wildlife, along with all other biological organisms, depend on their specific habitat to survive.

**Sub-theme 2-1:** Protecting native flora and fauna focuses on protecting and restoring the habitat they depend on for survival.

**General Interpretive Theme 3:** A lot of people, including the USFWS, are working to conserve and restore habitat to protect wildlife we value for the people today and for future generations. You can make a difference by helping.

**Sub-theme 3-1:** Because individual actions add up incrementally to significant impacts, you can play an important role in maintaining natural resources, and on conserving and recovering the fish and wildlife.

**Aransas-specific Interpretive Theme 4:** Aransas NWR provides many benefits to the citizens of the area.

**Sub-Theme 4-1:** The fish and wildlife supported by Aransas NWR are important to the quality of life of those living in the area.

**Sub-theme 4-2:** The flora and landscape of Aransas NWR provides benefits to citizens of the area.

**Aransas-specific Interpretive Theme 6:** The wetlands (including coastal marshes) at Aransas NWR are valuable to humans for myriad reasons.

## Description and Concept

A visitor will be able to exit the Visitor Center and get onto an interpretive trail very quickly. The shortest trail, and the inside loop, should be fully accessible, with interpretive information provided in several ways, including panels, a written format (perhaps part of a guide to interpretive and walking trails at Aransas), and by a smart phone. The additional loops do not have to be as long as the information gained along those trails is available to the public. The following are the recommended loops that could be made from existing trails without significant modifications.

**Alligator Platform Interpretive Loop Trail:** This trail begins and ends at the trail hub adjacent to the Visitor Center. Ideally, it is a loop rather than a single trail accesses the platform, and would access a variety of habitats rather than just the wetland where the alligator can be viewed.

**Rail Interpretive Trail:** This trail already exists. A loop associated with the Alligator Platform Interpretive Loop Trail is created by building a connector between the viewing platform and the Rail Trail on the other side from the visitor center.

**Heron Flats Trail:** This would be the next loop trail, but would have to be connected so it is a loop rather than an up and back. It is not strictly an interpretive trail since it is so long. However, that doesn't mean that interpretation cannot be offered in an optional strategy, such as part of a booklet on trails of Aransas or on an App.

The Alligator Overlook, Rail Trail and Heron Flats Trail all have existing signage, all of which has information that supports the key messaging. To make them work more effectively, a thematic overview panel should be developed to be put at the beginning of the trails, as part of the array of interpretive and orientation signage that should be located at the Trail Hub adjacent to the Visitor Center. In addition, an Overview Panel should be developed to be located at the point where the trail from the Alligator Overlook Platform meets the Rail Trail, and one where the connector trail meets the Rail Trail.

## **Primary Experience: Interpretive Opportunities covering the entire refuge**

The following interpretive opportunities will be designed so they can be used anywhere or at multiple points on the refuge. In other words, they are not constrained to a specific location.

### **Smart Phone Application**

#### **Objectives**

These will depend on what part of the application is being used.

#### **Themes**

All major themes should be covered.

#### **Design Concept**

Applications can be designed in any number of ways, but the key is to make sure that the visitor can access information quickly that is relevant to their particular location. This could be in the form of podcasts, vodcasts, augmented reality, etc. The other key aspect for this application is that visitors can download the information so they do not have to depend on Wi-Fi access when on the refuge.

Ideally, visitors will have access to detailed information as follow up to any topic or concept introduced on interpretive signs or other interpretive opportunities. In addition, it will have podcasts for specific areas, like chapters in a book.

## Sense-ational Discovery Guide

### Objectives

The intent of this guide is to motivate visitors to:

- Experience key features of the refuge using all their senses;
- Explore the natural environment both within and outside the visitor center;

### Themes

All major themes could be covered in this publication, but the emphasis would be on the following:

**General Interpretive Theme 2:** Wildlife, along with all other biological organisms, depend on their specific habitat to survive.

**Sub-theme 2-1:** Protecting native flora and fauna focuses on protecting and restoring the habitat they depend on for survival.

### Description and Concept

This publication focuses on helping visitors connect with natural and the cultural history of the refuge by making them 'Detectives of the Landscape.' Clues addressing all senses help visitors discover evidence of the past, of the forces that shaped and continue to shape Santa Ana NWR and of the flora and fauna that live here.

The actual device can be anything easily carried and used as an identification guide and check-off list, such as a small booklet or set of cards with pictures on a ring. Whatever is used, it should contain descriptions and images of features to look for and check off. Each item has two columns to check – one for experiencing the feature in an exhibit or learning about it on a sign, and one for experiencing the actual feature. For example, if the user learned about woodpecker holes in the visitor center and then found one while exploring the refuge, he or she could put a mark in each column. Experiences should involve all senses, such as smelling bark, hearing a bird call, identifying a tree by the feel of the bark, etc.

Two versions of this strategy could be developed. The simpler one would be available free of charge. A more detailed version, perhaps with information on where to find different items on the list, could be an item for sale in the Bookstore. Explorer's Kits sold in the Nature Store could have a copy of the publication.

**Note:** *The Explorer's Kit or Backpack is a daypack full of tools for discovering the world around us, such as inexpensive binoculars, identification keys for plants, birds, wildlife and animal tracks, a magnifying glass, and any other items that would help youth discover nature on their own. It could also contain a simple camera with 12 exposures so youth can take pictures of their favorite features. Those pictures could be submitted in a contest with the best from each camera posted on a bulletin board in the Visitor Center. This could be a way of encouraging return visits, visits by other family members and relatives, etc. The backpack could be sold in the Nature Store or checked out.*

## Guided and Self-Guided tours

### Objectives

The objectives depend on the actual tour, but in all cases, objectives would include the following:

- Be motivated to explore the refuge on their own;
- Be motivated to contribute in some way to the refuge and/or conservation of natural resources;
- Be aware of the importance of the refuge system in general and Aransas NWR specifically;
- Feel a positive emotional connection to the refuge;
- Feel empowered that he/she can make a positive contribution.

### Themes

Themes to be covered would depend on the specific focus of the tour, but since tours in general tend to pass through multiple habitats, the following themes should apply to any tour.

**General Interpretive Theme 2:** Wildlife, along with all other biological organisms, depend on their specific habitat to survive.

**Sub-theme 2-1:** Protecting native flora and fauna focuses on protecting and restoring the habitat they depend on for survival.

### Description and Concept

One of the ways to increase the desirability of Aransas as a destination aside from offering interpretive opportunities to enrich the visitor's experience, is to offer experiences that are intriguing and take time. The following tours should be considered:

#### Guided (Van) and Self-Guided Auto Tour

This uses the road to the Observation Towers and a little distance past that point, and then uses a new route to cut back and re-join the two-lane portion of the road. The closure will decrease the amount of time required for the trip, but will create a better benefit-to-cost ratio for visitors who use this opportunity.

In addition to the interpretation offered at different stops along the route, the auto tour will provide interpretation that focuses on changes in habitat seen along the route, and the consequent change in the birds and wildlife that use that habitat.

**Note:** Pullouts could be added along the auto tour route and interpretation keyed to those pullouts.

**Note:** The self-guided version could include points north and south along Highway 35.

#### Guided and self-guided kayak tours of the refuge (the guided ones could be birding tours)

The focus of the interpretation will be on the aquatic environment, again taking opportunities to connect wildlife with habitat. It should also include the importance of this area in producing crabs and other seafood enjoyed by locals. Other parts of the interpretive opportunity will focus on the importance of freshwater and the problem with urban areas to the north taking too much. It will also include the issue of contaminants coming from the terrestrial part of the refuge and how the refuge is affected.

The self-guided version could provide information in a myriad of ways. I prefer to go paperless to avoid brochures and guide books floating around in the water. Current technology likely has the capability of providing each person in the group with a receiver for getting information from the guide. The guided version of the tour will use personal interpretation (the guide) to supply information.

**Note:** *This will require formalizing kayak launch points and adding appropriate signage.*

### **Guided and self-guided bicycle tours of the refuge (the guided ones could be birding tours)**

The focus of the interpretation will be on the different environments and the wildlife they might encounter in different habitats. This tour will go past a solar well so the story of the importance of freshwater can be included as well as the issue with not getting enough water from upper areas of the watershed. To further enhance this experience, shade structures should be located periodically along the route.

### **Guided birding tours**

This is just what it says – a guided tour focusing on birds.

## **Primary Experience: Interpretive Opportunities Along the Auto Tour**

### **Oak Motte Picnic Area**

#### **Introduction**

This is a good site for interpretive opportunities for several reasons:

1. The trunks of the live oaks are one of the intriguing features in the refuge;
2. There are likely to be some fishing ‘widows’ or ‘widowers’ who might really appreciate something to do while their spouse fishes;
3. It’s a likely place for a family to stop and have a picnic;
4. It has a pier, so visitors can get out ‘on’ the water;
5. It has restrooms.

#### **Site Improvements**

The site could be enhanced by adding a nature playground and a screened, sheltered area in the back for interpretive presentations. It could also double as a rentable space for group gatherings. An additional interpretive experience can be created by building trail segments that connect the picnic area to the Oak Sanctuary Trail. The trail to the site would be on the west side of the access road, providing an opportunity to spend more time ‘discovering’ wildlife or evidence of wildlife in the oak forest habitat. The trail from the site would ideally go on the east side of the access road, and would intersect the trail to the fishing pier.

A Nature Playground would be valuable in itself because it affords children an opportunity to play in Native Nature, thus reducing the ‘fear of the unknown’ that might have interfered with such experiences in the past, and creating an emotional attachment to the trees and by extension, the refuge. A playground would also afford the opportunity to create an interpretive opportunity that involves the whole family by providing parents with questions to ask their children, such as ‘who do you think lives in that hole?’ and providing the answer, although it can be designed so the parents and children discuss potential answers before looking them up. The classic medium for this opportunity is a publication, but it can be developed so it goes on the App.

### **Interpretive Opportunities**

The area currently has a panel on common fish that can be caught from the pier, and one in the picnic area focusing on how to view wildlife. The following interpretive opportunities should be considered. Note that all information will be available on the **Aransas NWR App** also.

***Note:** A loop trail from the picnic area to access the Oak Sanctuary would provide additional opportunities at in this area. If this route was created, it might make a good interpretive trail because it is relatively short. However, it would require establishing a pedestrian crossing on the access road.*

***Note:** The Songbird Loop trail will be abandoned. The same experience can be had along other trails.*

***Note:** A Site Orientation Panel will be located at this site.*

## **Fish Homes Interpretive Panel**

### **Location**

At the entry to or on the fishing pier (it complements the existing panel)

### **Objectives**

After interacting with this opportunity, visitors will:

- Understand that different fish need different habitat, just like other species of birds and wildlife.
- Understand that the marsh and sea grass beds of Aransas NWR are very important to healthy populations of fish.

### **Themes**

Key themes include the following:

**General Interpretive Theme 1:** Native Nature is important to your (my) quality of life.

**Sub-theme 1-2:** Native Nature provides desirable recreational opportunities.

**Sub-theme 1-4:** Aransas NWR supports the economy of the area

**General Interpretive Theme 2:** Wildlife, along with all other biological organisms, depend on their specific habitat to survive.

**Aransas-specific Interpretive Theme 4:** Aransas NWR provides many benefits to the citizens of the area.

**Sub-Theme 4-1:** The fish and wildlife supported by Aransas NWR are important to the quality of life of those living in the area.

**Aransas-specific Interpretive Theme 6:** The wetlands (including coastal marshes) at Aransas NWR are valuable to humans for myriad reasons.

### **Description and Concept**

This panel has several purposes. One is to reinforce the concept that biological organisms depend on habitat to survive. That feeds into one of the purposes of the refuge, which is to protect aquatic habitat in order to support the fish that depend on that habitat, and in so doing, support recreational and commercial fisheries. That in turn, supports the point that Aransas contributes to the quality of life of residents in the area.

One possible design concept is to use some of the same information found on the existing panel, specifically where a specific species is likely to be found, combined with information on why it is found in such places. Using the same species highlighted on the fish panel, this panel could also include images of the types of habitats needed by the fish throughout their life cycle. If that involves too many images, a few could be selected that – between them – support the need for marshes and sea grass beds.

## **Twists and Turns Interpretive Panel Cluster**

### **Location**

In the picnic area (the existing panel could be added to this cluster)

### **Objectives**

After engaging in this interpretive opportunity, visitors will:

- Be aware that plants are affected by a variety of forces, including wind;
- Be aware that Aransas and Matagorda Island help protect everything inland;
- Be aware that the oak forest supports a wide variety of birds and wildlife, some of which can only be found in that ecosystem.

### **Themes**

Key themes include the following:

**General Interpretive Theme 1:** Native Nature is important to your (my) quality of life.

**Sub-theme 1-4:** Aransas NWR supports the economy of the area

**General Interpretive Theme 2:** Wildlife, along with all other biological organisms, depend on their specific habitat to survive.

**Sub-theme 2-1:** Protecting native flora and fauna focuses on protecting and restoring the habitat they depend on for survival.

**Aransas-specific Interpretive Theme 4:** Aransas NWR provides many benefits to the citizens of the area.

**Sub-Theme 4-1:** The fish and wildlife supported by Aransas NWR are important to the quality of life of those living in the area.

**Sub-theme 4-2:** The flora and landscape of Aransas NWR provides benefits to citizens of the area.

### **Descriptions and Concepts**

This interpretive opportunity uses the shape of the oaks as a starting point to focus on three stories – the role of a myriad of factors (including wind) in creating habitat, the role of Aransas in protecting inland areas from storms and storm surge, and the species that depend on the oak forest habitat. At this point we envision the following panels in this cluster:

***Note:** We suggest moving the existing panel into this group to form a 3-panel cluster.*

#### **Panel 1: A Relentless Attack**

This panel focuses on how wind and salt spray continually attack the oak forest, resulting in twisted trunks and a lean away from the ocean. This provides a good basis for focusing on the role of the flora of Aransas NWR in protecting inland oil and gas infrastructure, homes, businesses and farms.

***Note:** The entry sign to the Oak Sanctuary also focuses on oaks, with more of an emphasis on how wind and salt spray have shaped the trees. Wind and salt spray as forces shaping the trees needs to be a part of this panel, but only to provide a basis to focus on the forest as a protector of inland areas, which helps protect the economy by protecting infrastructure.*

#### **Panel 2: Can You Find Us?**

This panel focuses on the birds and wildlife that can be found in the oak forest habitat, with priority given to those that occur only there. To engage the visitor, the approach should be about seeing or hearing the species, and if not, discovering evidence that it lives there (such as woodpecker holes).

## **Interpretive Presentations**

### **Location**

In a screened shelter in the rear of the picnic area.

### **Objectives**

Depends on the program, but all programs should be trying to communicate the same key themes.

### **Description and Concept**

Depends on the program. However, since people are more interested in topics when they can ‘see’ something related to that topic, all programs should endeavor to use the features visible in or from the picnic area as starting points to the presentation.



## Jones Lake Overlook

There are several stories to be told here. Since this is a rare freshwater lake on the refuge, the interpretive experience can focus on what uses that type of habitat, the importance of freshwater to the health of the refuge, and the seasonal variability in the water level at the lake.

**Note:** *The USFWS is going to be installing a freshwater well to ensure that the lake always has at least a small amount of water. A large solar panel at the road will mark the location of the well. The addition of this feature provides an opportunity to focus on how the USFWS manages the habitat to conserve the flora and fauna that depend on it for survival. That brings the story to the point of asking the question, 'Why does the USFWS need to manage the lake?' with the answer focusing on the widespread destruction of native habitat by humans.*

**Note:** *This site will have a Site Orientation Panel*

**Note:** *Information about this site will be included in the App.*

### Jones Lake Interpretive Panel Cluster

**Note:** *The site already has one interpretive panel focusing on the fluctuating levels of the lake, its use by birds and wildlife, and possible impact of climate change. That panel can act as thematic overview for two additional panels.*

**Note:** *The combination of panels should focus on introducing key stories, and then directing visitors to other sources of information for detail, such as a specific vodcast or podcast on the App.*

#### Location

On the platform overlooking the lake.

#### Objectives

After engaging with this interpretive opportunity, visitors will:

- Have a deeper understanding of the need for and issues around freshwater in association with the refuge.
- Understand the tenuous nature of survival by species that depend on freshwater on the refuge.
- Be aware of one of the ways that the USFWS manages habitat to support fish and wildlife.

#### Themes

Other themes than those listed can be incorporated into this interpretive opportunity, but these are the key themes:

**General Interpretive Theme 2:** Wildlife, along with all other biological organisms, depend on their specific habitat to survive.

**Sub-theme 2-1:** Protecting native flora and fauna focuses on protecting and restoring the habitat they depend on for survival.

**General Interpretive Theme 3:** A lot of people, including the USFWS, are working to conserve and restore habitat to protect wildlife we value for the people today and for future generations. You can make a difference by helping.

**Sub-theme 3-1:** Because individual actions add up incrementally to significant impacts, you can play an important role in maintaining natural resources, and on conserving and recovering the fish and wildlife.

**Description and Concept**

In addition to the existing panel, we suggest the following:

**Panel 1: Don't Leave us High and Dry!**

This panel focuses on the impact on birds and wildlife when Jones Lake goes dry, which supports the need for the USFWS to take actions to prevent that situation. Birds and wildlife to highlight should be ones that experience a higher level of uncertainty for survival if the lake dries up.

**Observation Towers**

This is the best place on the refuge to get something close to a bird's-eye view of the refuge, which creates the opportunity to see how different features mesh together to form the landscape. It's also a good place to view the tidal flats, a key feeding ground for the whooping crane, which creates the opportunity to tell the story of the importance of freshwater in maintaining the ecosystem, and impact on the quality and quantity of freshwater reaching the bay due to actions by people living in the watersheds of the San Antonio and Guadalupe Rivers. Finally, it is a place where it is easy to picture Aransas protecting inland areas from storms.

This area already has several interpretive panels, including the following:

<b>Sign Title</b>	<b>Location</b>	<b>Focus</b>
<b>Land by the Bay</b>	Boardwalk by small tower	Focus on the importance of the land-water margin to a wide variety of birds and wildlife. Includes clues on finding signs of wildlife (tracks).
<b>Take it to the Top</b>	Big Tower landing 1	Essentially encouraging people to climb to the top of the Observation Tower, exploring different layers of canopy on the way up.
<b>The Understory</b>	Big Tower Landing 2	Selected flora and fauna found at this level.
<b>The Midstory</b>	Big Tower Landing 3	Selected flora and fauna found at this level.
<b>Near the Top</b>	Big Tower Landing 4	Selected flora and fauna found at this level.
<b>Above the Treetops</b>	Big Tower Landing 5	Uses vultures to focus on the aerial component of the habitat.
<b>Survey the Scene</b>	Top of Tower	This panel simply identifies features visible in the view

The combination of panels does a good job of reinforcing the concept that different habitats support different species. What it does not have are panels that focus on the landscape, other than to identify prominent features. With that in mind, consider adding panels focusing on the issue with freshwater,

the importance of a mosaic of habitats, and the role of Aransas NWR as a protector of things we value – oil and gas infrastructure, homes, farms, businesses, etc.

## Interpretive Panel: It's Not Up to Us

### Location

Top of the Tower

### Objectives

After engaging with this interpretive opportunity, visitors will:

- Have a deeper understanding of the need for and issues around freshwater in association with the refuge.
- Understand that actions by people far removed from the refuge can have impact by affecting freshwater quality and quantity coming into San Antonio Bay;
- Understand that their actions at home can affect water quality and quantity downstream in positive or negative ways;
- Feel empowered to help make a difference, specifically regarding how they use water at home.
- Understand the tenuous nature of survival by species that depend on freshwater on the refuge.

### Themes

The following themes should drive design of this panel:

**Aransas-specific Interpretive Theme 5:** Everything in a watershed is linked. Everything that happens upstream affects everything downstream. Aransas NWR and the fish and wildlife it supports are endangered due to actions by urban residents in the north part of the San Antonio and Guadalupe River watersheds.

**Sub-Theme 5-1:** Everything in a watershed is linked.

**Sub-theme 5-2:** Humans can determine what organisms live and what die in the watershed by impact on habitat. Those impacts ultimately affect humans since humans are a part of the ecosystem.

**Sub-theme 5-3:** Freshwater is critical to the ecosystems at Aransas NWR that support native flora and fauna. The supply of freshwater is endangered due to human activity in upper parts of the watershed.

### Description and Concept

This panel builds on the importance of Jones Lake, and extends the story to the importance of freshwater to a wide variety of fish and wildlife that use Aransas NWR, including the whooping cranes. The panel has the same focus as the exhibit 'Can You Control the Flow?' in the Visitor Center, highlighting the impact of actions by residents of San Antonio and others who live in the watersheds of the San Antonio and Guadalupe Rivers on the quality and quantity of freshwater flowing into San Antonio Bay. To fully understand the impact of freshwater, it's important to understand its impact on the estuary ecosystem that supports aquatic life that in turn supports such birds as whooping cranes.

The story should focus on how wildlife uses different habitats for different purposes, which helps get the idea across that wildlife may require resources from different parts of the refuge and at different times of the year.

## Interpretive Panel: How do I Help Thee? Let Me Count the Ways

### Location

Top of the Tower

### Objectives

After engaging with this interpretive opportunity, visitors will:

- Have a deeper appreciation of the refuge and the role it plays in maintaining quality of life for residents in the area, and by extension, the value of refuges to the quality of life of many people.
- Be motivated to become an active supporter of the USFWS and the National Wildlife Refuge System.
- Have a deeper appreciation for the USFWS and the role it places in maintaining the refuge system.

### Themes

The following themes should drive design of this panel:

**General Interpretive Theme 1:** Native Nature is important to your (my) quality of life.

**Sub-theme 1-1:** Pollinators are critical for pollinating local crops and depend on native habitat to survive, so planting native plants will support the agricultural industry.

**Sub-theme 1-2:** Native Nature provides desirable recreational opportunities.

**Sub-theme 1-3:** Nature plays an important role in a healthy lifestyle.

**Sub-theme 1-4:** Aransas NWR supports the economy of the area

**Aransas-specific Interpretive Theme 4:** Aransas NWR provides many benefits to the citizens of the area.

**Sub-Theme 4-1:** The fish and wildlife supported by Aransas NWR are important to the quality of life of those living in the area.

**Sub-theme 4-2:** The flora and landscape of Aransas NWR provides benefits to citizens of the area.

**Aransas-specific Interpretive Theme 6:** The wetlands (including coastal marshes) at Aransas NWR are valuable to humans for myriad reasons.

### Description and Concept

One possible approach is to use the scene in front of the visitor as a backdrop for a series of images depicting people enjoying something due to the presence of the refuge, with associated text explaining

the role of Aransas in providing that benefit. For example, one image could be of a recreational angler, with supporting images / text focusing on the role of the wetlands and marshes as nurseries. Additional images and supporting information could include, but is not limited to, the following:

- Commercial fisherman with supporting images and text focusing on the role of Aransas as a fish nursery.
- Birdwatchers checking into a hotel in Rockport, with supporting information on the economic value of ecotourism;
- Oil and Gas Infrastructure being protected in a storm, with supporting information focusing on the role of the refuge as a barrier;
- A home or business being protected in a storm, with supporting information focusing on the role of the refuge as a barrier;
- Visitors hiking the trails of Aransas, someone fishing from the pier, people watching birds, and people engaged in other recreational activities with supporting information focusing on the role of the refuge in offering desirable recreational opportunities, and about nature and the refuge playing a role in healthy lifestyles.
- Hummingbirds in habitat provided by Aransas. The supporting information would include not only the intrinsic value of the birds to people, but also their role as pollinators.

### **Interpretive Panel: A Magnificent and Much-Needed Mosaic**

#### **Location**

Top of the Tower

#### **Objectives**

After engaging with this interpretive opportunity, visitors will:

- Have a deeper understanding of the importance of an interconnected array of habitat types to some birds and wildlife;
- Have a deeper appreciation of the role of the USFWS in conserving natural resources, specifically fish and wildlife;
- Be motivated to become an active supporter of the USFWS and the National Wildlife Refuge System.

#### **Themes**

The following themes should drive design of this panel:

**General Interpretive Theme 2:** Wildlife, along with all other biological organisms, depend on their specific habitat to survive.

**Sub-theme 2-1:** Protecting native flora and fauna focuses on protecting and restoring the habitat they depend on for survival.

**Sub-theme 2-2:** The habitat necessary to support migratory birds and wildlife extends the entire length of their migration routes.

**General Interpretive Theme 3:** A lot of people, including the USFWS, are working to conserve and restore habitat to protect wildlife we value for the people today and for future generations. You can make a difference by helping.

**Sub-theme 3-1:** Because individual actions add up incrementally to significant impacts, you can play an important role in maintaining natural resources, and on conserving and recovering the fish and wildlife.

**Description and Concept**

One possible approach is to use the scene in front of the visitor as a backdrop for a series of images depicting the same species of bird or wildlife using different parts of the habitat visible from the Tower for different purposes. Supporting text focuses on the need for different habitat components to create the overall habitat needed by a species for survival.

# Phasing Plan

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## Introduction

The Phasing Plan is based on the following:

- Orientation and Wayfinding before Interpretation;
- Barriers to a good Visitor Experience before interpretation;
- Thematic Overview before interpretive detail;
- Build around what is already in place.

It is also based on what the refuge is working on at the time this plan was developed. The planning process began just after Hurricane Harvey hit the refuge, causing irreparable damage to the Visitor Center, washing out trails, damaging signage, and generally wreaking havoc on the refuge. As a result, the refuge installed a trailer to act as an interim Visitor Center, and has been engaged in an extensive array of projects to 'rebuild' the refuge. The following phasing plan tries to take the work that has been accomplished, and is underway, into account. It also doesn't include every recommended strategy; only those that take significant time and effort to implement.

## Implementation Phasing: Phase 1

The focus for the initial phase is on elements of the plan that create a safer experience (both perceived and actual), components that improve wayfinding and orientation, and relatively simple components that significantly improve the visitor interpretive experience while waiting for the Visitor Center to be built. Those components are as follows:

- Replace orientation and wayfinding signs lost in Hurricane Harvey (refuge is working on this);
- Replace / add any necessary orientation and wayfinding signage within the refuge;
- Develop plans for and construct the connection between the Alligator Viewing Platform and the Rail Trail;
- Re-connect the Heron Flats Trail to make it a loop (refuge is working on this);
- Modify the trails as necessary to make a nested loop of trails the incorporate the Rail Trail, Heron Flats Trail, and Alligator Viewing Platform;
- Plan and create the visual screening to hide views of the residences and maintenance shops (if this is a vegetative screen, it will take some time to grow);
- Begin the process for developing artwork for the entry;
- Begin the engineering work to provide an optional cut-off to the auto tour;
- Design and print a new Aransas NWR Map/Brochure;
- Investigate the potential for alternations on the website and make such changes if possible;
- Contract for the design and building of a new Visitor Center and infrastructure / landscaping changes to the Visitor Center area.

## Implementation Phasing: Phase 2

The focus of Phase 1 was to address issues that affected the visitor experience, such as orientation and wayfinding strategies, and to being the process on projects that require a long lead time. the next phase is on upgrading the interpretive experience to the extent possible while the Visitor Center is under

construction, and taking care of larger infrastructure changes. The following should be part of Phase 2 of implementation:

- Develop additional interpretive panels for the Oak Motte Picnic Area, nested loop of trails and Observation Towers.
- Re-route the auto tour;
- Create an auto tour brochure;
- Close and rehabilitate the Songbird Loop Trail;
- Construct a loop trail connecting the Oak Motte Picnic Area and the Oak Sanctuary Trail;
- Develop a training program and train volunteers and staff to lead guided trips;
- Implement guided van and bicycle tours with new content to help communicate the key themes;
- Begin work on the Aransas NWR App.

### **Implementation Phasing: Phase 3**

This Phase should follow the completion of the Visitor Center and associated exhibits. It should include the following:

- Complete the basic app for exploring Aransas NWR.



# Appendix A: Definitions

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Understanding the following terms will be useful in understanding this document:

- Visitor Interpretive Experience Plan
- Visitors
- Stepping Stones of Engagement
- Transition Zones on refuges
- Native Nature

## Visitor Interpretive Experience Plan

Up until very recently, an ‘Interpretive Plan’ was the document that was typically produced to guide development of an Interpretive Program, which includes all the exhibits, interpretive panels, publications and similar interpretive opportunities for a site or facility. While such plans can identify opportunities that communicate desired messages to target audiences, they often fail because they do not take into consideration the experiential context in which they must function.

Most good interpretive planning models used today reflect the need to take target audience, goals and objectives, constraints, opportunities, and themes into account when selecting information delivery strategies and content. However, they still treat the array of strategies – the Interpretive Program as a whole – as the focal point of the plan. Although any interpretive planning effort should result in identifying the array of interpretive opportunities to develop, the approach should be to first identify the ideal *visitor experiences* (ones that by their nature would benefit from effective interpretive opportunities) from the perspective of those developing the interpretive program, and then use those experiences to determine what interpretive and other information to offer. Such experiences also must be ones that target audience are willing to buy with their time, which requires knowing your target audiences beyond basic demographic information. Using the visitor experience approach ensures that you develop a plan, labeled a ‘Visitor Interpretive Experience Plan, for a complete information network that begins with reaching your target audiences where they are – physically, emotionally and intellectually – and taking them where you want them to go by using a linked combination of trip planning information, orientation, wayfinding and interpretive opportunities. It also ensures that you identify barriers to the desired experiences, such as facilities that aren’t fully accessible, so you can address those barriers within the context of developing your interpretive program.

In sum, people today buy *experiences*. Consequently, the desired product to guide development of an interpretive program is a Visitor Interpretive *Experience* Plan (VIEP), which uses desired audience experiences as the frameworks for determining the interpretive, outreach, orientation, wayfinding, and trip planning information to develop and actions to take to facilitate experiences that will attract, hold and communicate effectively with target audiences, whether on or off-site.

## Visitors

The goal of the network of interpretive opportunities is to forge an emotional/intellectual connection between a member of a target audience and nature in general, wildlife refuges specifically, and Aransas NWR in particular. Although a visit to the refuge might be the most effective vehicle for creating such connections, it is not the only one. In other words, people don’t have to physically step foot on a refuge to be termed a visitor. The term ‘visitor’ in this document is applied to anyone engaging with an

interpretive opportunity that is a part of the network of interpretive opportunities being developed for Aransas, such as the Aransas NWR website.

## Stepping Stones of Engagement

One of the Standards of Excellence identified for Urban Wildlife Refuges is ‘Connecting people to nature via Stepping Stones of Engagement.’ Aransas is not a designated Urban Wildlife Refuge; however, the concept of Stepping Stones of Engagement still applies. The implication of a ‘progression’ is apt in that the ideal outcome is for all members of target audiences to become fully engaged in conserving natural resources, a goal that requires a progressive series of commitments, each a step beyond the other. However, the term is a misnomer in that it implies a linear pathway of steps with a specific starting and ending point, which by inference, involves a visit to the refuge.

In reality, Stepping Stones of Engagement includes an *array* of opportunities that constitute potential starting points to expose target audiences to nature, wildlife, refuges, the USFWS and conservation. By necessity, these ‘starting stepping stones’ are in places – physical or digital – that the target audience already, which are unlikely to be on the refuge. Ideally, the first stepping stone should be something that is already a comfortable part of everyday life. Most people have some existing relationship with nature, such as having house plants, or a backyard garden. Those existing relationships should be the starting place for Stepping Stones of Engagement, which requires that *their* nature be considered valid. The discussion won’t proceed very far if it begins with an intimation that only the nearby nature that the USFWS wants to conserve constitutes real nature. The approach of starting where the audience is currently located reflects the commitment by the USFWS to meet people where they are, while also reflecting a key principal in this process, which is to minimize the effort required and barriers that must be surmounted for a person to begin engaging with nature and/or conservation. Each stepping stone provides an experience with nature in some way. As a whole, ‘starting stepping stones’ offer potential visitors an array of opportunities to experience nature so everyone has an opportunity to interact with and experience nature in a way that they consider ‘safe’ and within his or her comfort zone. For some it may be a visit to the refuge, but for others it may be a virtual experience on the Internet or some other option that does not involve visiting the refuge.

Each stepping stone not only provides an opportunity to experience nature at a specific level, but also seeks to move a visitor along the journey to becoming fully engaged in conserving natural resources. Consequently, all ‘starting stepping stones’ are linked to a myriad of potential ‘follow-up stepping stones,’ and from those to other Stepping Stones of Engagement in what the USFWS hopes is an endless journey of engagement and associated commitment to conservation that takes the form of actions.

The keys to an effective array of Stepping Stones of Engagement include the following:

1. Validate whatever relationship the target audience currently has with nature that they consider a part of their quality of life. This could range from a completely natural environment to house plants, a backyard garden, bird feeder, a neighborhood park, and other examples of nature that is managed in some way.
2. Provide easily accessible ‘next stepping stones’ in locations already frequented by the target audiences, which in this case are within their community, with the goal of deepening their connection to nature.

3. Ensure that each stepping stone offers high benefit to the target audience for the cost of time, attention and other personal resources as defined by the target market. This is especially important for the starting stepping stones.
4. Ensure that the 'distance' between stepping stones is such that a person can take 'baby steps' of commitment to conservation.
5. Ensure that each stepping stone markets potential next stepping stones.

### **Transition Zones on Refuges**

The area, typically on the edges of refuges, that contains parking lots, visitor centers and similar infrastructure, can be thought of as a Transition Zone within which the visitor moves from a built environment catering to people, to a more natural environment that focuses on conserving wildlife. The Transition Zone on traditional wildlife refuges is relatively small, with infrastructure limited to parking, visitor centers, trails, boardwalks, restrooms, viewing blinds and other low impact modifications to the environment. These typical Transition Zones are consistent with the current situation in which visitors to refuges come to immerse themselves in the natural world and want to move into the refuge quickly. In other words, these small Transition Zones are sufficient for traditional users.

Accomplishing the goal of moving non-traditional visitors physically, intellectually and emotionally from a built environment to a natural one may necessitate a series of stepping stones on the refuge that may require a wider Transition Zone.

In short, attracting non-traditional urban audiences may require offering non-traditional experiences and opportunities, some of which may conflict with existing parameters regarding what can and can't happen on a traditional refuge, but should be assessed/considered. Those parameters may need to be modified to provide a wider array of options for attracting and engaging such audiences. However, care must be taken to separate the Transition Zone in from the refuge proper to avoid creating the expectation that activities that occur within those areas can occur in the refuge proper.

### **Native Nature**

Everyone has a connection with nature since they breathe air, drink water and eat food, all of which are linked to our natural world. Most people already have a relationship and value this type of nature in some way, but the nature they value may be non-native house plants or non-native vegetation in their yards. To avoid distinguishing 'good' nature from 'bad' nature, which may not work well with some of the target audiences, especially since they come primarily from immigrant communities, the term 'Native Nature' is used to differentiate native flora and fauna from other 'nature.' It is Native Nature that the USFWS wants people to restore, protect and conserve.

# Appendix B: Target Audience Profiles

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## Introduction

Information - including interpretation - is a commodity; people have to buy it with their time, a highly valued personal resource, along with attention and cognitive effort. They also incur opportunity cost; in other words, if they spend time reading a sign or walking an interpretive trail, they can't spend that time doing anything else. Since different people "buy" different interpretive experiences, it is important to identify the key target audiences, and then build profiles of those different visitor groups to determine the type of interpretive experiences they are *willing* to "buy" with their time, and the level at which the information must be presented so they are *able* to process given their knowledge and background. Ideally, the audiences you want to reach are ones that will help achieve your goals. Consequently, the target audiences typically extend beyond visitors to include anyone who will contribute personal resources - time, money, etc. - to supporting Aransas NWR specifically, and by extension, the USFWS and National Wildlife Refuge system.

In general, experiences that visitors are willing to buy can generally be described as ones that:

- Meet their **needs**;
- Meet their **expectations**;
- Are within their **limitations** of time, money, energy, and other such personal resources;
- Are **opportunities** that compete successfully with other options for spending time, usually through association with interests that were the primary reason for visiting?

**Needs** include such basic amenities as food, shelter, and restrooms. The key information-related need is orientation and wayfinding. Interpretation is an option. Consequently, orientation and wayfinding must be addressed at the beginning of and throughout the visitor experience.

**Expectations** are more variable because they are created by previous experience, what people hear and what they read. In the case of Aransas NWR, expectations are likely to vary significantly due to the lack of experience of many people with wildlife refuges. However, many visitors will show up expecting to see whooping cranes, a lot of whom will not be birders, so they will not necessarily pay attention to the fact that this is a wintering ground for the crane. It will be important to provide the best experience possible for those visitors and try to motivate them to return for a visit when the cranes are present.

**Limitations** are factors that prevent someone from engaging in an experience or interpretive opportunity, such as not knowing the language in which it is presented, and factors that tend to offset the reward for engaging in an experience and can therefore cause a potential user to bypass an opportunity. For example, visitors are often on vacation and do not want to 'work'—either physically or mentally—at their recreation unless the personal benefit is worth the time and effort required. Limitations can be related to physical ability, language, education level and other characteristics.

**Opportunities** that can successfully compete for a person's time typically relate to a visitor's interests. Those interests often exist prior to arrival, such as is the case with visitors wanting to bird watch, or they can be generated by activities on-site by what they see or hear on a guided tour, or features they encounter. On-site features are of key importance because they represent one of the best opportunities to capture the interest of a visitor and begin the communication process.

## Key Target Audiences

The focus of the audience analysis in Visitor Interpretive Experience Planning is to first determine the target audiences and then profile those audiences to determine what type of *experiences* would attract them to the refuge. Once that is accomplished, interpretive opportunities can be identified that add value to those experiences, as the target audience defines value, and that they are willing to engage with and able to understand.

Aransas NWR is a significant destination for many visitors because of the whooping crane, and the story of the recovery of the species from the brink of extinction. Both enjoy iconic status, and the refuge shares some of that status, especially among birders and others who are aware of and interested in the role of the refuge in whooping crane recovery. Those visitors coming from far and wide to bird watch and engage in outdoor photography don't need much in the way of services to be satisfied. The experience they desire also does not depend on interpretation. Restrooms, drinking water, a good wayfinding system, a map oriented toward birdwatching and photography and a current list of what's been seen and where is likely to suffice for birders, but experienced birders are not the primary target audience. They will come regardless, although some effort should be made to connect them to the USFWS and make them aware of issues. Interpretation could be of value to 'Experience Collectors' who may come to see the whooping crane as an iconic species, but again, they are not the primary target audience. In short, traditional audiences, such as bird watchers and those involved in nature study or photography, as well as Experience Collectors, are secondary audiences, as are winter Texans.

Based on the goals and objectives associated with this project, and on review of existing information and discussions with USFWS personnel, the primary target audiences for the interpretive experiences are residents in the San Antonio and Guadalupe watersheds, most of whom live in the upper part of the watersheds at a distance that would take 2-3 hours of travel by car to reach Aransas. Residents can be further divided into groups based on cultural heritage, age, social group, and other factors. Not surprisingly, residents in general do not visit the refuge in great numbers, possibly because of the combination of distance required to travel weighed against the perceived lack of opportunities in the refuge and surrounding area. Although residents of the small communities near the refuge, such as Rockport, are a target along with residents of the larger cities, such as Corpus Christi and Victoria, a key subset of the target audience are residents of urban areas to the west, such as San Antonio, because of their impact on the quality and quantity of freshwater flow into the refuge, which is critical for the health of the ecosystem. Reaching residents in the upper parts of the watersheds is likely to require either increasing the perception of benefit for such a trip, which likely would depend on forming partnerships with others, or create opportunities in the city or on-line.

The following section contains audience characteristics and implications, beginning with universal characteristics, followed by audience specific characteristics.

## Audience Characteristics

### Universal Characteristics

Regardless of the target audience, it must be assumed that all preferred learning styles and all physical impairments will be represented. It also must be assumed that children will be a part of any audience as will the elderly. Consequently, the following characteristics must be considered when choosing and developing visitor interpretive experiences.

#### Preferred Learning Styles

**Note:** *Although recent research has debunked the concept of learning styles, there seems to be no question that people have ways in which they prefer to learn, such as by doing, or watching, or discussing. For that reason, it is still important to consider offering information in a variety of methods that would be appealing to different learning styles.*

**Characteristics:** The suggested number of different learning styles depends on the model. The most common model has 3 - visual, auditory and kinesthetic; others have more. Regardless, within any given audience you will have those who are more likely to engage with experiences involving social interaction, others who are more likely to engage in experiences offering the opportunity for 'hands-on,' and those who want to 'see' what you are trying to communicate.

**Implications:** Since audiences are voluntary participants, offering information in the preferred learning style of the participant is more likely to be successful; if they are uncomfortable it is likely they will choose not to participate. Since all learning styles are likely to be represented in any one group, optional learning opportunities should be incorporated into the design of exhibits. Ideally, every major exhibit would have elements that as a whole would appeal to all major learning styles. For example:

**Hands-on.** An environment where visitors can work ideas and concepts out for themselves.

**Observation:** An environment where visitors can collect, analyze and reflect on information to come up with a concept. Information can be presented in a myriad of forms, such as images, sounds, text, scents, and textures. It can also be presented in person, although interaction should not be forced.

**Social:** Most people visit in groups within which social interaction in relation to the information being presented will occur. Create opportunities for groups to discuss ideas. This is especially important for families. Also, if possible, create an environment with the option of asking someone questions.

#### Disabilities and the elderly

The intent of ABA provisions is to promote equal access to the built environment, and to information, for those with impairments. Using a Universal Design Approach, which focuses on creating experiences that can be enjoyed by all parts of the target audience, including those with impairments, involves

integrating multiple delivery strategies that involve multiple senses. The result is an overall array of experiences with opportunities that meet the needs of the few while enhancing the experience of everyone.

A Universal Design Approach also benefits our aging population because it is physical limitations, such as deteriorating eyesight, hearing and physical capabilities that are the core of the issues that seniors have with interpretive and recreational experiences, not their age.

Rather than list all the implications associated with those with disabilities, the overarching implication is that the interpretive program should adhere to Universal Design Standards to make the information accessible to all people, despite any impairment, whether it is visual, auditory, physical or otherwise.

## Children

Children are a critical audience since they will have a voice in the future regarding conservation. Reaching children is not about dumbing down the information presented. It is about offering experiences in nature that help build emotional, physical and intellectual connections to the extent possible, which ideally will lay groundwork for understanding key concepts when they are older. Key characteristics include ones relating to their physical limitations and assets, and one relating to mental limitations.

**Characteristics – Physical:** Children are short. They also often have an abundance of energy.

**Implications:** Viewing opportunities and material addressed to children needs to be at a comfortable height. In addition, interpretation-related opportunities that involve expending energy should be identified and developed as a part of the Interpretive Network.

**Characteristics – Mental:** Children are a challenge because they have limitations regarding learning the same way as adults. Whereas adults can learn by processing incoming verbal information based on past experience and existing knowledge, children up to around the age of 8 do not have a vast storehouse of existing experiences and knowledge. Consequently, they are primarily focused on acquiring information firsthand. Since they have not completely mastered the symbol system we call 'language,' they use their primary information-gathering tools – their senses – to explore their environment.

**Implications:** Opportunities to touch, smell, taste, see and hear are critical to an effective experience for children. This is an important point because we often focus on the need for activities to be interactive, and believe we have accomplished our goal if they can push buttons. Although the opportunity to interact in such a way increases the attraction power of an opportunity, if it is not an opportunity to discover information using senses, it is not nearly as effective for children in terms of gathering and processing information.

## All Visitors

The following characteristics and limitations apply to almost every situation and every audience.

### Key Characteristics

- All visitors will expect anyone associated with the refuge to answer basic questions regarding basic cultural and natural history of the refuge.
- Most visitors will expect to see wildlife.
- Visitors will expect orientation information to interpretive and recreational opportunities in the surrounding area (what is there to do around here?), especially opportunities with a similar focus as the refuge (where else can I see wildlife?).
- A significant percentage of visitors can be reached using social media such as Twitter, Blogs and Facebook.
- A significant percentage of visitors are comfortable with and prefer using new technologies, such as vodcasts, podcasts and GPS-based tour programs.
- Many travelers plan part of their trip, including general itinerary, prior to arriving. Many will use the INTERNET to access information in order to plan.
- People tend to visit in groups, typically family or friends. Families and other similar groups have a variety of educational levels within the group.
- Any given audience will have a variety of impairments represented.
- Users will have varying limitations in terms of energy, time, and interests.
- Users will have varying degrees of educational background.
- The experience that most groups desire, especially families, is a social experience.
- It is likely, if they are urban dwellers, that they do not have much experience in Native Nature and could find it 'scary.'
- Many potential visitors are not familiar with wildlife refuges, and may not see them as a place that is likely to offer experiences of interest.
- Marketing what the refuge has to offer in the way of non-traditional experiences that specific target audiences would enjoy, in tandem with what a refuge is and isn't, will be important. In addition, familiarity can't be assumed when designing and developing interpretive and informational components of the experience.

### Implications

The following are key implications of these characteristics:

- All on-site staff need to be able to answer basic questions and direct visitors to on-site locations where they can obtain additional information.
- New media should be used as part of the information delivery network when appropriate to the audience and situation.
- Orientation and wayfinding information is a priority.
- Interpretive opportunities such as signs and exhibits should be designed to accommodate at least small groups, and should be designed to be a part of a social conversation rather than trying to force visitors to give maximum attention to interpretive opportunities.
- The interpretive program should provide opportunities that allow all members of a family or group to be involved at the same time and place, despite having different educational or experiential backgrounds. This can be accomplished by providing several opportunities in



one location, each catering to a different educational level, or a single strategy that is designed in such a way that everyone in the group has an intellectual entry point into that exhibit.

- Parts of the interpretive network should be able to be easily changed to take advantage of seasonal changes in audiences.
- Frequent and well-placed opportunities to sit and rest in the shade will enhance the experience for many people.
- The interpretive program must offer opportunities that are understandable to audiences with limited expertise and knowledge.
- To the extent possible, the interpretive program should present information in a way that is rewarding, within a visitor's limits imposed by a 'leisure' activity, and organized according to themes to eliminate unnecessary effort.
- To the extent possible, the interpretive program should offer opportunities to "skim," "browse," or "gorge" the information to accommodate preferences and to accommodate visitors on a tight schedule.
- The interpretive program should provide an 'opportunity menu' that lists time required for each activity and suggested itineraries based on time available. For example, it should suggest an itinerary for the visitor that has a half-hour, 2 hours and a half-day.
- For urban residents who find Native Nature 'scary,' a gradual continuum of experiences – from the outside of nature looking in to the inside of nature looking out – is important.
- The interpretive program should offer opportunities that will help counter disappointment at not seeing wildlife, such as teaching people how to identify evidence of wildlife.

## Residents in the San Antonio River and Guadalupe Watersheds

### Introduction

Perhaps one of the most significant factors in further categorization of this audience is on the distance they have to travel to reach Aransas. The general rule of thinking some years ago was that visitors were willing to go places that offered experiences that took four times as long as it took to travel to that destination. For example, people would drive 30 minutes to a location that offered 2 hours of opportunities. Obviously, a lot more factors affect a decision to visit, including additional places to stop on such a trip, and the importance of the attraction (rare and endangered whooping crane!), but the equation is still useful as a general rule of thumb. It is for that reason that dividing residents of the watershed into sub-groups based on travel time to reach Aransas could be useful. Based on that equation, people vacationing in Rockport would likely consider a trip to Aransas if it offered a couple of hours of opportunities – especially some that were air conditioned and devoid of mosquitoes. Vacationers staying in Corpus Christi would need additional attractions at the refuge or more likely, along the way, to seriously consider a trip. Applying that equation to people residing in urban areas in the northern part of the watershed (San Antonio), where the travel time would be 2-3 hours, it seems unlikely that they could be induced to take a day trip to the refuge. If they are a key target audience, the solution is probably through outreach.

At this point in the process, residents of the watershed are divided into those that live within an hour's drive, those that live 1-2 hours away, and those that live more than 2 hours away.

## Residents of the Watersheds: Living less than 1 hour away by car

**Key Characteristics:** In addition to the characteristics noted for all audiences, the following are key characteristics of residents in general that would likely apply to residents of the watershed living relatively close to Aransas.

- Residents often have specific times when they could participate in interpretive opportunities, such as in the evening and during weekends. They are also present year-round.
- Residents have a higher potential to be repeat visitors.
- Residents often prefer more in-depth material if about the area, and/or can handle more in-depth material because of familiarity with an area and local issues.
- Residents are often interested in local issues, such as problems with invasives and storm water, and the value of Matagorda island and the refuge for protecting gas and oil infrastructure, because of direct impact on their lifestyle.

**Implications:** The following are key implications of these characteristics:

- Serving nearby residents effectively may require programs specifically designed for this audience or a segment of this audience, and scheduled at times they can attend.
- New material and programs need to be developed continuously to take advantage of the opportunity for repeat visitation from this group and to address issues that come up.

**Characteristic:** Many of the residents in the surrounding area are relatively low income.

**Implication:** Since visitors often visit in groups, such as family groups, a per-person fee could be an obstacle to visitation. Annual passes, family passes and similar strategies for reducing cost and increasing visitation could be effective. Aransas does have a pass system in place, but it needs to be refined (per Ken).

**Characteristic:** Often they visit as multi-generational families.

**Implications:**

- Some of the members are likely to be mobility impaired, so it is important that all areas in the visitor hub (visitor center, parking area, picnic area, etc.) are fully accessible. In addition, areas easily accessible to those who are mobility impaired should be located next to areas that are natural and likely to attract wildlife, so they can enjoy nature without having to move too far.
- Children are likely to be present, so opportunities that allow children to be active will be important. Ideally, opportunities for activity would be tied to information about nature, such as nature-based playgrounds with associated interpretive components.
- Interpretive strategies must provide opportunities for all members of the group to be occupied at the same time and place.

**Characteristic:** Many local residents are likely to be connected to the refuge in some way other than as nature enthusiasts, such as by angling for fish that use the sea grass beds of Aransas, enjoying sea food, crabbing, working in commercial fisheries that depend on fish raised in the sea grass beds, working in the tourism industry (for which the whooping crane is a boon), or working in the oil and gas industry (infrastructure protected by Aransas).

**Implication:** The value of Aransas can be established in ways other than as a wildlife refuge.

### **Residents of the Watersheds: Living more than 1 hour away by car**

As a general rule of thumb, people tend to travel to sites where they can engage in activities that take around 4 times as much time as it took to reach those locations. With that in mind, people who live more than 2 hours or more away may be looking for experiences that take more than a day, thus requiring an overnight stay, which makes them highly valuable to lodging establishments in the area. Providing an array of opportunities that take the requisite time to enjoy often involves more than one site, which suggests creating a consortium of visitor opportunities that can be marketed as a whole.

**Key characteristic:** The distance required for traveling to Aransas likely precludes this group from day trips. They would be most likely to visit if they were coming to the area for some other reason, such as the hummingbird festival, or for vacation.

**Implication:** If this is a highly important audience to reach, the key strategies will probably fall under the heading of outreach, even if they are interpretive in nature.

### **Latinex and members of other cultural groups who come to fish**

***Note:** I am using the term 'Latinex' to include people from Mexico, the Caribbean, and central America who have settled in the area. I realize that this includes a lot of sub-groups who may speak different languages and who have different cultural norms. Other cultural groups include Vietnamese and Korean.*

**Characteristic:** Many Latinex are multilingual although not everyone in a family group is likely to know English.

**Implications:** Basic information should be offered in both Spanish and English (it is a sign of awareness and welcoming).

**Characteristic:** At other locations in south Texas and in Albuquerque, they tended to get their information from Spanish newspapers, Spanish radio stations and Spanish television stations.

**Implication:** This should be verified and if accurate, use these information outlets to put out information on what is going on at the refuge, including events, programs, classes, environmental education opportunities, and anything else that might be of interest (including developing the new visitor center).

**Characteristic:** They value family highly and enjoy large multigenerational family gatherings that involve sharing food, such as at picnics. They also like to grill meat at such gatherings.

**Implication:** Experiences, including picnicking, should be developed to accommodate large groups of people in one place.

**Characteristic:** People in uniform may create a barrier to engagement for some.

**Implication:** The USFWS should allow staff in a visitor engagement context to wear polos with the USFWS logo rather than the complete uniform.

# Appendix C: Parameters

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## Introduction

Parameters are those conditions under which visitor experiences and the associated Interpretive Program must be developed, such as monetary constraints, and under which it must function, such as weather, maintenance budget, etc. They are also called ‘givens,’ ‘circumstances’ and ‘constraints.’ Identifying parameters ensures selection and development of experiences and interpretive and wayfinding strategies and infrastructure that are effective and realistic, not idealistic.

The following section contains key parameters that could affect interpretive visitor experiences at Aransas NWR. In reviewing the parameters, it is important to remember that they represent what *is*, not what should be or what is desired. It is also important to remember that people not engaged in the planning process will read this document, which is why it is important to note what you are already doing to deal with parameters and why.

## Key Parameters

### Budget

**B-1: Budget rarely is enough to implement everything recommended in a plan at the same time.** The plan should be structured so it can be implemented in a phased approach if necessary. In addition, the first experiences developed should be highly visible with a high chance of quick return on investment to maintain momentum.

*Note: The situation at Aransas due to the destruction caused by Hurricane Harvey may result in a large amount of funding initially to rebuild the infrastructure, including exhibits, and remove vegetation as needed.*

### Environmental Conditions

**E-1: Weather can be harsh in the summer (heat and direct exposure to the sun and bugs).**

- Outdoor signs and structures must be constructed of materials resistant to the weather conditions.
- If the refuge wants to attract and hold visitors on hot summer days, shaded areas with benches, drinking water, and other strategies for increasing a visitor’s comfort during such times will be necessary. Ideally, visitors to Aransas could get a good interpretive experience in the combination of an air-conditioned visitor center and driving the auto tour route (which would require providing interpretive information in some way during the drive, such as by podcast.

## **Staffing**

**S-1: The refuge has limited number of staff for providing visitor services, and a limited number of volunteers.** Although personal interpretive services should be offered whenever possible, the visitor interpretive experiences must be designed to function with no or limited number of staff.

## **Vandalism and Theft**

**V-1: Vandalism and theft are unlikely at Aransas NWR.**

## **Safety Issues**

**SI-1: People are at some degree of risk regarding encounters with alligators.** Education about safety will continue to be a high priority.

**SI-2: People are at some risk regarding heat related health issues, such as heat exhaustion, heat stroke and dehydration.** To the extent possible, all visitors should get information on these type of dangers, along with biological issues such as alligators, rattlesnakes and ticks. They should also have the opportunity to purchase sun screen, a hat, insect repellent, and water bottles for filling at water stations. (which must be in recyclable containers).

## **Physical Infrastructure and Layout**

**PI-1: The current visitor center sits on the highest point of land on the refuge.** For that reason, and because of the location of other supporting infrastructure, the new visitor center will have to go in the same footprint as the existing footprint (which includes the parking area). That means the current site will need to be developed as the primary initial stop in a visitor's experience because it is located near the entry to the refuge. That is a plus in that it can be developed as a 'portal' into the refuge proper.

**PI-2: Restrooms are located at the Visitor Center, the Observation Towers, and the picnic area.** Relatively quick access to restrooms is not going to be a major factor in choosing where to locate interpretive opportunities

**PI-3: The refuge has an auto tour route, but the second part of the loop is one way and contains few visitor attractions.** Looping the auto tour route back to the main route soon after it becomes one-way would create a better 'bang-for-the-buck' experience for most visitors. It might also cut down on maintenance. Maintaining the rest of the road would be an asset for cyclists.

**PI-4: Virtually all visitor opportunities are located along the auto tour route between the visitor center and observation towers.** This increases the probability of attracting visitors to those opportunities because they do not require a significant amount of extra time or effort to access. It also suggests using the Visitor Center as a true portal into Aransas.

**PI-5: Hiking is limited, with the majority of opportunities located near the Visitor Center.** The location of trails that can be accessed from the Visitor Center is ideal from the perspective of offering short (literally and figuratively) jumps between Stepping Stones of Engagement in the form of a nested loop of trails.

**PL-6: The Heron Flats trail is not currently a loop, but an out-and-back trail.** Turning this into a loop trail is likely to attract more use and decrease complaints. (The refuge is planning on completing the loop as soon as possible.)

**PI-7: The Heron Flats trail has an overlook with an interpretive panel focused on wading birds.**

**PI-8: A very short loop trail called 'Songbird Loop Trail' is located between Heron Flats and the Oak Sanctuary. It has an interpretive panel about songbirds, but is not unique in terms of habitat that songbirds frequent.** This trail could be removed.

**PI-9: The Dagger Point Trail no longer can access the water due to damage by Hurricane Harvey.** This is likely to reduce its attraction power, and potentially increase the number of people disappointed that they could not access the water unless they are made aware of this limitation prior to their walk.

**PI-10: An informal kayak launch is located near the observation towers.** This creates the opportunity to develop it as a formal kayak launch and offer interpretive kayak tours.

**PI-11: An observation deck is located at Jones Lake, but parking is limited. The observation deck has an interpretive panel.** This is a good birdwatching location, and a place where a variety of features can be used to interpret key stories. Those features include holes caused by feral hogs and marsh and freshwater habitat, so it is a desirable interpretive stop.

**PL-12: A picnic area with tables, parking and a restroom, (located in a forest of twisted live oaks), and a fishing pier located across the road, are located relatively close to the Visitor Center.** This site provides significant attraction power to several target audiences, including local families and anglers. It also provides an opportunity to capitalize on both the infrastructure and proximity to the Visitor Center in offering interpretive opportunities. One issue to consider in this area is that anglers will use any opportunity to clean fish on site, which cause problems with alligators and other wildlife.

**PI-13: The Observation Towers provide possibly the best opportunity to view whooping cranes in the refuge, and an opportunity to focus on a lot of other features due to its height, such as the geography.** In addition, the site contains restrooms and parking. The entry to a short, 1-mile loop trail (Big Tree trail) is a short walk up the road. The combination of attractions creates a prime interpretive stop for visitors. (This is where the auto tour route becomes one-way.)

**PI-14: A right-of-way swath has been cut just north of the road between Heron Flats trailhead and the visitor center.** This creates a relatively easy opportunity to create a trail that would provide the same type of opportunity as the songbird trail, and keep walkers off the road. However, it is not an aesthetically pleasing trail.

**PI-15: An Alligator viewing platform is located near the visitor center.** This is a popular site for visitors, and because of the proximity to the Visitor Center, a good site to include in a short interpretive loop trail beginning and ending at the Visitor Center.

**PL-16. The Alligator Viewing Platform and the Rail Trail are separated by a narrow dip filled with water (and alligators).** The two could be joined using a bridge, thus creating the opportunity for easy access to more trails from the Visitor Center.

**PI-17: Although the existing visitor center structure still stands, water damage and consequent growthy of fungus and mold has rendered it useless, so it is going to be replaced.**

**PI-18: Aransas has a site developed as a Youth Environmental Training Area (YETA) with supporting infrastructure (campsites, shelter, restrooms, etc.).** This site has the potential to be used in many ways, such as an Environmental Education Center, an interpretive stop, or a group camping area. However, the site has hazards associated with erosion of the bluff behind the area. The refuge is currently working on addressing the hazards so it can be used.

**PI-19: A pollinator garden, with interpretive panel, is located near the old Visitor Center.** Assuming the new visitor center will be built on the same footprint, this Pollinator Garden can be used as an interpretive feature, perhaps with a fully accessible interpretive trail around the perimeter. Note that recent plans indicate that some of that area is going to be covered by the footprint of the new combination Visitor Center / Administration Building.

**PI-20: Matagorda Island contains about 30 miles of road that could be used as a bike route if it could be accessed.** This creates an interesting opportunity for offering a unique experience – a naturalist-led bike tour of the island (unique experiences are important if the refuge is to become a destination attraction for more than bird watchers). This may be another concessionaire possibility. Another consideration for Matagorda Island is the lighthouse, which may end up being moved to the mainland and would be another great interpretive opportunity that would bring in a lot of “lighthouse listers.”

## **Location and Access**

**LA-1: There are no places to obtain food and drink in the immediate area.** Offering coffee, snacks, cold drinks, etc. at the refuge will not likely compete with local providers, and could help encourage visitors to stay longer.

## **Policy and Legal Issues**

**PL-1: All operations must comply with ABA rules and regulations.** All information presented within the interpretive network will be accessible in some way for those with disabilities.

**PL-2: The USFWS has policies that discourage offering beverages at refuges, such as coffee and food items, but due to distance from other services, Aransas can offer such items.** This would be a good addition to a visitor experience for a number of reasons:



- Offering beverages and food is a very ‘friendly’ action on the part of the USFWS, and could serve to break down barriers between the agency and community;
- It has the potential to lengthen a visit.

**PL-3: Fire of any kind is not likely to be permitted on the refuge, however, grilling using propane is permissible.** This is an advantage given that grilling meat is often a part of multi-generational extended family picnics enjoyed by Latinos and Hispanics.

## **Existing Information and Interpretive/Educational Opportunities**

**EI-1: Although the visitor center experience is no longer available, the refuge does offer interpretation in the form of interpretive panels in several locations, such as Heron Flats, Jones lake, the Fishing Pier, the Observation Towers and the Rail Trail.** To the extent possible, integrate existing interpretive opportunities with new ones. This does not mean that interpretive opportunities that don’t mesh with themes and visitor interpretive experiences will be retained.

*Note: I did not list the environmental education opportunities currently offered by the refuge because they don’t really constrain or dictate what you decide to do in terms of visitor interpretive experiences.*

**EI-2: The refuge recently installed 22 exterior interpretive panels at various locations around the refuge.** To the extent possible, try to use the existing panels in the interpretive network.

## **Potentially Complementary/Competing Opportunities**

**PCO-1: The sites where whooping cranes can best be seen are not on the refuge.** This minimizes the power of the crane to attract visitors to the refuge, where they are more likely to engage in one or more interpretive opportunities.

**PCO-2: Rockport – Fulton hold a hummingbird festival (Hummerbird Celebration) every year in September.** This is simply an opportunity to have a presence.

**PCO-3: Port Aransas holds a Whooping Crane Festival in February.** This is an opportunity to have a presence that the refuge already takes advantage of.

## **Other**

**O-1: Due to Hurricane Harvey, the planning for this site can start from essentially a blank slate.** Although the site has existing infrastructure, some of which was damaged by the hurricane, it does not constrain the planning effort.

**O-2: Airboats are causing damage to coastal marsh.**

**O-3: There is an issue with bird feces on the Observation Tower (the refuge is working on a solution).**

**O-4: 'Fallout,' a situation where birds crossing the Gulf of Mexico literally fall out of the sky at the first land they encounter due to exhaustion, occurs at the refuge and can be an amazing phenomenon. Unfortunately, it is hard to predict exactly when a fallout will occur.**

**O-5: The refuge participates in a lot of local special events, and would like to do even more. Parades are common, and a great way to get exposure to the refuge and support from the public (ex. Tropical Christmas in Rockport, LaMardi Gras in Lamar, 4th of July in Austwell/Tivoli). There are also many festivals throughout the year since the surrounding communities are primarily tourist destinations (Oysterfest, Shrimporee, SeaFair, etc.).**

**O-6: The refuge holds an annual Refuge Celebration Day on one of the Saturdays of National Wildlife Refuge Week. It's mostly attended by local community residents, and they tend to come and stay all day.**

**O-7: The refuge has just established a partnership with the Dallas Zoo.**

# Appendix D: Interpretive Inventory

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## Introduction

The Visitor Interpretive Experience Planning Process includes selecting themes (messages) that will, if understood by the visitor, have the potential to cause a change in knowledge leading to an impact on behavior that is consistent with the USFWS goals. Stories are the vehicles for communicating the themes. People generally become more interested in a story when they can see something related to it, and they are more likely to believe what they see than what they only hear or read. Therefore, the more an interpretive opportunity connects with and uses actual artifacts, specimens, features and other sensory stimuli in conveying information, the more effective the opportunity will be. With that in mind, the inventory of potential stories within the context of Visitor Interpretive Experience Planning is focused on identifying sensory stimuli as a means of determining what stories can be told most effectively.

## Key Features

For the most part, Aransas contains few visuals that immediately capture a visitor’s attention because they are not particularly unique. The exception are the live oaks in the oak forest, whose trunks and branches are twisted in fascinating ways. Unfortunately, it is hard to tie those oaks to what is perhaps the most iconic story – the recovery of whooping cranes. The story is even more important now because the Patuxent Center’s work on whooping cranes ended in 2017 after 51 years due to budget cuts.

What is perhaps the most intriguing visual, and one that is tied to the story that made Aransas world famous, is one that is not typically seen – the whooping crane. The bird, and its recovery, are iconic, and for most people, familiar to some degree. Even non-birders have heard of the whooping crane and would possibly make the trip to Aransas NWR, or to Wood Buffalo NP in Canada to see the bird. The American alligator is also intriguing, and is more likely to be seen, along with evidence of alligator presence. In addition, alligators can be seen in a variety of locations, but not the whooping crane.

With that in mind, the key stories appear to be about habitat – first for the whooping crane, and then for other species, such as the alligator. This is appropriate given that the survival of the whooping crane depended on and continues to depend on conserving Aransas as key wintering grounds.

Aransas does have other features that would be an asset in telling specific stories, although the features themselves are not particularly eye-catching. The following is a list of features and stories they can help tell. Note that the table does not include fish or wildlife unless the chances of seeing the species is very good.

Feature	Story or stories	Comments
Solar wells	The importance of freshwater in general, and for the ecosystem at Aransas especially. This leads into the story of the impact of actions in the upper part of the watershed causing issues at Aransas.	These can only be seen on the latter part of the auto tour road. We are placing one at Jones Lake, and there is another near the beginning of the one-way loop.

		The issue of freshwater supports the theme that humans can determine what species live and die by actions.
Sea grass beds	Importance as nursery for young fish <a href="https://tpwd.texas.gov/landwater/water/habitats/seagrass/">https://tpwd.texas.gov/landwater/water/habitats/seagrass/</a>	Easiest place to see them is at the fishing pier, which is an advantage because the activity is supported by the sea grass habitat, and on Big Tree Trail from the observation deck, which will be rebuilt.
Pollinator Garden	Importance and plight of pollinators	Located at the Visitor Center complex; can also see all along the auto tour route. Perhaps this is a chance to tie native pollinator habitat into fire management, too - you can really see the difference between burned and unburned areas along the auto tour
Tidal flats	Hunting grounds for whooping cranes, nursery for economically and recreationally important fish and crustaceans	Heron Flats, observation tower
Estuary	Importance for sea foods, wildlife, fish, etc.	Probably best seen from Observation Tower - not technically an estuary. Estuary is where fresh and saltwater meet. Definitely a great place to see coastal marshes, tidal flat, etc. See Doc MacAllister's book for lots more information.
Matagorda Island	Importance of barrier islands in protecting mainland from full force of storms.	Helps protect people, homes, gas and oil infrastructure; lots and lots of cultural history there, as well.
Variety of habitats	Connection of wildlife to habitat and therefore the need to manage habitat to manage wildlife. <ul style="list-style-type: none"> <li>- coastal prairie</li> <li>- oak mottes</li> <li>- etc.</li> </ul> 12 distinctive biotic communities on Aransas NWR!	Whooping crane story is a wildlife habitat story. also a story of overhunting and lack of protection in the beginning, and even now (poaching). Also important to connect not only habitat here but stopover habitat along the entire migration route, which includes several other refuges. This can be told in part with some of the partnership work we're talking about with WBNP/Parks Canada!
Wetlands	Importance as fish and wildlife habitat, also helps mitigate floods by soaking up water and helps clean water.	Specifically coastal marshes, but also the importance of freshwater wetlands/sources. This (freshwater) is a BIG story on the refuge. We talk about it some at Jones Lake with the interpretive sign, but now that we are putting a solar well there, there will be more opportunities for interpretation. Our

		Friends group has a “water for wildlife” fund.
Series of ridges and troughs	Geology and geomorphology of area.	Very noticeable on Heron Flats and Rail Trails. interpretive sign on Rail Trail, and highlighted in refuge tour.
Javelina wallows HOGS	Invasive species	Not sure if these are from javelinas or hogs. feral hogs - probably the most damaging invasive species on the refuge and throughout the southern U.S. This is definitely a story to tell.
Downed trees from Hurricane Harvey	Story of Hurricane Harvey and value of forest on refuge in taking brunt of wind force, which helped protect gas and oil infrastructure. Also speaks to the dynamic nature of the natural environment	Again, not only a focus on oil and gas infrastructure. The importance of barrier islands like Matagorda Island are crucial to the survival of whole TOWNS.  Hurricanes in general are a story - they have helped shape the Texas coast. In fact, I would focus on climate and climate change, if we can. That’s one of the themes we want to convey - that the refuge is dynamic, always changing. “The only thing constant is change.”
Anything that reflects the sport of hunting	The importance of refuges as places to hunt	Abundant deer on the refuge - almost always seen by visitors.
Fishing pier	Importance of refuges as places to fish, and value of USFWS in providing a pier.	Also the importance of refuges in terms of habitat for recreationally and commercially important fish - and those same fish are eaten/used by a variety of wildlife species (pelicans, wading birds, etc.).  *I’m not sure where else in this document to put it, but we REALLY need to expand/lengthen our fishing pier in order to really reach more people who will come to fish but will learn/experience so much more! Can we work that into this plan??
Whooping cranes	Importance of network of refuges to support migratory waterfowl	Although visitors may or may not see whooping cranes, most know that they occur here. The fact that it is critical wintering habitat leads into the story of the need for a system of refuges to support migratory birds.

Historic lighthouse on Matagorda Island.	Story of importance of shipping in the Gulf. The Gulf Intracoastal Waterway could also support this story.	Currently not accessible and would need to be moved or renovated, which isn't likely to happen due to budget constraints.
Oak Sanctuary	story of oak mottes, history of coastal prairies and changes that have come over time and with human disturbance/manipulation	
Jones Lake	importance of fresh water; drought cycles, climate change	interpretive sign there
Burned Areas	importance of fire management	changes - will need to have some kind of moveable sign if we want to point it out
Gulf Intracoastal Waterway	tells the story of human needs vs wildlife - huge barges and shipping containers coming right though crucial whooping crane habitat	Visible from observation tower - navigational sign points it out