

Laguna Atascosa NWR



Visitor Interpretive Experience Plan

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Preface

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-standard 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.

What a Visitor Interpretive Experience Plan is and is not

It is perhaps more important to ensure that readers and users of the plan understand that this is not a Visitor Services Plan, nor is it a work plan for the refuge. The former contains direction for all public uses, not just Interpretation, and the latter would include a significant number of actions necessary to gain the trust of the community and be seen as an asset that are not interpretive experiences.

A Visitor Interpretive Experience Plan focuses on visitor experiences that can be based on or enriched by interpretive opportunities. It is not called an ‘Interpretive Plan,’ the more common term for this type of document, because it takes a different approach to developing a plan for interpretive opportunities, specifically, it takes a visitor experience approach.

The two-pronged approach includes causing impact on knowledge and subsequently attitudes, so visitors are motivated to engage in stewardship behaviors. The second, and equally important, is removing barriers to the desired actions. This document focuses primarily on the first prong of the two-pronged effort – causing impacts on a person’s knowledge base through interpretation,

with the intent of causing a subsequent impact on attitudes and an increased motivation to engage in stewardship behaviors. However, it is important to remember that if barriers to desired actions (outcomes) are not identified and addressed, the efforts to cause an impact on knowledge and attitudes will be relatively ineffective in creating active advocates who take a role in conserving our natural resources.

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 Laguna Atascosa 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 types 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 Laguna Atascosa 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 Laguna Atascosa 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;
- Laguna Atascosa 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

The Visitor Interpretive Experience Plan for Laguna Atascosa NWR identifies the interpretive opportunities, supporting infrastructure and any other actions that need to be taken to create attractive visitor experiences while maintaining the purpose of the refuge.

Visitor Interpretive Experience Goals

These goals were derived from the Mission and the Management Goals of the refuge by asking ‘How is an interpretive program going to help achieve this mission and these goals. ’ The following were the answers to that question. Objectives can be found in the complete Goal Hierarchy section.

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

Interpretive Program Goal 1: Visitor satisfaction with their visit to Laguna Atascosa increases significantly due in large part to better trip planning, orientation and wayfinding information and to an increased 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 on the part of local residents of all units of Laguna Atascosa NWR, and the roles each plays in supporting the quality of life for people living in the surrounding area, leading to appreciation of and support for Laguna Atascosa and the USFWS specifically.

Interpretive Program Goal 4: Achieve a significant increase in the level of stewardship practiced by visitors in their daily lives.

Interpretive Program Goal 5: Achieve a significant increase in awareness of, appreciation for, and support of the work of Laguna Atascosa NWR specifically, and the USFWS in general, in restoring and conserving Native Nature.

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

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 significant differences between target audiences creates a need for developing different visitor experiences.

Note: Additional key factors will come from target audience profiles, parameters and opportunities when those draft final sections have been completed.

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. Refuge specific messages were selected as ones that local residents would be more likely to respond to. Note that sub-themes and supporting stories can be found in the complete Theme Hierarchy section.

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 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.

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

Laguna Atascosa-specific Interpretive Theme 5: The wetlands (including coastal marshes) at Laguna Atascosa NWR are valuable to humans for myriad reasons and need to be protected.

Laguna Atascosa-specific Interpretive Theme 6: Everything in a watershed is linked. Everything that happens upstream affects everything downstream. Laguna Atascosa NWR and the fish and wildlife it supports are endangered due to actions by residents in the north part of the watershed.

Laguna Atascosa-specific Interpretive Theme 7: Restoration of Bahia Grande is an example of what partnerships between the USFWS and others can significantly improve quality of life.

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 Laguna Atascosa NWR being a destination attraction for more than just birders.

Key recommendations, not organized in any particular order, and not including all recommendations, include the following:

Choosing to Engage

- Purchase and outfit an InterpVan to support Impromptu and Partner Event Interpretive Presentations
- Familiarization Tours

Pre-Trip Experience

- Modify Laguna Atascosa NWR Website
- In-depth Video Tour (on Website)
- Laguna Atascosa NWR Map/Brochure

Travel Experience

- Directional Signage
- Confidence Markers

Arrival Experience

- Information Kiosk with Site Orientation Panel, Recreating Safely Panel, Rec \$\$ at Work panel, fee station at the Visitor Center, Bahia Grande (Red Gate) and entry to the Wildlife Drive
- Put in designated walking areas that are protected from vehicles, so families and others do not have to walk through the parking lots.
- Remove the existing information opportunities in the vestibule of the Visitor Center and replace with small dioramas in the right and left sides of the vestibule and put the taxidermy mounts of the jaguar, ocelot and other wildlife in the dioramas.
- Put in a staffed Contact Station at the Red Gate entry to Bahia Grande

Primary Experience: Visitor Center Area

- Install new exhibits described in this plan and remove the Touch Table, History of the Refuge exhibit and diorama
- Widen major trails to accommodate wheelchairs
- Refill the resaca on the Kiskadee Trail Loop
- Develop the Sense-ational Discovery Guide (for use on the entire refuge)
- Develop an Explore Laguna Atascosa NWR Application (App) (for use on the entire refuge)
- Develop an Explore Laguna Atascosa NWR booklet (for use on the entire refuge)
- Design and install 6 interpretive panel clusters for the Wildlife Drive

Primary Experience: Bahia Grande Unit

- Develop the Transforming Bahia Grande Interpretive Panel Cluster
- Develop a short, fully accessible Interpretive Trail
- Put in a picnic area adjacent to the Red Gate

Introduction

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 focus on experiences is important because that is what people are ‘buying’ with their time and effort, especially millennials.

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 need to open the Bahia Grande Unit of the refuge to public use:** Residents in the surrounding area have expressed a significant desire to have the Bahia Grande Unit open to public use, notably for fishing, but also for hunting, birding and other outdoor recreational opportunities.
3. **The need to increase local support:** The need to increase support for the refuge and USFWS among local residents (within a 50-mile radius of the refuge).
4. **The freshwater issue:** The impact of freshwater usage in urban areas located in the upper part of the watershed on the health of the ecosystem necessary to support the flora and fauna on the refuge. For the most part, addressing this issue will depend more on outreach, such as Table Teasers at restaurants within the watershed.

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.’ Laguna Atascosa NWR is not an officially designated Urban Wildlife Refuge. However, it is proximate to major population centers so it will function in many ways like an urban wildlife refuge, and due to the exponential growth in population, it is likely to made an urban wildlife refuge in the next 5-10 years. 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 moving along a series of Stepping Stones of Engagement until they 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 house plants, a backyard garden or the local city park. 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 in a way that they consider 'safe' and within their 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 desire to open the Bahia Grande Unit to public use

The USFWS has been under significant pressure from the public to open the Bahia Grande Unit to public use.

The need to Increase local support for Laguna Atascosa NWR and the USFWS

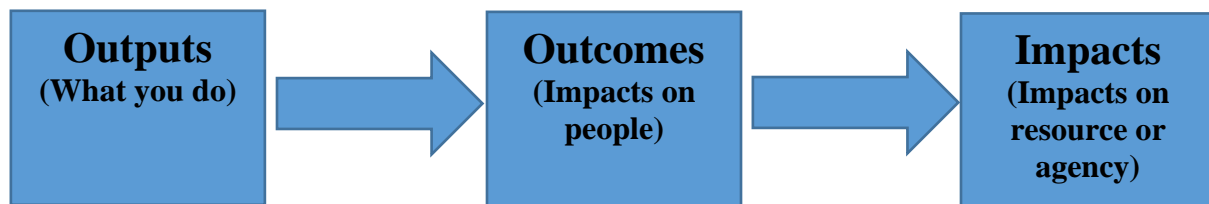
As a general rule, people value places that contribute to their quality of life. Bird watchers, nature photographers and nature enthusiasts will value the refuge as wildlife habitat. Many residents have valued the refuge for the Wildlife Drive, however, it has been closed for work on the road system for a number of years, so newer residents and newer generations may not have taken the tour. 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, Laguna Atascosa NWR:

- Helps protect gas and oil infrastructure from storms;
- Helps protect homes, farms and businesses from storms;
- Helps protect fish species important to commercial, subsistence 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, and by supporting commercial fisheries.

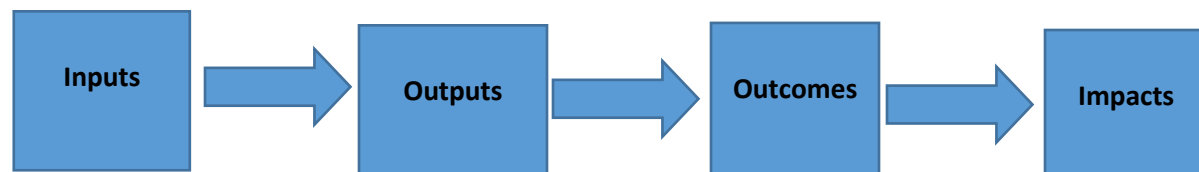
Vision / Goal Hierarchy

Introduction

The regional office of the USFWS recently worked with staff from the south Texas wildlife refuges to develop the South Texas Refuge Complex (STRC) logic model (see Appendix B) as a tool for evaluating current and proposed activities in Visitor Services, including the proposed experiences identified during this planning process. Logic models in general have three basic components – Outputs, Outcomes and Impacts. As shown below, **Outputs** (what the USFWS does) cause **Outcomes** (impacts on the audience in terms of knowledge, attitude and/or behavior), which result in **Impacts** on the resource or agency. Those Impacts help make progress towards overall Management Goals, which, if achieved, reflect progress towards achieving the overall Mission/Vision of the USFWS for Laguna Atascosa NWR.



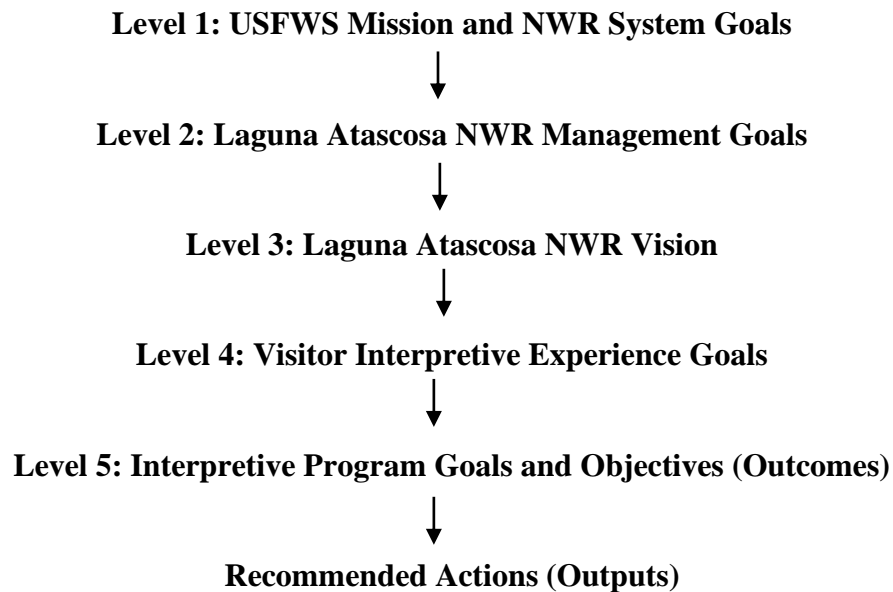
One purpose in using this model is to ensure that the Interpretive Program and all the visitor opportunities developed for that program make progress towards achieving the overall mission of the refuge, and by extension, the mission of the USFWS. Once desired outputs have been identified, the inputs (agency resources) required to produce that output (see diagram below) can be identified, and the array of potential outputs can be evaluated using a cost-benefit analysis.



Identifying each of these components is determined working from the back forward. For example, if Laguna Atascosa NWR wants a conservation constituency from the local area (impact), the audiences will have to be motivated to engage in stewardship behaviors supporting the refuge (outcome). Achieving that goal may take a combination of several actions (outputs) such as developing Islands of Habitat in local communities so residents have a ‘safe’ introduction to nature; outreach programs on Spanish television programs, and family-oriented tours on-site. The Inputs (agency resources) necessary to develop that array of strategies can then be calculated and the cost weighed against the potential benefit.

VIEP Goal Hierarchy Structure

The VIEP takes its direction (**Visitor Interpretive Experience Goals**) from the **Management Goals** for the refuge, which reflect how the USFWS intends to achieve the **Vision/Mission** for the refuge. The **Visitor Experience Outcomes** (objectives) reflect impacts on the behavior, knowledge and attitude of the target audience, which, if achieved, result in progress toward the **Visitor Interpretive Experience Goals**. The recommended interpretive opportunities and associated actions in the Action Plan are the **Outputs** by the USFWS that are the tools for achieving the desired impacts on target audiences. All those elements have been captured in the hierarchical structure depicted below.



The structure of the goal hierarchy reflects several significant points. First, everything stems from the USFWS mission. Second, the statements at each level, whether goals, missions or vision, are derived from the statements of the level above. Determining each set of statements requires asking the question, “how can this [goal, outcome, mission] help achieve the next level up?” For example, the specific Visitor Interpretive Experience Goals for Laguna Atascosa NWR can be determined by asking, “How can Visitor Interpretive Experiences and the associated Interpretive Program help achieve the Laguna Atascosa NWR Management Goals?” The connection between all levels provides the planner with tools for identifying each level of goals, and for defending those goals. Finally, the structure clearly shows the link between the purposes for which the refuge is managed, and the recommended actions associated with developing Visitor Interpretive Experiences.

Level 1: 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.

Level 2: Laguna Atascosa NWR Goals

Laguna Atascosa 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: Protect, conserve, and manage for native wildlife such as endangered species, other Federal trust species, and priority species with an emphasis on refuge focal species.

Habitat: Protect, restore, enhance, and maintain the ecological integrity and diversity of native habitats with an emphasis on wetlands, brushlands, coastal prairies, and barrier island habitats.

Public Use: Connect people with nature by providing compatible wildlife-dependent recreation, interpretation, and environmental education to a diverse audience by offering quality visitor services and facilities. Provide outreach programs with an emphasis on reaching local residents.

Level 3: Laguna Atascosa NWR Vision – Where you want to be in 20 years

The following characteristics of the refuge of the future were derived by reviewing the CCP, assessing the input from staff regarding objectives, and reviewing the ‘Coastal Program Regional Strategic Plan; Region 2 – Texas Gulf Coast FY 2012-2017’ established by the USFWS. The 5 goals of that program are:

1. **Conserving Habitat:** Restore and protect priority habitats to increase and maintain Federal Trust Species populations. Based on the report, Laguna Atascosa NWR is a key site for accomplishing the goals of the program.
2. **Broaden and Strengthen Partnerships:** Accomplish our work through voluntary partnerships.
3. **Improve Information Sharing and Communication:** Collaborate and share information and concerns with our partners, stakeholders, future partners, decision-makers, and others to protect, restore, and enhance habitats for Federal Trust Species.
4. **Enhance Our Workforce:** The staff of our Program is our most important resource. Maintaining and supporting the staff are the keys to the success of the Program in achieving on the ground results for Federal Trust Species.
5. **Increase Accountability:** Measure, assess, and report on the effectiveness, efficiency and fiscal integrity of our habitat conservation programs and activities.

Level 3A: The refuge in 20 years

1. In part because of partnerships and work in conservation and restoring habitat called for in the Coastal Program Regional Strategic Plan (CPRSP), populations of aplomado falcons, ocelots, reddish egrets and other Federal Trust species have expanded significantly.
2. In part because of conservation / restoration of wind tidal flats, called for in the CPRSP, the refuge functions more effectively as a valuable resting place for migratory birds.
3. The diversity of the staff and volunteers at the refuge reflects the diversity in the population of residents of the surrounding communities.
4. Due to outreach efforts resulting in public support, populations of Kemp’s ridley, loggerhead, green and hawksbill sea turtles on the South Padre Island Unit have increased significantly.

Level 3B: Visitation and Use in 20 years

1. The diversity of visitors to Laguna Atascosa NWR reflects the diversity of residents in the local communities in general, in part because people of all cultural groups feel safe and welcome at all the refuges. (The diversity of visitors is not likely to ever match completely because Laguna Atascosa NWR is a birding hotspot attracting visitors from around the world.)
2. People from all walks of life participate regularly in activities offered by Laguna Atascosa NWR, both on and off-site.
3. Despite multiple visits to the refuge, 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. Local youth consistently engage in activities, and many become interns, and people who support and visit refuges and other natural areas.
5. As a result of effective partnerships, the refuge enjoys heavy use from local schools for field trips, Environmental Education opportunities, research projects, Service-Learning projects and opportunities for students from middle and high schools and local colleges to volunteer at the refuge.
6. Locals value the refuge because of the roles it plays in their quality of life, including recreational opportunities and economic benefits (tourism). They feel the refuge is a part of the community.
7. Local residents 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.
8. Local leaders, especially officials of Cameron County, understand the value of the refuge in terms of increased tourism and the consequent boost to the economy, its role in protecting the Texas coast and the recreation opportunities it offers residents, such as angling and hunting, so they support the refuge and its activities. They also champion the refuge and refuge programs within the community in gaining congressional support.
9. Birders and nature tourists flock from near and far to visit what continues to be one of the premier destinations in the world for such activities.

Level 3C: The refuge as part of the Community in 20 years

1. The refuge offers a wide variety of opportunities for the public to explore and enjoy the refuge without having a negative impact on wildlife, such as by taking the tour on the wildlife drive, birking (biking and birding), angling, hunting, and taking self-guided and guided tours.
2. The Visitor Services program is constantly evolving to sustain interest by repeat visitors, stay relevant to local audiences, and meet the ever-changing needs of local school children and residents while maintaining its status as a premier destination for birding and nature study. This is made possible in part by strong sustained partnerships that accomplish mutual goals. (In other words, Laguna Atascosa NWR will continue to serve traditional users while also becoming a destination for non-traditional audiences.)
3. Volunteers are in abundance, and the Friends of Laguna Atascosa NWR flourishes because the refuge is a place that highly values volunteers and shows it through setting aside space for them, honoring them and engaging in other actions that clearly demonstrate value.
4. The refuge supports:
 - A flourishing Citizen Science Program;
 - An intern program for middle and high school students and college students focused on providing training in job skills;
 - Well-attended community work projects focused on restoring and managing natural habitat both on and outside the refuge.

Level 3D: The Community as part of the refuge in 20 years (Note: This is a vision, which embodies the goals of the refuge that the USFWS tries to create in the next 20 years.)

1. 'Islands of Habitat (Schoolyard Habitats),' which have been planted in every school yard in nearby communities, attract native birds, butterflies and wildlife while serving local teachers for teaching a variety of subjects associated with the natural world.
2. A high percentage of residences use native flora in their landscaping. The overall result is an increase in native fauna that depend on these plant communities.
3. An agreement with the local communities has led to planting parks, medians, open spaces and similar areas with native vegetation.
4. Local businesses, through the support of and guidance by the refuge, also favor landscaping using native plants.

Vision Milestones/Indicators that you are going in the right direction

The vision reflects the long-term hopes for the refuge. The following are mid-term indicators that the USFWS is on the right track and making progress towards achieving the vision:

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

1. Refuge birding and nature tourism programs continue to develop, which maintains Laguna Atascosa NWR's status as a premier birding destination.
2. Innovative public use programs begin becoming the norm rather than the exception.
3. Although visitor services programs and facilities continue to expand, they do not interfere with the habitat and conservation mission of the USFWS.
4. Laguna Atascosa NWR continues to develop partners that support the work of the USFWS.
5. The refuge staff takes initiative on a regular basis for cross programmatic work and for enhancing the visitor experiences for all visitors, not just traditional visitors.

What is going on with the community along the way?

1. A significant increase in the local community's willingness to visit, engage and participate in refuge programs.
2. Increased visibility of the USFWS in general and Laguna Atascosa NWR specifically in the nearby urban areas due to outreach strategies.
3. Youth are engaging in increasing numbers in activities on the refuge, including in Environmental Education.
4. Significant increase in the degree to which all visitors feel welcome, due in part to an increase in materials that are bilingual, and increased understanding by the USFWS of what target audience segments consider of value in a visit.
5. A significant increase in Islands of Habitat and backyard habitat as a significant percentage of residents, businesses, city government and schools are using native plants for landscaping.
6. Community supports conservation projects and demand green spaces and green development/infrastructure.

Short term Indicators that you are on the right track

The following are short term indicators that the USFWS is on the right track and making progress towards achieving the vision. They should be reviewed on a regular basis so the USFWS can make corrections before investing a lot of resources in actions that are making minimal or no progress.

What is going on in the community?

1. Increased awareness on the part of the residents in the surrounding communities that Laguna Atascosa NWR exists, and that it provides benefits valued by residents.
2. Increased awareness by local communities of activities on the refuges/complex or off-site sponsored by the refuges/complex.
3. Awareness of refuges by youth – they know why we are there and what is happening.

What is happening at the refuge?

1. Current status of birding and nature tourism programs is maintained at a minimum.
2. Service leadership recognizes the need for innovation in planning and operations of visitor services.
3. Staff understands the relationship between conservation mission and visitor services activities.
4. The refuges/complex values existing partnerships and continues to work on new partnerships.
5. Staff understands the need to value visitors, which manifests itself in visitors feeling welcome.

Level 4: Visitor Interpretive Experience Program Goals

Introduction

With the crisis facing natural resources in general, it's not enough to simply value natural resources; residents in local communities 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 between visitors and the refuge and its inhabitants. It can also help facilitate the transition of residents from urban areas to 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 they need to be meshed with experiences that visitors desire in order to be effective.

Note: It is important to recognize that the goal of causing impact on behaviors is not likely to be attained by simply changing knowledge and attitudes. It also requires identifying barriers to the desired behaviors and minimizing or eliminating those barriers.

Visitor Interpretive Experience Program Goals and Objectives

Accomplishing the Visitor Interpretive Experience Program goals listed below will help achieve Management Goals at Laguna Atascosa NWR. Possible objectives (outcomes) have been included but have not been refined to be measurable. That will occur after the goals have been approved.

Primary Overarching Visitor Interpretive Experience Goal

*Create a network of residents from the local area that includes a significant percentage of people from non-traditional audiences, who **actively** practice and support conservation, and by extension, support Laguna Atascosa NWR and the USFWS.*

This will manifest itself in the following Outcomes:

- Residents of the watershed use native plants for landscaping in combinations that create good habitat for native flora, fauna and other valuable organisms, such as butterflies and pollinators;
- Residents volunteer at the refuge for work parties and/or other activities;
- 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;
- Residents engage in recycling (this indicates an increase in environmental literacy and stewardship behaviors);
- Residents support community measures focused on conservation, recycling and other actions consistent with the goals of the USFWS;
- 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;
- Cities have adopted programs that have led to more green space and more Islands of Habitat through planting of native species of flora;
- The media advocates for conservation and green spaces;
- The medical community actively supports the refuge because it recognizes Laguna Atascosa NWR as a healthy destination for families to exercise and reduce stress.

Actions Associated with reaching the Primary Visitor Interpretive Experience Goal

- Work with local nurseries to make native plants readily available, and work with the community to facilitate planting of native vegetation within backyards and other urban areas with a goal of having a majority of residences using native plants for landscaping within 20 years. This might be helped by creating a set of demonstration backyard habitats in the community, along with demonstration pollinator gardens and butterfly

gardens, ideally with one or more of these areas designed to be good backdrops for wedding photos, and other community activities.

Secondary Overarching Visitor Interpretive Experience Goal

This goal 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.

Increased 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 will manifest itself in the following Outcomes:

- 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;
- College students and adults train as roving interpretive naturalists and bird guides, resulting in a large trained group of volunteers to help at events, daily activities, and special events/functions at the refuge.

Intermediate Visitor Interpretive Experience Goals

Achieving these intermediate goals will help in reaching the primary and secondary overarching goals:

- Reach more people - both visitors to the refuge and people outside the refuge - with key messages.
- To the extent possible, enhance residents' quality of life as they define it, such as offering non-traditional experiences, addressing barriers to people enjoying recreational opportunities, etc.
- Ensure that the public is aware that the recreational opportunities on the refuge, and especially on Bahia Grande, are due to the efforts of the USFWS.
- Continue providing opportunities to school children in the area.

Actions Associated with reaching the Intermediate Visitor Interpretive Experience Goals

- Enhance the quality of visitor experiences to the refuge as defined by the target audiences. This suggests choosing and locating interpretive strategies on the refuge to achieve a high probability of being used, which means in part tailoring them to the specific audiences they are trying to reach. It also suggests a significant investment in outreach opportunities, especially to those target audiences who can have significant impact on achieving the Interpretive Goals.

- Expand and fine-tune Outreach Opportunities and activities to increase the number of residents who engage.
- Through partnerships and close collaboration with schools, create interpretive, environmental education and other learning opportunities (programs, Traveling Trunks, Islands of Habitat, etc.) that are in high demand from schools, in part because they support school standards. This will manifest itself in the following outcomes:
 - Middle and high school students will engage in Citizen Science projects associated with the refuge (and ideally, share their results in a student-based international conservation forum);
 - Students will use the refuge for Service-Learning projects;
 - College students will serve as part-time educators at the refuge;
 - Local youth will become junior nature guides at the refuge;
 - Teachers will use the refuge as an outdoor classroom;
 - Students will engage in learning opportunities focused on nature;
 - K-12 students will participate in interactive, inquiry based, thematic interpretive learning experiences focused on one environmental issue (at a time), ideally by using a gateway animal to impart knowledge, raise awareness, and motivate to action.

Level 5: 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 residents of the area will have 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 take action to conserve, protect and restore native flora and fauna, including support for the USFWS in general, and Laguna Atascosa NWR specifically.

The objective(s) for this goal would focus on the percentage of residents who consider nature in urban areas an important part of their quality of life rather than something that is simply nice to have around. A baseline should be established to accurately determine the amount of increase. However, it could also be assumed that most people do not consider urban nature essential, so an objective of 50% of the residents considering urban nature as an important part of their quality of life could be used. However, if a baseline isn't established, the actual effectiveness of the interpretive effort cannot be specifically established.

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 Laguna Atascosa increases significantly due in large part to better trip planning, orientation and wayfinding information and to an increased array of attractive interpretive opportunities.

Note: The current visitor experience at Laguna Atascosa NWR can be improved significantly through changes in infrastructure, such as building a new visitor center, 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 Laguna Atascosa 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.

Note: Work through the Human Dimensions Branch of the USFWS to conduct evaluation.

Objective 1-1: Visitor satisfaction with their experience at Laguna Atascosa NWR will improve by a statistically significant amount after implementation of any major interpretive opportunity or associated infrastructure.

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. Note that this requires obtaining a permit from OMB if the questions are not on the pre-approved list. (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 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 if the questions have not been pre-approved. 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 survey 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. This could be a ‘test your knowledge’ type of opportunity with questions tied to key 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.

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 game-type of interpretive opportunity that focuses on key messages. (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.)

Interpretive Program Goal 3: Achieve a significant increase in the awareness on the part of local residents of all units of Laguna Atascosa NWR, and the roles each plays in supporting the quality of life for people living in the surrounding area, leading to appreciation of and support for Laguna Atascosa specifically and the USFWS specifically.

Traditional audiences are likely aware of the refuge and what it offers them in terms of quality of life. However, despite the publicized desire to open Bahia Grande, the popularity of the Wildlife

Tour, and other opportunities associated with the refuge, it cannot be assumed that everyone living in the area is aware of the refuge and all the area it encompasses, and what it offers to the general public.

In general, lack of awareness of refuges along with lack of awareness that refuges offer visitor opportunities were noted in recent studies as common barriers to engagement in all refuges. In the case of Laguna Atascosa NWR specifically, the value of the refuge in terms of impact on the economy, importance of coastal wetlands and marshes in supporting large populations of fish species desired by anglers, recreational opportunities offered by the refuge, and importance of the refuge as a buffer against storms should be the emphasis in interpretive opportunities geared toward local residents.

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

Objective 3-1: Awareness that Laguna Atascosa 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 Laguna Atascosa NWR will increase by 5% a year for the next 5 years. This includes directions to the visitor center and to Bahia Grande contact station.

Objective 3-3: Among residents who are aware of Laguna Atascosa 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.

Objective 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 stewardship practiced by visitors in their daily lives.

Achieving this goal is likely to be a two-pronged effort focused in part on developing effective interpretive opportunities and in part on reducing or eliminating barriers that interfere with the visitor engaging in the desired behaviors.

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: The level of stewardship practiced by residents as a whole 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 support of the work of Laguna Atascosa NWR specifically, and the USFWS in general, 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 Laguna Atascosa NWR or at whatever refuge was closest to where the visitor lives.

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 Laguna Atascosa 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 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 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 respectively.

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 Laguna Atascosa NWR and units of the Lower Rio Grande NWR

and what they offer in terms of visitor experiences. This will rise to 50% after two years and 65% after three years.

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.

Objectives

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.

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.’)

Theme Hierarchy (Messaging)

Introduction

This section contains the 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 the coastline, providing recreational opportunities, 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, you should take every opportunity to reinforce your identity, such as by making recycling bins obvious; putting in water bottle refill stations, and using low-flow fixtures and other energy saving strategies in 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).

General Themes

Note: Up to this time, most themes developed for National Wildlife Refuges, and for many other resource conservation entities, were 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 Laguna Atascosa 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 life, as defined by your target audiences.

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 are 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, such as moths, flies, native bees, beetles and wasps;
- The relationship between bats and fruit trees;
- Local pollinators pollinate coffee, tea, chili, berries, tomatoes, fruit and nut trees, spices and vegetables;
- Local pollinators pollinate fields of livestock crops such as alfalfa and clover.

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.

- The importance of black cohosh in supporting women’s health, arthritis and inflammation;
- The role of goldenseal in fighting infection and congestion;
- The potential for wild yam for reducing inflammation, controlling cholesterol, and supporting healthy levels of blood sugar.

Sub-theme 1-4: Laguna Atascosa NWR supports the economy of the area

Potential supporting stories

- Laguna Atascosa NWR and other natural areas produce waterfowl and fish that support commercial and recreational hunting and fishing, which are significant in this area.
- Laguna Atascosa NWR is important to ecotourism, a significant factor in the economy of the area because of the number of people who come to see birds and butterflies.
- Laguna Atascosa NWR helps protect the Texas coast by acting as a barrier against storms coming in off the Gulf of Mexico.

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 #LagunaAtascosaNWR to share photos with each other.
5. Develop a Facebook group for Laguna Atascosa 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.

The milkweed and monarch butterfly are perhaps one of the simpler combinations 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.

In addition, understanding that this concept applies to humans (a biological organism) is an important step in understanding the dangers of climate change, 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 story of ocelot recovery;
- The story of aplomado falcon recovery.

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

- Monarch butterflies depend on milkweed for survival.
- The story of the needs of Eskimo curlew to habitat along their migratory pathway.

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.

Potential Supporting Stories

- The stories of volunteers who help replant refuge lands with native vegetation, and/or who help in other ways.
- 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.
- Sea turtle patrols by volunteers.
- The story of the restoration of Bahia Grande.

The story of Bahia Grande supports this general theme, but it should also be the focus of its own theme because of the significance of that unit of Laguna Atascosa NWR in the eyes of local residents.

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 Laguna Atascosa NWR.

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.

- 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 story of the decline in redhead ducks due to human actions.

Sub-theme 3-2: 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 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. The actions can be as simple as turning off the water when brushing teeth, using recyclable straws – actions that don't 'cost' much in terms of a person's time, but can have significant benefit.

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.

- 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.

Laguna Atascosa NWR-specific Themes

The following themes are specific to Laguna Atascosa 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.

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

Sub-Theme 4-1: The fish and wildlife supported by Laguna Atascosa 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 birds, waterfowl and crustaceans that are important to birders, waterfowl hunters and hunting guides.

- Laguna Atascosa NWR 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 residents' value.
- Laguna Atascosa NWR supports populations of waterfowl that help support hunting.
- The tidal flats at Laguna Atascosa 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 and equipment.

Sub-theme 4-2: Laguna Atascosa NWR provides a wide array of desirable recreational opportunities to the residents of the area.

Potential Supporting Stories

- Hunting programs;
- Angling opportunities;
- Opportunities developed with partners as part of the Active Plan;
- Wildlife observation and photography opportunities;
- Bicycling;
- Wildlife Drive;
- Tram tours on Wildlife Drive.
- Recreational opportunities.

Laguna Atascosa-specific Interpretive Theme 5: The wetlands (including coastal marshes) at Laguna Atascosa NWR are valuable to humans for myriad reasons and need to be protected.

This is also a general theme, but it was included as a Laguna Atascosa NWR-specific theme since the supporting stories need to come from Laguna Atascosa 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 marshes are important rearing grounds for fauna that support commercial and recreational fishing, birding, and hunting waterfowl.
- The coastal marshes support species that attract birders and nature photographers.
- Some people simply enjoy being in such environments (aesthetic value).

Laguna Atascosa-specific Interpretive Theme 6: Everything in a watershed is linked. Everything that happens upstream affects everything downstream. Laguna Atascosa NWR and the fish and wildlife it supports are endangered due to actions by residents in the north part of the watershed.

This is a combination of a general theme (the connections in a watershed) and a Laguna Atascosa NWR-specific theme (issues with freshwater due to actions further up the watershed).

Sub-Theme 6-1: 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, which is actually more relevant since it is people in a watershed that cause impact on other elements downstream in that watershed.

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.

- The impacts of changes to river flow upstream affecting the health of downstream ecosystems and the flora and fauna that live there.

Sub-theme 6-2: Freshwater is critical to the ecosystems at Laguna Atascosa NWR that support native flora and fauna. The supply of freshwater is endangered due to human activity in upper parts of the watershed.

Laguna Atascosa-specific Interpretive Theme 7: Restoration of Bahia Grande is an example of what partnerships between the USFWS and others can significantly improve quality of life.

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.

- Elimination of dust storms caused in part by Bahia Grande as it used to be (and the air quality that people enjoy when watching local sporting events, such as football).
- Increase in angling opportunities for residents.
- The addition of myriad recreational opportunities for local residents.
- The story of the restoration of Bahia Grande as a joint effort between the USFWS and local entities.

Visitor Interpretive Experiences and Strategies

Introduction

The following factors significantly affect the development of the Interpretive Network and layout of this document:

- Layout of Laguna Atascosa NWR and associated implications
- Sequencing of visitor information network to support visitor experiences
- Stages of Visitor Experiences

Layout of Laguna Atascosa NWR and Implications

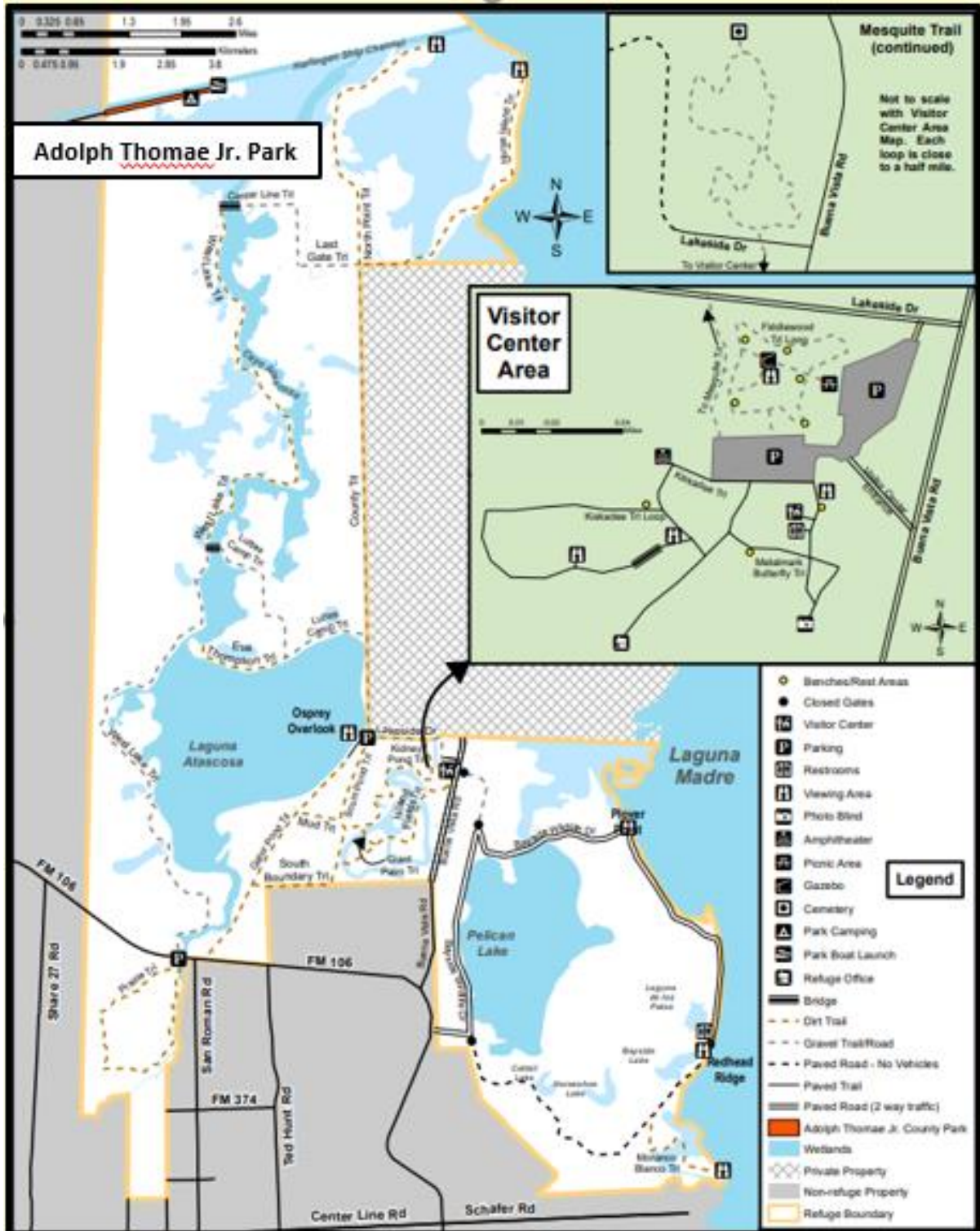
A combination of factors results in this refuge having three distinct areas, each with a distinct array of user groups, parameters and opportunities. Because of the marked difference in user groups, parameters and opportunities, the Visitor Interpretive Experiences and Interpretive Strategies will be organized by area rather than grouped together. Those areas are as follows:

Main Refuge

This is the area in which the current headquarters and Wildlife Drive are located. (See map on next page.) It is essentially a classic refuge and can be planned appropriately in terms of Visitor Interpretive Experiences.

Adolph Thomae Jr. Park

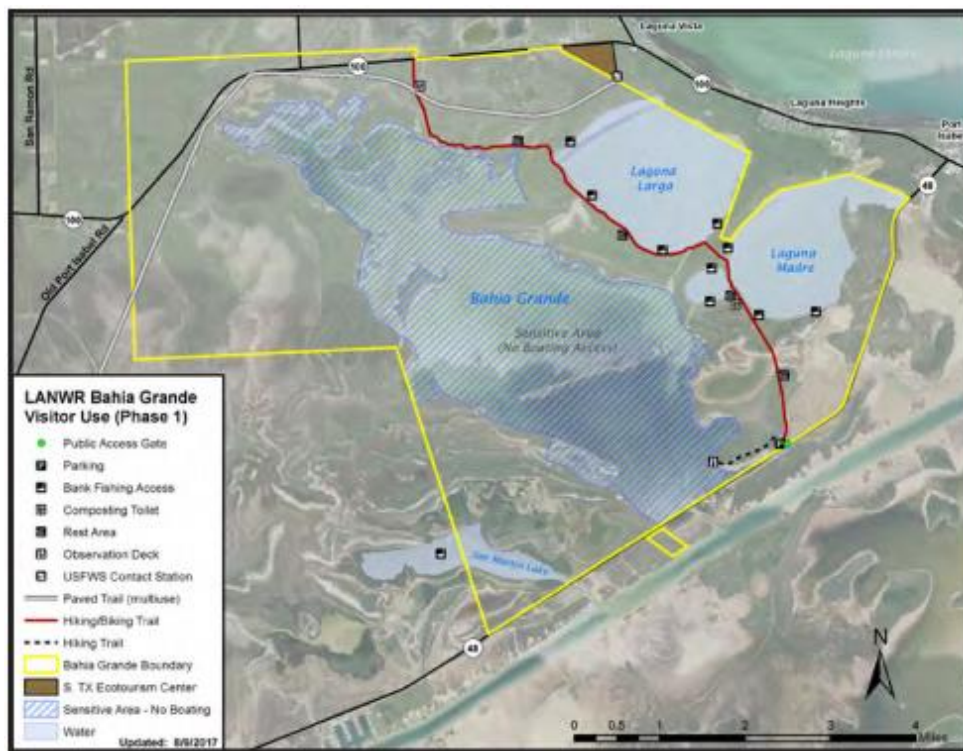
Although this parcel is under the jurisdiction of the USFWS, the site has been managed by the county for so long that it is not likely that most users are aware of the role of the agency in the park. Users are activity-oriented visitors focused primarily on angling by boat. Consequently, they are not likely to be as receptive to interpretive information. Those in a group of anglers who are not fishing (fishing widows/widowers) could be a target audience since they are likely to be looking for something to do. However, the return on investment for developing interpretive opportunities at this location is not likely to be significant.



The main refuge and Adolph Thomae Jr. County Park (Bahia Grande not shown)

Bahia Grande

This parcel has no existing access roads open to visitor vehicular traffic, and no trails, although visitors on foot or bicycle can use the roads when the Unit is opened. A multiuse trail will be built along part of the north, northeast and northwest boundary of this section, but that trail will not provide access into the refuge. At this time, given the limitations regarding access, the only users of this parcel are likely to be bicyclists using the main road and spur roads (and this will be limited to those willing to ride on unpaved roads); anglers (limited because of the time involved accessing areas open to fishing); hunters (when allowed); and birders (usually on a guided tour so they can travel in a vehicle). Birking is a natural for this parcel because of the need to use means other than motorized vehicle to access the central part of the parcel. Although there is talk of visitors being able to bring in kayaks for use on Little Laguna Madre and Laguna Larga, which is not likely to happen because access would either be on foot, or on a bicycle pulling a trailer with a kayak. If a new visitor facility is built – USFWS or the South Texas Ecotourism Center – adjacent to the boundary with Bahia Grande, the potential exists for additional entry points.



Bahia Grande Unit showing the first phase of development for visitor use

Sequencing of information

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 through their Primary Experience, which ideally includes 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 the alligator?" and, "Is it safe?"

Since orientation and wayfinding information are needs, they have priority over interpretive opportunities, which for most travelers are *options* for spending time. Visitors can have a good experience without interpretation, but not without orientation and wayfinding information. Consequently, to facilitate a good interpretive experience, orientation and wayfinding information should be available throughout a visitor's experience. 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 detail 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 motivating 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 Laguna Atascosa NWR, that the refuge welcomes visitors, and that it offers attractive (and safe) experiences. 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 Native Nature they would experience in the less developed parts of Laguna Atascosa NWR, especially the area with the alligator. Although marketing information in general can probably make some progress in that regard, it will be important to market 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 / border patrol.

Pre-Visit Experience

Whether they follow up on the Internet, call the refuge, talk to a concierge at a nearby hotel, or pick up information at an off-site location, people interested in visiting the refuge need information to plan their trip (Trip Planning Information), ideally before they arrive. Although people might 'discover' the refuge while traveling in the area, they may not have set aside any time for side excursions. Visitors 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 associated directional signage, are even more important.

Arrival Experience

Upon arrival, visitors must know where they are going next when they get out of a vehicle, have immediate access to restrooms and orientation, wayfinding and visit planning information. When they finish with this stage of their experience, they must be aware of the location of restrooms (even if they don't use them on arrival), of sources of information regarding upcoming programs and events, that a person is available to answer questions, and that the Visitor Center has a Nature Store. They must also have a plan for their visit, and know how and where to begin their Primary 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 for visitors in the Visitor Center area, 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, what it does to help the USFW at Laguna Atascosa NWR and how to join. 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. This includes visits to nearby wildlife refuges.

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 and Strategies by Stage of Visitor Experience

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. The first subsection includes the initial stages of the Visitor Experience, up through the Travel Experience. After that point the information is organized by the key arrival point for visitors. At this point those include the current Visitor Center, the Wildlife Drive, the Red Gate entry into Bahia Grande, and Adolph Thomae Jr. County Park. It may eventually include a Visitor Center on Highway 100.

The information for each stage of the experience includes the current experience and potential future experience if this plan is implemented. In some cases, it includes an intermediate future experience if the proposed future experience depends on strategies that are not yet approved and/or cost a significant amount of money.

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 as a first step in their refuge experience. 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 Laguna Atascosa NWR, 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 aware of Laguna Atascosa NWR because it contains more species than any other refuge in the refuge system and is a major hotspot in the area;
- Some residents of surrounding communities may be familiar with the refuge because it is part of the network of wildlife viewing areas that support the high level of ecotourism in the area.

- Many locals are probably familiar with the refuge because they used to drive the Wildlife Drive with family and friends (and are aware that it is not currently open);
- Local residents may be aware of the refuge indirectly because their children have visited the refuge on a field trip or had members of the USFWS visit their school to present programs.
- Outside of the local area, many people are probably familiar with the refuge because friends have posted images on Facebook or Instagram.
- Local people may be aware of the refuge because of events in which the USFWS has had a presence, such as Ocelot Conservation Day.
- Local people may be aware of the USFWS, without being especially familiar with most of the refuge, because the agency may be seen as currently preventing use of Bahia Grande.
- Potential visitors may have obtained the rack card for the refuge.

Despite familiarity to some degree, awareness does not necessarily transfer to choosing to visit or to engage with interpretive opportunities on or off-refuge, nor does it mean familiarity with other visitor opportunities on the refuge.

Choosing to Engage: Future Experience

In addition to maintaining or increasing involvement in local festivals, facilitating field trips to the refuge, and maintaining a presence on social media platforms, strategies for making people aware of the refuge and what it has to offer (as a means of motivating people to visit the website) include the following:

- Islands of Habitat (Schoolyard Habitats) and Specialty Gardens in local communities that were developed through 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;
- Table Teasers in restaurants;
- Familiarization Tours for concierges at nearby hotels and other lodging establishments. (This could be expanded to others involved in the tourism industry.)

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 refuge. Full Design Concepts are located in the section following this one.

Table Teasers: These present interesting tidbits of information (‘didjknows’) 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 Brownsville, Harlingen, South Padre island, Port Isabel and other small communities near the refuge would be good starting places to check on interest in Table Teasers.

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 other ‘Stepping Stones of Engagement,’ including the refuge, as potential visitor destinations.

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.

Note: Lack of trained personnel may be an issue. That can be mitigated to some extent by having the InterpVan serve all the National Wildlife Refuges in the area.



Example of an InterpVan

Traveling Exhibit: 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.

Familiarization Tours: These will be offered, along with a free lunch, to concierges at local hotels, Chamber of Commerce personnel and others who informally provide information to tourists on where to go and what to do in the area. The Familiarization Tour would not include Adolph Thomae Jr. County Park and should include Palo Alto Battlefield National Historic Site. Ideally, the Familiarization Tours should begin when something significant has changed, such as the re-opening of the Wildlife Drive.

Pre-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 include marketing the refuge as a destination attraction and providing 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 Pre-Visit Experience

Potential visitors can go to the website for more information and download and print a visitor map. However, the website is not organized particularly well for planning a visit, nor does it appear to be particularly welcoming to visitors, in part because images and information on the home page do not focus on people having a recreational experience on the refuge. To its credit, it does have an image of someone kayaking that shows up periodically. However, there are no photos of people in 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. 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, and the USFWS needs those people to visit as a step in the direction of becoming more relevant in the eyes of the American public.

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.

Future Pre-Visit Experience

After learning about the refuge, potential visitors have the option to seek more information from a large array of options, including concierges at hotels. 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, including the Agents of Discovery App and opportunities organized by month, along with information on how to prepare for a visit at any 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, bicycling the auto tour route, picnicking in the Red Gate area (to be described later) and fishing, 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 Laguna Atascosa NWR Map/Brochure (printed in an 8.5" x 11" format), 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 Instagram (used heavily by the younger generation), Facebook and Twitter.

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 several platforms and should continue to do so. If possible, the Facebook page should be modified to have a tab indicating that it contains trip planning information.

Laguna Atascosa 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.

Introductory 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 Laguna Atascosa NWR with the intent of creating an emotional connection.

Laguna Atascosa NWR Map/Brochure: The refuge has a map, but the format as a single sheet of paper makes it more difficult to distribute and use than a typical map/brochure. In addition, it does not include Bahia Grande, or information about other visitor opportunities on the refuge. The recommended map/brochure contains a site map (that includes Bahia Grande), trail information, auto tour information, hazards, and 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 arrive at their destination on 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 Travel Experience

The network of wayfinding signage to the current Visitor Center can be confusing. Currently, signage on FM 106 at the intersection of Paredes Line Road directing people to Adolph Thomae Jr. County Park is only located on one side of the road, visible to people traveling from the west to the east. There is no directional sign for people traveling the opposite direction.

The current Visitor Center is located within the refuge rather on an edge of the refuge adjacent to a major thoroughfare. Consequently, it can't function as a portal but more as a hub. However, given the distance from Bahia Grande and from Adolph Thomae Jr. County Park, it is likely that it will not play a significant role in the visitor experiences at those locations. Reaching the Visitor Center requires driving for a few miles on the access road. The directional sign indicating the Visitor Center is not particularly prominent. One for the Wildlife Drive does not currently exist.

Note: Additional wayfinding signage will be necessary when improvements at the Red Gate are implemented and Bahia Grande opened, and if and when a new Visitor Center is built on Highway 100.

Future Travel Experience

Visitors are guided to the refuge Visitor Center and Wildlife Drive without problems due to GPS sending them to the right locations, a complete map of the refuge that includes Bahia Grande and Adolph Thomae Jr. County Park, a complete network of wayfinding signage, and Confidence Markers along Buena Vista Rd.

Additional wayfinding signage identified to date includes:

- Junction of FM 106 and Paredes Line Road alerting westbound traffic that Paredes Line Road accesses Adolph Thomae Jr. County Park.
- Intersection of FM 106 and Buena Vista Rd. indicating direction and distance to Visitor Center.
- Directional sign at the turnoff to the Wildlife Tour Route.
- Directional sign to the Visitor Center parking area (A sign does exist, but it is too small.)

Summary of Strategies

GPS: Likely the most used strategy to find the refuge.

Directional Signage: Located at key intersections on the highway and on the access roads as noted above.

Confidence Markers: These are metal strips along the edge of the road that say Visitor Center (vertically stacked letters) with an arrow pointing straight ahead.

Main Refuge: Arrival, Primary and Departure Experiences

Note: Information from this point on is organized into sections pertaining to the 3 major areas on the refuge where visitors are likely to begin their experience – the Main Refuge, the Bahia Grande Unit, and Adolph Thomae Jr. County Park.

Arrival Experience: 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 site-specific visit planning. It then transitions into the Primary Experience.

Ideally, the first impression should tell the visitor that the USFWS thinks Laguna Atascosa NWR is an important refuge, that the refuge has a lot more to offer than just birding, and that visitors are a high priority and very welcome. This is accomplished in part by a prominent ‘Welcome’ sign with the word ‘welcome’ in several languages. It is also accomplished in part by the appearance of visitor facilities, such as the parking area and visitor information both outside and inside the Visitor Center. It is hard to communicate the message that this is an important site if it looks old, dated and not well-maintained.

Aside from making visitors feel welcome, the initial goal for the information network in the exterior part of the Arrival Experience is to 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 always optional. Finally, the exterior orientation and wayfinding network should market the experience in and around the Visitor Center.

Current Arrival Experience: Visitor Center Area

The two sections of the parking area at the Visitor Center are small, so the location of the Visitor Center is likely to be apparent. However, for most people, accessing the Visitor Center after leaving a vehicle requires walking through a parking lot. The Visitor Center building has a dated look, especially because vegetation now hides the building name. The access walkway from parking to the Visitor Center building passes next to a small shelter and wildlife viewing area with water and feeders. A map of the refuge is located on a wall extending from the Visitor Center in direct line-of-sight for a visitor.



The restroom sign needs to be larger, and the opportunities on the dividing wall changed.

The restrooms are also in direct line-of-sight to approaching visitors. However, a combination of factors, including very small restroom identification signage, cause many visitors to miss the restrooms, typically resulting in them asking staff inside the building for the location.

The entryway contains short exterior walls to the right and left and short interior walls within the vestibule between the 2 sets of doors accessing the building. The short exterior wall the visitor’s left as they approach the building contains a map of the refuge and a bulletin board for posting information. The wall to the visitor’s right contains two panels – one with fee instructions and the other with rules and regulations – plus a box for fee forms, one for fee payments and one for distributing the map/handout of the refuge. It is not likely the information on either wall is used by visitors, in part because of the nature of the information, in part because it looks dated and in part because of its location.

The space to the visitor’s left and right in the vestibule contains information that is not likely to be used much because it is in a narrow space that is essentially the transition between the outside and inside.

Upon entering the facility, visitors have the opportunity to gather orientation, wayfinding and trip planning information from the person at the front desk. They also have the opportunity to

pick up a map to help them explore the refuge, and to view a list of what wildlife has been seen and the location of the sighting. They are likely to at least check out the ‘Green Jay Café’ and the viewing window. They may use the tables to do some site-specific visit planning. The Gift Store will be obvious. Most people will note and perhaps use the interpretive opportunities located in this space as the first part of their Primary Experience.



The ‘Green Jay Café’ and viewing window currently offer excellent trip planning space and an initial interpretive experience.

***Note:** If a new Visitor Center is built on Highway 100 a decision will need to be made regarding what to do with this building. As long as the infrastructure that aids birding is kept in place, this location will always attract birders, and because of the easily accessible blinds and intriguing network of trails and shelters, it can also attract non-birders, especially families. In sum, given the easily accessible blinds, maze of short trails and amphitheater, the site is set up well for families and for Environmental Education.*

***Note:** Some visitors may choose to have a picnic and/or walk around in the Fiddlewood Trail loop without going into the building. This is more likely if visitors are repeat visitors and park adjacent to the picnic area.*

Intermediate Future Arrival Experience: Visitor Center Area

Note: The intermediate future experience reflects the time period when this is still the Visitor Center.

As they approach the parking area, visitors encounter a sign welcoming them (in several different languages). Upon parking in a designated space in one of the two parking areas, they use designated (and protected) walkways and crosswalks to access the Visitor Center entrance pathway. The name of the building is clearly visible because vegetation has been removed, and the building and parking area look well-maintained.

A new Information Kiosk, located at the junction between the parking area and the main access walkway, provides an exterior trip planning station where visitors can get the Laguna Atascosa NWR Map/Brochure, pay their fee, and check out information on a bulletin board. The kiosk is an important feature because it can function even when the building is closed. The kiosk also has a 'Recreating Safely' panel and a 'Rec \$\$ at Work' panel. Directional signage on the kiosk provides clear direction to the restrooms, and also notes the direction to the bird blind and trails directly around the building so arriving visitors know that the site has such opportunities.

From that point, visitors can choose to take the pathway that leads to the shelter, or a new pathway – one with a gradual and consistent grade – toward the Visitor Center. The shelter contains a bench where visitors can wait for others while being treated to a view of birds and wildlife at the feeding station. The rail in front of the bird feeding station has sections of a 'reader rail' to the right and left of the center (the center is typically blocked by people viewing birds). The reading rails contain identification images along with a 'didjknow' about each species, ideally tying to the habitat it requires for survival. Note that the bronze plaque is gone.

On the opposite side, adjacent to the building, visitors can enjoy walking in and learning about a Pollinator Garden. Note that the removal of vegetation to create the pollinator garden will make the building name visible. This could be a photo opportunity once the vegetation grows up.

The directions to the restrooms are reinforced by the word 'restrooms' in large letters on the wall between the corner of the building and the women's restroom. This is in direct line-of-sight of arriving visitors. Note that a restroom label is currently located on this wall, but it is too small to be effective.

The information currently on the exterior entry walls to the visitor's right and left just before entering the building has been removed, thus reducing the sense of 'clutter.' Thematic Overview panels located on the entry wall in line-of-sight of approaching visitors provide an introduction to the refuge and the key stories. Visitors entering the building pass by small dioramas on each side of the vestibule containing the jaguar, ocelot and other prominent wildlife. They then arrive in the main room of the Visitor Center. From there they can easily see the Store, the Viewing Window and the Information Desk. Completing the Arrival Experience for some will involve picking up the Laguna Atascosa NWR Map/Brochure and the Sense-ational Discovery Guide from the Information Desk or Self-Serve Orientation area, downloading the Explore Laguna Atascosa NWR App, downloading the Agents of Discovery App, purchasing the Explore Laguna Atascosa NWR booklet and sitting in the Green Jay Café to plan their visit.

Visitors who choose to go directly to the picnic area and Fiddlewood Trail trailhead will encounter a fee-paying station, a Site Orientation panel and Thematic Overview panels.



The space in the entry vestibule currently housing opportunities not likely to be used will be replaced by small dioramas with the ocelot, jaguar and jaguarundi.

Summary of Key Actions to Enhance the Intermediate Arrival Experience

- Put in designated walking areas that are protected from vehicles, so families and others do not have to walk through the parking lots.
- Install an information kiosk as described at the junction of the parking area and entry path to the Visitor Center (including all the elements listed).

- Move the lower taxidermy mounts on the wall in the Green Jay Cafe to the other wall and put something underneath to restrict visitors walking in that area. Visitors are likely to run into the lower mounts as the area is currently arranged.
- Remove the existing informational signs along the rail in front of the bird observation area (not interpretive – more educational).
- Remove the bronze plaque on the rail in front of the bird observation area.
- Remove the panels on the exterior wall to the right as you enter the Visitor Center (unless this is important for legal liability – if so, upgrade the signs).
- Remove the existing information on the exterior wall to the visitor’s left as they enter the Visitor Center and replace with an up-to-date refuge map and Thematic Overview panels.
- Remove the existing information opportunities in the vestibule and create small dioramas in the right and left sides of the vestibule and put the taxidermy mounts of the jaguar, ocelot and other wildlife in the dioramas.
- Put in a fee-paying station, a Site Orientation Panel and Thematic Overview Panels at the trailhead to the Fiddlewood Trail located in the picnic area.
- Remove the vegetation covering the name of the building on the wall of the Visitor Center.
- Resurface and re-stripe the parking areas.



Manipulating the vegetation and putting in a pollinator garden in this space along the entry walkway will bring attention to the name, which is currently hidden.

Summary of Interpretive / Information Strategies for the intermediate future Arrival Experience

Information Kiosk: A new kiosk-type structure will be located near where the parking lot intersects the main path to the visitor center. This has the effect of providing a clear indicator to arriving visitors of where to go as they approach the Visitor Center, and a self-serve orientation to all visitors who want it, which would be the case if the visitors came when the building was closed. It also allows the sheltered area adjacent to the wildlife viewing area to function more effectively as a key part of the interpretive experience.

The kiosk would contain the following strategies:

- **Main Refuge 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). Note that this includes Osprey Point and the Wildlife Drive.
- **Orientation Brochure dispenser:** This is a holder for distributing the Laguna Atascosa NWR Map / Brochure.
- **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 refuge has hazards, and they should not be minimized, but visitors should also not be frightened away from recreational opportunities.
- **Directional signage to the restrooms and other attractions on the site.** This will be on the new kiosk and also on the wall between arriving visitors and the restrooms.
- **Rec \$\$ at Work panel:** This panel, also in the new kiosk, focuses on highlighting how recreational fee money is being used to directly improve the visitor recreational experience. Ideally it would highlight a specific experience or visitor infrastructure on the refuge that was made possible by fees.
- **Bulletin board** for posting timely information, such as information on events.
- **Fee paying station.**

Long-term Visitor Arrival Experience

Visitors traveling along Highway 100 will have an opportunity to visit the primary Visitor Center for the refuge, which is now located along the highway. It will provide everything needed for the Arrival Experience – restrooms, orientation and wayfinding information to all parts of the refuge, and a series of exhibits designed to provide thematic overview for the key messages and stories associated with the refuges.

Upon entering the new facility, visitors have the option of picking up the **Laguna Atascosa NWR Map/Tearsheet** and the **Sense-ational Discovery Guide**, downloading the **Exploring Laguna Atascosa NWR App** onto their smart phones, purchasing the **Explore Laguna Atascosa NWR booklet**, and paying their fee. They are then ready to move on to the exhibits. Those in the Visitor Center Contact Station have an array of possibilities, beginning with small ‘didjknow’ 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.

When this facility is constructed, many visitors will begin their Primary Experience with the interior exhibits, specifically the primary exhibit, **Life Zones of Laguna Atascosa NWR**, where they learn about the different habitats and the birds and wildlife that depend on them. Other opportunities include:

- A **Window to the Wild**, which offers the opportunity to sit and observe birds and other wildlife outside the window (ideally with a view of an aplomado falcon nesting platform);
- **‘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 Laguna Atascosa NWR?’** which focuses on the ocelot and the myriad species of birds and wildlife that depend on the refuge in part or all of their life cycle. It will also emphasize that Texas has already lost 97% of natural habitat so areas such as Laguna Atascosa NWR are crucial.
- **Audiovisual Programs**, including the In-Depth Video Tour that is on the website.

After partaking in the interpretive opportunities in the Visitor Center, visitors have the opportunity to take in Specialty Gardens outside the building, which include a Pollinator Garden, a Butterfly Garden, other native plant communities that attract specific species of birds (such as hummingbirds) and other gardens that use native plants. They can also choose to take a short interpretive loop trail that extends into the refuge. The trail focuses on the relationship of wildlife to habitat, using the aplomado falcon and other iconic species to get the message across.

Note: An effective interpretive trail depends on whether features / elements of the area through which the trail passes are good tools for communicating messages, and whether shade is available – natural or created.

Summary of Interpretive / Information Strategies for the long-term future Arrival Experience

Note: Design concepts for these opportunities have not been included because by the time a Visitor Center is likely to be approved, this plan will need to be updated to take into account the changes that have already been made and the changes in information delivery technology.

Life Zones of Laguna Atascosa 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. 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 ocelots. The latter should have its own sub-exhibit, which should include an interactive for visitors to ‘Help the Ocelot Find its Way.’ 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.

What's so Special About Laguna Atascosa NWR and a Refuge System? Exhibit: This begins with the point that it is the wintering ground for numerous species of birds, 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 natural habitats in Texas, the impact on the flora and fauna, and the resulting impact on our quality of life.

Where am I going? This focuses on birds that migrate through Laguna Atascosa 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? / Pollinator Exhibit: This exhibit has two parts. The first focuses 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 (so you can invite pollinators home). Ideally, food made from ingredients that are available because of specific pollinators could be offered as a lead-in to the main focus. It should also include the importance of the flowers that are pollinated to bird species, which leads into the second part of the exhibit, which 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 of this part of the exhibit 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.

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.

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 Laguna Atascosa 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 cultural history story.

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.

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. 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.

Note: The 'Agents of Discovery' App. should be used in this location.

Note: The current Visitor Center will become an Environmental Education Center. However, it will still be the best place to provide interpretive experiences to families. Consequently, it will still have the Arrival Experience described for that facility.

Current Primary Experience: Visitor Center Area

Note: The Primary Experience opportunities on the Main Refuge include those in the building, immediately adjacent to the building, the Wildlife Drive, and opportunities in the area of the Osprey Overlook. For many visitors, the Primary Experience will begin in the Visitor Center.

Visitors to the Visitor Center currently have the opportunity to view birds in a bird feeding station located just outside a window, read about the more common birds they would see on the ‘café menu,’ spend time in the Green Jay Café doing site-specific visit planning, purchase items from the Friends’ store; and take in any of the following interpretive opportunities:

- List of birds seen recently;
- Diorama exhibit focusing on the ocelots and related big cats that lived or used to live in the area;
- The history of the refuge in a timeline-type exhibit;
- A Touch Table.

They also have the opportunity to purchase an Explorer’s Backpack and download the Agents of Discovery App.

Intermediate Future Primary Experience: Visitor Center

After picking up the **Laguna Atascosa NWR Map/Brochure** and the **Sense-ational Discovery Guide**, downloading the **Explore Laguna Atascosa NWR App** and the **Agents of Discovery App** onto their smart phones (and/or purchasing the **Explore Laguna Atascosa NWR booklet**), finding out what wildlife has been seen, and paying their fee, visitors are ready to begin their Primary Experience. Given the limited space for exhibits, the focus will be on providing thematic overview, providing information on the ocelot and importance of migratory corridors, and on providing information associated with the viewing window designed to motivate visitors to go out and explore. The following will be a part of the intermediate future interpretive experience opportunities:

Thematic Overview Exhibit

This would occupy the space currently housing the diorama. Although the diorama is quite interesting, it focuses only on one of the major reasons why Laguna Atascosa NWR is important, and does not provide any type of overview regarding the importance of the refuge and the connection of the refuge to the quality of life of the residents of the area. A thematic overview exhibit would seek to display a variety of habitats, with different birds and wildlife associated with each. Ideally, the habitats will reflect those that visitors can access at the refuge to create the opportunity to motivate visitors to stop by and explore those different sections. It would also focus on part on restoration of habitat and the importance of partnerships in doing so.

Given the linear nature of the space currently housing the diorama, a transect of environments from high points to the ocean (and including the ocean) could be used to highlight the multiple environments. Each would depict different species of wildlife using that habitat. Associated information, available in reveals, would emphasize the connection between habitat and wildlife, and the role of humans in restoring / protecting the environment, and finally, the threats to the habitat.

Help the Ocelot Find its Way

This is an interactive exhibit where visitors help the ocelot find its way back and forth from Texas to Mexico through an array of obstacles created by human built structures and alterations of the environment.

Find it Here and Find it There Exhibit

This exhibit is located on the wall next to the viewing window. It contains visuals of species that a person is likely to see in the window, thus serving as an identification guide. It should include a simple map showing other bird feeding stations in the immediate area.

On Your Way Back Exhibit

This exhibit focuses on what visitors should look for in terms of birds, wildlife and habitat on the way back out to the main highways.

The Green Jay Café ‘Menu’

In addition to whatever you can get (a cup of coffee or hot chocolate), the menu should have a number of items listed, but crossed out. Under each crossed out item would be a note that the lack was due to the loss of a pollinator.

Nature Store

The nature store should sell publications that offer extended experiences into topics introduced at the refuge, Explorer’s / Discoverer’s backpacks, and other items that facilitate a nature-based experience on and off the refuge. In addition, it should sell items that decrease the issues with recreating in this environment. Those items could include insect repellent, sunscreen, drinking water, tweezers (for taking out chiggers) etc.

Actions

In addition to installing the new interpretive opportunities, the following actions should be taken:

- Remove the Touch Table;
- Remove the History of the Refuge exhibit;
- Remove the current diorama exhibit and create the smaller dioramas in the vestibule.

In addition to the fixed opportunities, visitors would have the opportunity to come out for a series of special events, ideally ones that would be atypical for a refuge so they might attract non-traditional audiences, and ideally ones that change, although you could have a set of events you offer every year. For example, hire or allow chefs of some renown thru special use permits to come out and provide a day of cooking ‘what you caught;’ another specialist could present a program on the ‘medicine cabinet in your backyard, and on the refuge. Such events are not only likely to attract non-traditional audiences, but also millennials, who are attracted by unique, authentic visitor experiences.

Long Term Future Primary Experience: Visitor Center

Even if a visitor center is built on Highway 100 as recommended, this facility will still be important as an interpretive / visitor experience stop. Birders will still come down looking for birds, and others will head this direction for the Wildlife Drive. This will also still be a very

good location for family experiences because it is off the main highway and already has infrastructure that works well for developing interpretive experiences for that user group. Consequently, no significant changes are recommended for this facility even if and when a new facility is built.

Current Primary Experience: Area Immediately Around Visitor Center

This area already has extensive infrastructure, including a bird blind, two additional bird feeding / watering stations, myriad intersecting trails (Fiddlewood Trail Loop), sites linked to an Agents of Discovery App, an amphitheater, a gazebo in the center of the trail complex, and a picnic area adjacent to the parking lot. Although the recreational infrastructure is extensive, the interpretive opportunities are limited and dated. They do include panels on the rail at the feeding station, panels in the Bird Blind, and a few interpretive panels along the trails, however, most are outdated.



Existing interpretive signage around the Visitor Center is outdated and needs to be removed.

Visitors have the opportunity to use the Agents of Discovery App. to ‘discover’ facts about the surrounding environment and its inhabitants. Agents of Discovery is an augmented reality, geo-triggered app that focuses on motivating users to engage with the environment around them. The app does not require any data or Wi-Fi to run, after it’s been downloaded.

Note: The tram tour used to leave from the parking area and will again when the tour re-opens.

Note: Guided Tours, such as the tour of Bahia Grande, currently leave from the Visitor Center.

Intermediate Future Primary Experience: Area Around Visitor Center

In addition to the **Agents of Discovery App**, visitors have the opportunity to use the **Explore Laguna Atascosa NWR App**, which contains both a series of vodcasts / podcasts that people can listen to while walking (and later while driving), and a strategy that uses visuals to initiate information on that particular visual, whether a bird, plant or geologic feature. It is also set up to provide identification for bird calls along with intriguing facts about that species. They can also use the **Explore Laguna Atascosa NWR booklet**. In addition, signage provides clear directions to the major features in the area – the bird blind, the gazebo in the middle of the Fiddlewood Trail complex, the picnic area, and the amphitheater. The individual trails in the Fiddlewood Trail will each represent a pathway for a species that lives in this habitat, ideally one for which a visitor can find evidence of its presence. A logo for that species will be put at various locations along the path, indicating an interpretive opportunity (to be made available on the App, and/or a publication). Ideally, it becomes an intriguing ‘treasure hunt’ for children and their families. Additional trails around the Visitor Center have been widened to accommodate wheelchairs.

Visitors to the bird blind will encounter updated interpretive information focused on species likely to be seen at the blind, with information on why that species needs this habitat. Visitors will encounter the same kind of information on ‘reading rail’ type exhibits along the rails of the gazebo in the middle of the Fiddlewood Trail complex, and on the rails adjacent to the entryway shelter.

Actions

The following tasks need to be accomplished to create the desired experience:

1. Widen the following trails to accommodate wheelchairs:
 - Trail to the bird blind from the entryway shelter
 - Kiskadee Trail Loop
 - Kiskadee Trail
 - Connector trail on the south side of the Visitor Center that connects the trail to the bird blind to the Kiskadee Trail
 - The trail connecting the picnic area to the covered pavilion in the Fiddlewood Trail complex
2. Create a shelter for the picnic area;
3. Refill the resaca on the Kiskadee Trail Loop;
4. Eliminate the existing interpretive signage around the Visitor Center.
5. Eliminate trails that are not necessary for visitors or staff.

Summary of Interpretive / Information Strategies for the immediate future

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 Laguna Atascosa NWR and of the flora and fauna that live here.

Explore Laguna Atascosa NWR 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. The App should include interpretation relating to Osprey Point, Laguna Atascosa and the Gator Pond.

Explore Laguna Atascosa NWR booklet: This is an abbreviated guidebook to the refuge containing maps, trail information and interpretive information. It is important because not all visitors will choose to use Apps, so without this booklet, all they would have would be signage

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 (including those of Bahia Grande)
- Kayak Tours (if they can be re-instituted)
- Bicycle Tours (on Bahia Grande and the Wildlife Drive)

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

Bird Blind Panels

Interpretive information focused on species likely to be seen at the blind, with information on how to identify that species, why it is here (why that species needs this habitat) and where it goes if it is migratory. It should include a simple map showing other bird feeding stations in the immediate area, including the viewing window in the Visitor Center. Ideally, the emphasis is on at least some species that differ from the other locations to support the concept that the habitats differ slightly and therefore, so do the wildlife.

Gazebo Panels

Interpretive information focused on species likely to be seen at the blind, with information on how to identify that species, why it is here (why that species needs this habitat) and where it goes if it is migratory. It should include a simple map showing other bird feeding stations in the immediate area, including the viewing window in the Visitor Center. (Note that a bird station is located adjacent to the gazebo, which attracts a variety of birds.) Ideally, the emphasis is on at least some species that differ from the other locations to support the concept that the habitats differ slightly and therefore, so do the wildlife.

Entry shelter rail panels

Interpretive information focused on species likely to be seen at the blind, with information on how to identify that species, why it is here (why that species needs this habitat) and where it goes if it is migratory. It should include a simple map showing other bird feeding stations in the immediate area, including the viewing window in the Visitor Center. Ideally, the emphasis is on at least some species that differ from the other locations to support the concept that the habitats differ slightly and therefore, so do the wildlife.

Current Primary Experience: Osprey Point and Gator Pond

Visitors to this area can view Laguna Atascosa (the lake) from a sheltered viewpoint. A mounted spotting scope and two interpretive panels are located in the shelter to support the visitor experience.

Visitors also have the opportunity to take a short walk along a roadway to the Gator Pond and view the interpretive panels associated with that location, which include ones focused on the Gator Pond and one focused on Laguna Atascosa.

Future Primary Experience: Osprey Point and Gator Pond

Visitors to the area will have the same experience in the shelter at Osprey Point, which can be enhanced by using the **Explore Laguna Atascosa NWR App**, the **Explore Laguna Atascosa NWR booklet** and the **Sense-ational Discovery Guide**. A Main Refuge Site Orientation Panel is also available. The walk to the Gator Pond has been enhanced by putting a series of shaded benches along the route. The App includes interpretive information focusing on the view from each of the benches. At the Gator Pond, visitors can still walk out along the fully accessible walkway to view the pond and, hopefully, an alligator. An interpretive panel focusing on alligators is located on or near the viewing platform. (Care must be exercised when locating this panel to avoid blocking the view of a person in a wheelchair.) Visitors can also walk to the other side of the road to access a small viewpoint overlooking Laguna Atascosa.

Actions

1. Improve the trail out to the Gator Pond Viewing Platform
2. Install more shaded benches along the route
3. Eliminate the sign opposite the Gator Pond Viewing Platform
4. Put in a small viewing platform overlooking Laguna Atascosa

Strategies to Support the Experience

Gator Pond panel

This interpretive panel focuses on alligators, their role in the natural ecosystem of the area, why they use the pond

Current Primary Experience: Steve Thompson Wildlife Drive

The Drive is currently closed due to construction. Prior to that time, and without changing anything when it opens, interpretive opportunities will be limited to interpretive panels at several locations along the route, including Plover Point and Redhead Ridge.

Future Primary Experience: Steve Thompson Wildlife Drive

Visitors will be able to access this opportunity in their own vehicles, on bicycles, on a Tram Tour and on a Guided Bicycle Tour. For those entering on their own, an Information Kiosk with orientation information, a fee station and other information is located at the new gate. In addition to being able to use the **Sense-ational Discovery Guide**, the **Laguna Atascosa NWR Map/Brochure**, the **Explore Laguna Atascosa NWR booklet** and the new **Explore Laguna Atascosa NWR App**, **Interpretive Panel Clusters** at several locations along the route provide visitors with brief insights into the cultural and natural history of the area. For those on bicycles entering on the old road, directional signage is located at the junction between the old road and new loop that helps them go in the correct direction both when arriving and departing.

Summary of Interpretive / Information Strategies

Information Kiosk: A new kiosk-type structure will be located near the entry gate. The kiosk would contain the following strategies:

- **Wildlife Drive Orientation Panel:** This orientation panel focuses on just the Wildlife Drive. It includes distance, average travel time by bicycle and car, and the interpretive opportunities and amenities along the route.
- **Main Refuge Orientation Panel:** A simple panel focusing on the Main Refuge (without Bahia Grande) 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).
- **Orientation Brochure dispenser:** This is a holder for distributing the Laguna Atascosa NWR Map / Brochure.
- **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 refuge has hazards, and they should not be minimized, but visitors should also not be frightened away from recreational opportunities.
- **A notice that restrooms aren't available until Redhead Ridge** (but are available at the Visitor Center just up the road).
- **Rec \$\$ at Work panel:** This panel, also in the new kiosk, focuses on highlighting how recreational fee money is being used to directly improve the visitor recreational experience. Ideally it would highlight a specific experience or visitor infrastructure on the refuge that was made possible by fees.
- **Bulletin board** for posting timely information, such as information on events.
- **Fee station.**

Interpretive Panel Clusters: At this point, the logical points include, but are not limited to, the following:

1. A site very close to the start of the visitor experience on the drive for Thematic Overview panels.
2. The viewpoint on Redhead Ridge, where the panels focus on the variety of habitats and the importance of the proximity of freshwater to saltwater for redhead ducks);
3. The viewing platform at Plover Point, with panels focusing on the importance of Laguna Madre for waterfowl and as a nursery for fish species;
4. At least one site with visual access to the bombing ‘targets,’ where the panels would focus on the chapter in history when this was a gunnery range. Ideally, remnants of buildings would also be visible from the site;
5. At a pull off adjacent to Pelican Lake, with panels focusing on the differences between saltwater and freshwater habitats;
6. A site with a clear view of thornscrub, where the focus would be on the ocelot and other wildlife that depend on that habitat;

Note: When the new signs are installed, the existing ones should be removed in order to maintain a consistent look.

Current Departure Experience: Main Refuge

Visitors leaving the Visitor Center Area have the option of using the toilet and dropping into the Visitor Center to buy something from the Store and/or gather information on surrounding opportunities 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. Visitors departing Osprey Point or the Wildlife Drive can go to one or both of the other locations or can just leave.

Future Departure Experience: Main Refugee

The Departure Experience will be essentially the same. Visitors leaving the Visitor Center will use the restrooms and stop in to purchase items from the 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.

Bahia Grande: Arrival, Primary and Departure Experiences

Note: This is a Visitor Interpretive Experience Plan, so it does not attempt to identify all the trails and activities proposed for Bahia Grande unless there is an interpretive component. For example, 2-mile and 4-mile loop trails have been proposed as recreational opportunities. These need to be included in the Laguna Atascosa NWR Map/Brochure, and the wayfinding signage at the Red Gate need to identify how to access these trails, but their length is not conducive to interpretation. Although interpretive opportunities could be offered on the Laguna Atascosa NWR Explorer's App, it would be better to focus on opportunities that reach more visitors.

Current Experience

There is no current visitor experience at this point.

Intermediate Future Experience

Note: The USFWS plans to construct a staffed contact station and a parking area adjacent to the Red Gate along Highway 48 to facilitate recreational experiences for hikers, anglers, cyclists and boaters on this unit. However, at this point it appears boaters would have to tow or carry their kayak or other watercraft into places that are open to boating.

A picnic area just inside the Red Gate (on Highway 48) offers another recreational experience for visitors. The picnic facilities attract non-traditional audiences interested in large group picnics, which gives the USFWS an opportunity to reach them through associated interpretive opportunities.

As with the other areas on the refuge, visitors will have the option of using the Explore Laguna Atascosa NWR App, the **Sense-ational Discovery Guide**, the **Explore Laguna Atascosa NWR booklet** and the **Laguna Atascosa NWR Map/Brochure**. They will also have the opportunity to view the **Transforming Bahia Grande interpretive panels** (in the area around the Red Gate) focused on the transformation of Bahia Grande from wasteland to wetland through a partnership, and how that has improved the quality of life for residents in the area.

They can also use a short, fully accessible **interpretive loop trail** begins and ends at the picnic area. This is the shortest in a nested set of loop trails that includes one that accesses a viewpoint of Bahia Grande (visible from the Highway so it can act as an attractor), and one of a nearby historic ranch site, for which the apps and booklet have interpretive information.

Actions

The following actions are necessary in order to create the recommended experiences:

- Install a staffed contact station and construct a parking area adjacent to the Red Gate along Highway 48.
- Install shaded picnic facilities
- Build a fully accessible interpretive trail
- Build a viewing platform on the shore of Bahia Grande accessible by a 1-mile trail from the picnic area

Summary of Interpretive / Information Strategies for the immediate future

Transforming Bahia Grande Interpretive Panel Cluster: The panels will provide a brief overview of the history of the transformation of Bahia Grande from a ‘dust bowl’ that had significant negative impact on quality of life, to a wetland, and the attributes of the wetland that contribute to quality of life.

Interpretive Trail: The focus of the interpretation is on the different types of landforms, the resulting vegetation/habitat, and what lives there. The exact features used in the interpretive strategy will depend to some extent on the route of the trail.

Note: This is a recommendation at this point. Aside from providing a more central location for administering the refuge, such a facility will help provide the visibility that the USFWS really needs.

Adolph Thomae Jr. County Park: Arrival, Primary and Departure Experiences

Current Experience

This area is currently run as a concession by Cameron County. Users are primarily anglers, especially those who use boats for fishing. A few interpretive signs are available near the restrooms. Orientation to and from the site is adequate.

Note: It is likely that few visitors realize that this is a USFWS site.

Future Experience

From an interpretive perspective, this site is not a good place to offer interpretation because it serves primarily activity-oriented users. There may be a significant number of people who are fishing ‘widows’ or ‘widowers’ who don’t participate in the activities and who might be open to interpretive opportunities. However, the return on investment for interpretive opportunities at this site, unless it is taken over and managed by the USFWS, is relatively low.

Return Travel Experience

Current Return Travel Experience

An incomplete set of directional signs guide visitors back to one of the main roads.

Future Return Travel Experience

A complete set of directional signs guide visitors back to the main highways.

Post-Visit Experience (pertains to all locations)

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 Post-Visit Experience

Visitors have the option of going to the website for Laguna Atascosa NWR or the Friends of Laguna Atascosa National Wildlife Refuge to have an Extended Experience by learning more about the refuge, the ocelot 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 Post-Visit 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 nearby refuges such as Santa Ana NWR and Laguna Atascosa NWR.

Design Concepts

Note: Although there may be a desire to focus on a lot of other topics relevant to Laguna Atascosa, 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 Laguna Atascosa.

Strategies to Catch Attention

Table Teasers

Objectives

After interacting with and of these opportunities, visitors will:

- Know that Laguna Atascosa 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.

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.

Islands of Habitat with Interpretation

Note: When these are located in schoolyards they are often termed ‘Schoolyard Habitats.’

The 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 schoolyards, parks, and community centers. 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 of Engagement 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 schoolyards.

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.

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 Laguna Atascosa NWR.

Sub-theme 3-2: 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.

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.

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 and Islands of Habitat;
- 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 1-3: Nature plays an important role in a healthy lifestyle.

Sub-theme 1-4: Laguna Atascosa 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 Laguna Atascosa NWR.

Sub-theme 3-2: 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 Brownsville, Harlingen, Port Isabel, South Padre Island, 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 Laguna Atascosa NWR;
- Be motivated to visit the refuge;
- Have information to help facilitate that visit (flyer, brochure, etc.);
- Be more comfortable with the USFWS;
- If appropriate, be more able to visit the refuge due to a decrease or elimination of barriers (such as having family 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

This could be a very effective tool for Laguna Atascosa due to the remoteness of the Visitor Center combined with the distances to and between the surrounding communities.

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 Laguna Atascosa 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 Laguna Atascosa NWR is one in a network of refuges;
- Be motivated to visit the refuge to take part in visitor opportunities and experiences.

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 or something similar. 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 and modified for a particular setting and audience by anyone.

Another type of traveling exhibit / marketing strategy is a pop-up banner. 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 ‘virtual’ refuge experience.

Social Media

Objectives

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

- Be motivated to get additional information on the refuge whether to satisfy curiosity;
- Be motivated to visit.

Note: Social media sites such as Facebook and Instagram 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

Instagram and Facebook may be the most effective social media platforms 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 Laguna Atascosa 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.

Strategies to Help People Plan a Visit

Laguna Atascosa 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 and programs;
- 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 Laguna Atascosa 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 using 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 Introductory Video on Laguna Atascosa NWR and any Apps, they should be made available on this site.

Introductory Video

Location

This video should be available on the website but could also be shown in the Visitor Center on the monitor at the Green Jay Café.

Objectives

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.

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;
- Market the visitor opportunities;
- Market 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 purposes 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.

Familiarization Tours

These are associated with a visitor’s Pre-Trip Experience because it is more likely they will encounter service people at hotels and other locations that can provide some information regarding the refuge.

These will be offered, along with a free lunch, to concierges at local hotels, Chamber of Commerce personnel and others who informally provide information to tourists on where to go and what to do in the area. The Familiarization Tour would not include Adolph Thomae Jr. County Park but should include Palo Alto Battlefield National Historic Site.

Strategies to Help People Find Laguna Atascosa NWR (Main Refuge)

These strategies focus on helping visitors find the Visitor Center and Wildlife Drive. 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. Needed wayfinding signage identified to date includes:

- Sign at the junction of FM 106 and Paredes Line Road alerting westbound traffic that Paredes Line Road accesses Adolph Thomae Jr. County Park, and FM 106 accesses the main refuge.
- Signage at intersection of FM 106 and Buena Vista Rd. indicating direction and distance to Visitor Center. It should also eventually have a sign pointing the other direction to direct visitors to the Bahia Grande Unit.
- Directional sign at the turnoff to the Wildlife Drive.
- Directional sign to the Visitor Center parking area (a sign does exist, but it is too small).

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.

Confidence Markers

Locations

Along Buena Vista Rd.

Objectives

After encountering Confidence Markers visitors will:

- Be reassured that they are going in the right direction.

Description and Concept

The materials and design are likely dictated by Texas Department of Transportation standards, but they are typically metal strips along the edge of the road with vertical wording. In this case they would have the words ‘Visitor Center’ with an arrow pointing straight ahead.

Strategies to Support Arrival Experience

These strategies should support the Arrival Experience at the Visitor Center and at the entry to the Wildlife Drive.

Orientation Panels (Main Refuge, Wildlife Drive, Bahia Grande)

There are several possible approaches for the design of Site Orientation signs. The typical approach is to design a sign that includes all parts of a particular place, in this case, Laguna Atascosa NWR. However, given the spread-out nature of the refuge, the scale would have to be so small as to render it ineffective in many ways. Therefore, we recommend separate orientation panels to the Main Refuge (including the Visitor Center area, the Wildlife Drive and the Prairie Trail Trailhead), the Wildlife Drive specifically, and the Bahia Grande Unit. All would have an inset map of the entire refuge. That inset map could be enlarged and used as an Orientation Panel at Adolph Thomae Jr. County Park.

Locations

As needed. They should be placed at all major locations with significant visitor opportunities, including major trailheads, the Visitor Center area, Osprey Point, Bahia Grande and the Wildlife Drive.

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

Regardless of the area highlighted by the Orientation Panel, the following are key aspects of the design and placement 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/ biking 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 will 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 a 3-dimensional orientation rather than a flat map.

One possible concept is to use a stylized illustration of this area 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 and the one at the entry to the Wildlife Drive;
- At Bahia Grande (Red Gate);
- At all major trailheads.

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;
- 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 at the Visitor Center 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.

Recreation \$\$ At Work Panel

Locations

Recommended locations include the following:

- Information kiosk associated with the Visitor Center parking lot and the one at the entry to the Wildlife Drive;
- At the Red Gate (Bahia Grande);
- At all major trailheads;
- At Redhead Ridge on the Wildlife Loop.

Objectives

After interacting with this opportunity, visitors will:

- Be aware that the fees they pay have contributed to the recreational opportunities they are enjoying.

Themes

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

Sub-theme 4-2: Laguna Atascosa NWR provides a wide array of desirable recreational opportunities to the residents of the area.

Description and Concept

This panel, also in the new kiosk, focuses on highlighting how recreational fee money is being used to directly improve the visitor recreational experience. Ideally it would highlight a specific experience or visitor infrastructure on the refuge that was made possible by fees. One possible approach is to show how a site looked before a specific recreational opportunity was developed or improved, and then show what it looks like now. If this is developed after Bahia Grande improvements are completed, that would be a good place to showcase. Showcasing the wildlife crossings on the Wildlife Drive should not be the focus since that – in many people’s minds – interfered with their recreation.

Laguna Atascosa NWR Map/Brochure

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 are simple maps of the Main Refuge and Bahia Grande 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 Laguna Atascosa 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. Given the distances between units, the brochure should have separate maps for the Bahia Grande Unit and the Main Refuge, including the Wildlife Drive.

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 Kiosk (Laguna Atascosa NWR Visitor Center parking area and entry to Wildlife Drive)

A new kiosk-type structure will be located near where the parking lot intersects the main path to the Visitor Center. This has the effect of providing a clear indicator of where to go first, and self-serve orientation to all visitors who want it, which would be the case if the visitors came when the building was closed. It also allows the sheltered area adjacent to the wildlife viewing area to function more effectively as a key part of the interpretive experience. Such a structure will also be located at the entry to the Wildlife Drive. The only difference in the information included involves the restrooms. The kiosk at the Visitor Center will provide directional information. The kiosk at the Wildlife Drive will focus on making sure those visitors entering the Wildlife Drive know that there are no restroom facilities until Redhead Ridge, but that they can drive a bit further and use the ones at the Visitor Center.

The kiosks would contain the following strategies:

- **Main Refuge 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). This version of the Site Orientation Panel would focus on the main part of the refuge.
- **Wildlife Drive Orientation Panel**
- **Orientation Brochure dispenser:** This is a holder for distributing the Laguna Atascosa NWR Map / Brochure.
- **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 refuge 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 Laguna Atascosa NWR Map/Brochure.

- **Directional signage to the restrooms and other attractions on the site** (Visitor Center). This will be on the new kiosk and also on the wall between arriving visitors and the restrooms.
- **Notice to visitors on location of restrooms at Redhead Ridge and Visitor Center** (Wildlife Drive).
- **Rec \$\$ at Work panel:** This panel, also in the new kiosk, focuses on highlighting how recreational fee money is being used to directly improve the visitor recreational experience. Ideally it would highlight a specific experience or visitor infrastructure on the refuge that was made possible by fees.
- **Bulletin board** for posting timely information, such as information on events.
- **Fee station.**

Strategies to Support Primary Experience: 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.

Explore Laguna Atascosa NWR Application (App)

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 without depending 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.

Explore Laguna Atascosa NWR Booklet

Note: Although the agency is trying to reduce the use of paper, and although this would take time to develop, it is the only strategy for exploring the refuge for those who don't know how to or don't want to use the App. This probably includes a higher percentage of older people, who are a key audience at this time because the United States has an aging demographic.

Objectives

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

Themes

All major themes should be covered.

Design Concept

As with the Application, a booklet 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. In this case, the publication should be divided into Bahia Grande, Main Refuge, Wildlife Drive, Osprey Point area and possibly Adolph Thomae Jr. County Park. Each section would have maps for exploring that area and interpretive information related to the features and stories in each area.

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 Laguna Atascosa 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.

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 Laguna Atascosa 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, and because of the desire to motivate people to get involved, 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.

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 Laguna Atascosa NWR.

Description and Concept

The following tours should be considered:

Guided Tram Tour of the Wildlife Drive

In addition to the non-personal interpretation offered at different stops along the route, the tram 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.

Guided kayak tours of Laguna Madre

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.

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

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. This tour can be offered any time of the year but is probably most effective during fall and spring migration, and in the winter. The tours could be of Bahia Grande (which the refuge already does) or on the Wildlife Drive. A walking Birding Tour could be staged around the Visitor Center.

Guided Cultural tours

This tour focuses on the cultural history of the area, but with an additional focus on their relationship with the native flora and fauna. It should include the Native Americans, the Spanish, the early EuroAmerican period, the War of Texas Independence, World War II (when the area with the Wildlife Tour was a gunnery range), when Bahia Grande was a dust bowl, present day and any other notable periods. From a geographical perspective, the tour should include the Wildlife Tour, Palo Alto Battlefield National Historical Park, and other sites associated with the cultural history of the area. Note that this tour should be designed to appeal to Millennials in particular.

Strategies to Support Primary Experience: Laguna Atascosa NWR Visitor Center

Thematic Overview Exhibit

The purpose of a Thematic Overview Exhibit is to provide an overview of the key stories / messages in the interpretive network so whatever strategy the visitor engages in next will make sense in the big picture.

Location

Existing Visitor Center (where the diorama is currently located).

Objectives

After engaging with this interpretive opportunity, visitors will:

- Know all the key themes;
- Be motivated to explore the refuge to find some of the wildlife that lives there;
- Be surprised at the amount of wildlife that lives in the refuge.

Themes

All themes should be included in this exhibit.

Description and Concept

This exhibit will display a variety of habitats, with different birds and wildlife associated with each. Ideally, the habitats will reflect those that visitors can access at the refuge to motivate visitors to stop by and explore those different sections. It would also focus on part on restoration of habitat and the importance of partnerships in doing so.

Given the linear nature of the space currently housing the diorama, one possible approach is to use a transect of environments from high points to the ocean (and including the ocean) to highlight the multiple environments. Each environment would depict different species of wildlife using that habitat. Associated information, available in reveals, would emphasize the connection between habitat and wildlife, and the role of humans in restoring / protecting the environment, and finally, the threats to the habitat, and therefore, to the wildlife.

Help the Ocelot Find its Way

Location

Existing Visitor Center .

Objectives

After engaging with this interpretive opportunity, visitors will:

- Understand that ocelots need to be able to move freely up and down the coast;
- Understand that humans have interfered significantly with the ocelot's habitat, leading to the endangered status of the animal;
- Be motivated to support efforts to establish and maintain a wildlife corridor between the US and Mexico for the ocelot.

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.

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 3-2: 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.

Description and Concept

This is an interactive exhibit where visitors help the ocelot find its way back and forth from Texas to Mexico through an array of obstacles created by human built structures and alterations of the environment. In a sense, it is like a maze. A variety of approaches can be used to develop this exhibit, including having it in a video game format.

Find it Here Find it There Exhibit

Location

Existing Visitor Center adjacent to the window that looks out to the bird feeding station.

Objectives

After engaging with this interpretive opportunity, visitors will:

- Be motivated to spend time looking out the window to see and identify birds;
- Be able to identify species they see through the glass window;
- Be aware that this area is habitat for these birds, so they might see them when they explore the surrounding area;
- Be motivated to explore the area around the Visitor Center, especially the areas with feeders;
- Be more likely to be able to identify these birds if they saw them in the wild;
- Be aware that some of the birds migrate, and that their survival depends on having habitat all along their migratory route.

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.

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

Description and Concept

This exhibit is located on the wall next to the viewing window. It contains visuals of bird species that a person is likely to see in the window, thus serving as an identification guide. It also contains information on where else a visitor can go on the refuge to see more of that particular species, and what times of year the bird can be seen and if not, where it goes. It also has a simple map of the other locations around the Visitor Center where bird feeding stations are located.

On Your Way Back Exhibit

Location

Existing Visitor Center.

Objectives

After engaging with this interpretive opportunity, visitors will:

- Actively look for wildlife on their return trip;
- Be more likely to stop at other locations to find wildlife.

Themes

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

Description and Concept

This exhibit focuses on what visitors should look for in terms of birds, wildlife and habitat on the way back out to the main highways. Ideally it would be coupled with an abbreviated guide they can take with them, like a laminated page, which helps visitors recognize different habitats, know what they might find there and identify species that they see. One possible approach is to actually use an aerial photo showing the route back as a backdrop for images of habitat with different species that can be found there.

Strategies to Support Primary Experience: Area around the Visitor Center

Panels in Bird Blind, Gazebo and Entryway Shelter

Location

Existing bird blind, gazebo in the Fiddlewood Trail Complex and on the rails at the Entryway Shelter.

Objectives

After engaging with this interpretive opportunity in any of the locations, visitors will:

- Visit the other bird feeding stations around the Visitor Center;
- Be excited about exploring more of the refuge to see other species that live here;
- Want to know more about the birds they see;
- Want to attract birds to their yard.

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 at Laguna Atascosa NWR.

Description and Concept

Visitors to any of these sites will encounter updated interpretive information focused on species likely to be seen at that site, with information on why that species needs that specific habitat. The information includes where else the visitor can see the bird in the immediate area and elsewhere on the refuge, and, if the bird is migratory, when the visitor can see the bird. For migratory birds the panel will include their route and the refuges used along the way, thus helping to convey the need for an interconnected refuge system. On the range map of each panel, the original range should also be shown to help support the idea that refuges are critical due to loss of habitat. Finally, the array of panels in each location includes one with a simple map showing other locations in the Visitor Center area with a feeding station (including outside the window in the Visitor Center).

Strategies to Support Primary Experience: Wildlife Drive

Note that visitors have the option of enhancing their trip by using the **Explore Laguna Atascosa NWR booklet**, **Explore Laguna Atascosa NWR App**, and **Sense-ational Discovery Guide**.

Interpretive Panel Clusters

Location

The following are the pullout locations and topics determined during our field check on April 17th. An additional pullout, with a good view of thornscrub, has been added.

#	Location	Focus
1	On right side of road soon after you enter the main drive, with a clear view of the gunnery targets	Thematic overview
2	On right side of road next to existing foundation of gun emplacements.	Military history

3	On right side of road at pinch point between the inland marsh and lobe of Laguna Madre	Different habitats support different species
4	Plover Point	Importance of Laguna Madre.
5	Redhead Ridge	Importance of juxtaposition of saltwater environment and freshwater for redhead ducks. Also, importance of edge between habitats.
6	Somewhere with good view of thornscrub	Importance of thornscrub to habitat needed by ocelots

Note: An Information kiosk with associated orientation and wayfinding information and a fee station is recommended for the entry to the Wildlife Drive, and directional signage is recommended for the north end of the old drive and the point where it intersects the main loop for use by bicyclists.

Objectives

After engaging with the interpretive opportunities along the route, visitors will:

- Appreciate the work by the USFWS to provide recreational opportunities;
- Be impressed by the conversion of a gunnery range to wildlife habitat;
- Be motivated, if they live in the watershed, to practice a higher level of stewardship in regard to freshwater;
- Understand how humans can have impact on the refuge and the wildlife that live there without being in the refuge;
- Want to explore more of Laguna Atascosa NWR and other refuges in the system.

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.

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 at Laguna Atascosa NWR.

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

Sub-theme 4-2: Laguna Atascosa NWR provides a wide array of desirable recreational opportunities to the residents of the area.

Laguna Atascosa-specific Interpretive Theme 5: The wetlands (including coastal marshes) at Laguna Atascosa NWR are valuable to humans for myriad reasons and need to be protected.

Laguna Atascosa-specific Interpretive Theme 6: Everything in a watershed is linked. Everything that happens upstream affects everything downstream. Laguna Atascosa NWR and the fish and wildlife it supports are endangered due to actions by residents in the north part of the watershed.

Sub-Theme 6-1: Everything in a watershed is linked.

Sub-theme 6-2: Freshwater is critical to the ecosystems at Laguna Atascosa 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

Each site should have 2-3 panels. The following are the descriptions and concepts for each of the interpretive panel clusters:

Thematic Overview

The positioning of this interpretive panel cluster is such that visitors will encounter it soon after turning onto the actual drive, and where they can see the old targets as well as the vegetation that dominates the interior of the Wildlife Drive. Ideally, a visitor could also see some thornscrub from this point. Since there are two major focal points – a cultural story and a natural one – it is likely there will have to be at least 2 panels. One possible approach for a cultural panel is to show the progression of how humans have used this area over time, beginning with Native Americans and ending with people enjoying recreational opportunities on a wildlife refuge. For a panel focused on natural history, one possible approach is to show the progression of landscapes that have dominated the area, from coastal prairie to gunnery range to wildlife refuge with corresponding information on the wildlife species composition and numbers. A final panel, focused on the refuge today, could depict the different habitats and associated species that visitors might encounter along the route.

Gunnery Range

Although the topic is on how this area was used as a gunnery range, the focus should be on the impact on the wildlife of the area. One possible approach is to use old photographs to show how this area looked when it was a gunnery range, with identification of features that visitors can pick out. The supporting text would focus on the reasons for that use, and the impact on the wildlife. A sidebar would depict key species and probable numbers during the time it was a gunnery range. The next panel could focus on the task of rehabilitating the area, which included scouring for unexploded ordinance as well as removing structures and other activities. The sidebar in this case would depict the species that have returned to the area and the increase in numbers of key species.

All Water isn't Equal

This interpretive panel cluster is located so a visitor can see both Pelican Lake and a lobe of the Laguna Madre. The focus is on the different flora and fauna each supports. A panel focused on the lobe of the Laguna Madre could focus on the organisms living in the mud and the birds that feed on those organisms. In other words, a panel that provides a glimpse at the basic ecology of that aquatic environment. A panel focused on Pelican Lake would do the same for a freshwater environment, thus allowing visitors to see the differences. A third panel could focus on the importance of freshwater to the refuge, and the potential negative impacts from land and water use practices in the upper parts of the watershed.

Plover Point Panels

These panels focus on the productivity of the Laguna Madre, and the importance of sea grass and other aspects of the ecosystem that are threatened in some way by human activities. One possible approach for one of the panels is to use a profile of a sea grass bed as a backdrop for depicting fish and other organisms that live there and contrast it with a profile of an area without such aquatic vegetation. The profiles should show the birds and other organisms supported by the productivity of the sea grass beds. Another panel should focus on the role of Laguna Madre in supporting subsistence, recreational and commercial fishing. This could involve simply tracking a species caught in one of these activities back through the stages of its life cycle with emphasis on the role of Laguna Madre as a key part of its habitat at some stage of its life cycle.

Redhead Ridge Panels

The key visuals at this point include Laguna Madre, and a variety of terrestrial habitats, including freshwater. Since the viewpoint has elevation, visitors can also clearly see the edge between several different habitats. One of the panels should focus on the redhead duck and its needs for a wintering ground that has saltwater and freshwater in close proximity, and the resulting numbers of redhead ducks that were historically supported by the surrounding habitat. Those numbers should be contrasted with the numbers now, and the reasons for the decline. However, it should also include successful efforts to protect / restore the remaining populations. The key is to avoid the 'doom and gloom' approach, which doesn't work. A sidebar could show the migration route of the redhead ducks and how they use a series of refuges to rest and nest. The key is to convey the need for a refuge system rather than just one refuge. (This may take a couple of panels.)

A second panel could focus on the importance of 'edge' between habitats. One possible approach is to use a few species of birds and wildlife that need both an open area and a protected area under trees or shrubs and depict how they use each area and how each area is critical to their survival.

Given the view of a variety of habitats from this vantage point, additional panels could focus on a few of those habitats to highlight species that live there. Cutaway views of habitats work well for depicting what lives there. The panels should include evidence of wildlife, such as tracks, browsed vegetation, etc. to help create 'Detectives of the Landscape.'

Thornscrub Panels

These panels focus on the thornscrub as habitat for a variety of wildlife, with emphasis on the ocelot. It could include the jaguarundi if that cat also uses this habitat. The panels should include the dangers to the ocelot population from vehicles and the consequent building of the wildlife crossings. It should be noted that the wildlife crossing benefit other wildlife because they minimize the negative impacts of vehicles driving the Wildlife Drive. The key is to show how humans can coexist with native wildlife, which creates the opportunity to see and enjoy those species.

The ideal location for these panels is somewhere near one of the new wildlife crossings. An attempt was made to identify such a location, but one was not identified. In lieu of being at a wildlife crossing, this cluster of panels must be located where a visitor can see thornscrub, and before the wildlife crossings so visitors will recognize such crossings when they cross them.

Strategies to Support Arrival Experience: Bahia Grande

Contact Station at Red Gate (Bahia Grande)

This is a staffed facility designed to provide trip planning, orientation and wayfinding information to the entire refuge, with a primary focus on Bahia Grande. The following would be associated with the structure:

- **Site Orientation Panel (Bahia Grande version):** 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). Note that this should be a Site Orientation Panel focused on Bahia Grande.
- **Orientation Brochure dispenser:** This is a holder for distributing the Laguna Atascosa NWR Map / Brochure.
- **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 refuge has hazards, and they should not be minimized, but visitors should also not be frightened away from recreational opportunities.
- **Directional signage to the restrooms and other attractions on Bahia Grande.**
- **Rec \$\$ at Work panel:** This panel focuses on highlighting how recreational fee money is being used to directly improve the visitor recreational experience. Ideally it would highlight a specific experience or visitor infrastructure on the refuge that was made possible by fees.
- **Bulletin board** for posting timely information, such as information on events.

Strategies to Support Primary Experience: Bahia Grande

The following interpretive opportunities are specific to Bahia Grande. Note that the App and Sense-ational Discovery Guide will also include interpretive information that can be used by visitors to Bahia Grande.

Bahia Grande Interpretive Panels (from Wasteland to Wetland)

Location

This interpretive panel cluster is located near the Red Gate to increase the probability that all visitors to this area will encounter the signs.

Objectives

After engaging in this opportunity, visitors will:

- Be more appreciative of the role of the USFWS in creating desirable recreational opportunities;
- Understand that the USFWS works with local communities and organizations to increase the quality of life of those living in the area;
- Understand the significant transformation of Bahia Grande and how that transformation has improved the quality of life for those living here.

Themes

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: Laguna Atascosa 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 Laguna Atascosa NWR.

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

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

Sub-theme 4-2: Laguna Atascosa NWR provides a wide array of desirable recreational opportunities to the residents of the area.

Laguna Atascosa-specific Interpretive Theme 5: The wetlands (including coastal marshes) at Laguna Atascosa NWR are valuable to humans for myriad reasons and need to be protected.

Laguna Atascosa-specific Interpretive Theme 6: Everything in a watershed is linked. Everything that happens upstream affects everything downstream. Laguna Atascosa NWR and the fish and wildlife it supports are endangered due to actions by residents in the north part of the watershed.

Sub-Theme 6-1: Everything in a watershed is linked.

Sub-theme 6-2: Freshwater is critical to the ecosystems at Laguna Atascosa NWR that support native flora and fauna. The supply of freshwater is endangered due to human activity in upper parts of the watershed.

Laguna Atascosa-specific Interpretive Theme 7: Restoration of Bahia Grande is an example of what partnerships between the USFWS and others can significantly improve quality of life.

Design Concept

One possible approach is to provide glimpses of what this area was like at 3 general time periods along with areas affected by the conditions – right before it was developed into a refuge (when it was having a noticeable negative effect on the quality of life of residents), when it was being developed (highlighting partners involved), and what it offers now and how what it offers supports the quality of life and the economy of the area.

The first panel would use historic images to show the condition of Bahia Grande, dust storms at football stadiums and other negative impacts. The second panel would show images of restoration work at the refuge with text highlighting partners involved. The final panel would include images of different parts of Bahia Grande and what that area supports, from nesting areas for birds to recreational opportunities for people.

Bahia Grande Interpretive Trail

Location

This is a fully accessible short loop trail that begins and ends in the new picnic area near the Red Gate.

Objectives

After engaging in this opportunity, visitors will:

- Be more appreciative of the role of the USFWS in creating desirable recreational opportunities.
- Be motivated to visit other parts of the refuge to see other wildlife;
- Increase their level of stewardship in general and support for the USFWS.

Themes

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.

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.

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

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

Sub-theme 4-2: Laguna Atascosa NWR provides a wide array of desirable recreational opportunities to the residents of the area.

Design Concept

The actual features used as focal points for the interpretation will depend on the route of the trail. Regardless, features highlighted should include the substrate (loma), specific plants that depend on that substrate and the wildlife that depends on those plants. The point is to highlight the interconnectedness of all parts of the ecosystem so people understand that you can't just grow plants that a particular species needs anywhere. The location depends in part on the substrate.

Action Plan

Introduction

The Action Plan is based on the following:

- Safe Visitor Experiences before anything else
- Orientation and Wayfinding before Interpretation;
- Barriers to a good Visitor Experience before interpretation;
- Thematic Overview before interpretive detail;
- ‘Low hanging fruit’ as soon as possible (helps build momentum)
- Build around what is already in place.

The following Action Plan tries to take the work that has been accomplished, and is underway, into account. Note that actions can shift based on factors that cannot fully be accounted for, such as available money, increase or decrease in staffing and other factors. For example, if Bahia Grande is to be opened soon, which is assumed in this plan, the Contact Station and associated information need to be put in place quickly. That is why they appear in Phase 1. If not, they can be dropped in the priority. The same is true of the Wildlife Drive. Again, it is assumed in this plan that it will be opened as soon as possible. Consequently, the Information Kiosk and associated strategies for the Wildlife Drive are high priorities.

To be implemented as soon as possible

The following strategies are high priorities but are not likely to be implemented soon due to budget and staffing limitations. However, if the opportunity presents itself, all of these should be implemented as soon as possible.

- Obtain and outfit an InterpVan. It is not included in the phasing because there is no point in having the vehicle if you don't have staff available to give impromptu presentations in the surrounding communities. However, if the opportunity occurs, it should be taken because this is a strategy that could provide a lot of visibility – something the agency needs.
- Develop and offer additional Guided Tours (bicycle tours, kayak tours). Again, this can't happen until you have the staff and equipment available to conduct such tours.
- Re-fill the resaca along the Kiskadee Trail.
- Widen the primary trails around the Visitor Center to accommodate wheelchairs.
- Re-surface, stripe and modify the parking areas and create safe walkways for people to walk to and from the Visitor Center.
- Build a new Visitor Center (a USFWS facility) on Highway 100 and turn the existing center into an Environmental Education Center.

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 actions that significantly improve the visitor interpretive experience. It also includes the start-up phases for projects that take more time and/or resources. Those actions are as follows:

- Replace / add any necessary orientation and wayfinding signage within the refuge;
- Begin working with TXDOT on directional signage needed on roadways (they will also control the installation of Confidence Markers);
- Build the Contact Station at Bahia Grande (Red Gate);
- Put in the orientation and wayfinding information and the fee station at Bahia Grande;
- Put in the information kiosk and associated strategies at the Wildlife Drive;
- Put in the information kiosk and associated strategies at the Visitor Center;
- Move the lower mounts in the Green Jay Café (Visitor Center) so visitors are not likely to run into them;
- Develop the three Site Orientation Panels (Main Refuge, Wildlife Drive, Bahia Grande) and install them in the recommended locations (Information Kiosks, Bahia Grande, Wildlife Drive, Osprey Point, Prairie Trail Trailhead);
- Clear the vegetation from around the building so the name is visible and so it doesn't look overgrown;
- Remove the existing strategies from the exterior walls to the visitor's right and left as they approach the entry to the Visitor Center;
- Remove the panels and bronze plaque from the rail between the entryway shelter and the bird feeding station;
- Put a large 'Restrooms' sign with a directional arrow on the exterior wall in the visitor's line-of-sight as they approach the building;
- Design and print the new Laguna Atascosa NWR Map/Brochure (after Bahia Grande is open);
- Modify the website as recommended to the extent possible;
- Provide tour guide training in preparation for restarting the tram tours (consider holding a Certified Interpretive Guide training at the refuge);
- Update the Volunteer Notebook with information on the key messages to communicate and supporting stories to communicate those messages;
- Develop and install new Thematic Overview panels (exterior partition wall to visitor's left as they approach the Visitor Center entrance and at the entrance to the Fiddlewood Trail network from the picnic area);
- Put a shade cover over the picnic area;
- Develop partnerships to develop Islands of Habitat and Specialty Gardens in the surrounding communities;
- Begin the planning for the picnic area and interpretive trail at Bahia Grande (given the remote nature of the Visitor Center, the refuge may get just as much if not more visitation at Bahia Grande). This should be implemented as soon as possible.

Note: You should conduct a Familiarization Tour as soon as the Wildlife Drive re-opens, again when Bahia Grande opens, and again when you do any major upgrades around the Visitor Center.

Note: The Visitor Interpretive Experience Plan should be reviewed and updated if necessary, at the end of Phase 1, particularly if a lot of time has passed.

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 begin the process on projects that require a long lead time. The next phase is on upgrading the interpretive experience to the extent possible, beginning with Thematic Overview. The following should be part of Phase 2 of implementation:

- Develop the Explore Laguna Atascosa NWR Booklet (although the Explore Laguna Atascosa App is a very important strategy for younger visitors, it will also cost more money unless a partner can be found);
- Create the Introductory Video (between showing it at the Visitor Center and having it available on the website, the video can reach a lot of people);
- Develop the Sense-ational Discovery Guide (should be a part of your Explorer's Backpack);
- Create the panels for the Bird Blind, the Entryway Shelter rail and the Gazebo rail;
- Create the 'Find it Here, Find it There' exhibit which is located adjacent to the window in the Visitor Center that looks out on the bird feeding station.
- Finish the Pollinator Garden and install the associated interpretive panels.

Note: The Visitor Interpretive Experience Plan should be reviewed and updated if necessary, at the end of Phase 2, particularly if a lot of time has passed.

Implementation Phasing: Phase 3

Phase 3 focuses on expanding the Interpretive Network to create the opportunities that provide detail, and those that cost a lot of money. This Phase should include the following:

- Contract for the exhibit design and fabrication for the exhibits in the Visitor Center and the removal of the existing exhibits;
- Contract for the new interpretive panel clusters along the Wildlife Drive (considering that the ones you have were only put in recently, it seems unlikely that you would get funding to replace them any time soon);
- Contract for the new interpretive panels at Bahia Grande;
- Begin work on the Explore Laguna Atascosa NWR App.

Appendix A: Definitions

Understanding the following terms will be useful in understanding this document:

- Visitor Interpretive Experience Plan
- Visitors
- Barriers to Engagement (Barriers)
- Stepping Stones of Engagement
- Islands of Habitat
- Transition Zones

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 visitor 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. ‘Buying’ experiences is particularly true of Millennials, but is also typical of target audiences in general. This is also consistent with the most rebranding documents recently prepared for the USFWS.

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 Laguna Atascosa 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 Laguna Atascosa NWR, such as the website.

Barriers to Engagement

The typical approach to modifying visitor behavior in regard to conservation is to focus on changing attitudes toward conservation with the expectation that behavior will then be modified to be consistent with attitudes. This is more likely to work with children because their attitudes are still being shaped. However, by itself, this approach can fail for many reasons, the most common being barriers to engaging in the desired behavior. Douglas McKenzie-Mohr in his book *Fostering Sustainable Behavior* notes two examples in his own life, both of which involved moving to Canada and an associated change to a colder climate. Upon arriving he bought a composter and set it up in a shed in the back. When the snow started to fall, he dutifully trampled a path to the shed to dispose of compostable waste, until the snow got too deep, at which point he threw the compostable waste in the garbage. In another example, instead of walking, bicycling or taking public transport to work, he chose to take a taxi because the cost of the taxi wasn't much more than the bus and he could travel on his own schedule rather than adapt to the bus schedule. In both cases the barrier to engaging in the sustainable behavior – too much effort to move the snow and too much inconvenience for taking public transport – negated the positive attitude (and strong drive) to sustainable behavior. With that in mind, it is important for the USFWS to look not only at opportunities for education – through interpretation, environmental education and public outreach – but also at the barriers to engaging in desired behaviors with the intent of eliminating or minimizing those barriers.

In the research paper *Best Practices for Creating and Sustaining Engagement with Urban Communities: Recommendations for the U. S. Fish and Wildlife Service* by Mimi Kaplan, the following specific policies were recommended for overcoming barriers and engaging audiences:

1. Build strong relationships with the community, *in* the community

This requires refuge staff to leave the refuge and engage with community members within their space – not the refuge space. The goal is to create connections with community groups as a means of exploring how those groups can be allies in conservation and community engagement. The policy recommendation emphasizes that in all meetings the refuge staff should focus on how they can be a community asset *as defined by the community* – not by the USFWS. As noted in the paper, “Making connections with an urban community and making public lands relevant to them requires understanding that activities that urban residents want may not be directly related to the refuges at all.” (Kaplan, pg. 22). Although some might

argue that the refuge should not involve themselves in activities that don't directly relate to the refuge, the paper also points out that little if any progress can be made without gaining the trust of the community, and convincing them that the refuge and refuge staff are assets that care about the community, messages that are clearly communicated by staff helping with activities the *community* deems important. This plan does not contain a prescription for actions that need to be taken by the USFWS to gain trust and be seen as an asset.

2. Identify barriers to participation in conservation activities both on and off the refuge, and ways to address and overcome these barriers.

Participants in Kaplan's study noted that distance between the refuge and residents, lack of public transportation, lack of information about the refuge, belief that people aren't allowed on refuges, discomfort with nature and lack of diversity of refuge staff are a few of the barriers that affect public participation. These and other such barriers must be addressed to achieve the highest level of participation possible. The paper has several suggestions for removing barriers, including hiring interns and students from the community to increase the diversity of staff while providing youth employment, and scaffolding programs, beginning with programs in the natural surroundings of the community and progressing to programs on the refuge, to address discomfort with nature.

3. Establish meaningful and beneficial partnerships

Partnerships have been proven to be essential to successfully engaging with urban communities. Kaplan's study identified two types of partnerships that were essential: Partnerships with other conservation organizations and partnerships with community organizations already connected with residents.

4. Create lasting engagement through participatory design.

A key to creating lasting engagement is by taking a visible 'community first' attitude. This does not supersede the 'wildlife first' approach of the agency, but rather elevates the community to a position of significance. The 'wildlife first' approach simply becomes a parameter that affects what decisions can be made jointly with the community. The paper suggests '*maintaining the attitude that the refuge works from the community out, not the refuge out,*' and to '*always consider how the refuge can be relevant and of service to the community, taking into account their needs and their views on conservation.*' This can manifest itself in a variety of ways, including involving the community in decision-making when possible and appropriate rather than simply making decisions and letting them know. The paper also noted the importance of following through after those decisions were made.

Although it is critical for the community to see the USFWS as an asset, the real goal is for the community to consider nature an important part of their quality of life. As noted in the report *Nature Doesn't Pay My Bills: Mapping the Gaps between Expert and Public Understandings of Urban Nature and Health* by the Frameworks Institute, "*While experts see nearby nature as necessary to human well-being and thus an essential feature of urban landscapes, the public sees nature as a nice, but not necessary, add-on to urban life.*" Nature in an urban environment must be considered more than 'nice' if the goal of creating active stewards of the natural resources is to be realized.

Urban Wildlife Refuges

Although Laguna Atascosa is not technically a designated Urban Wildlife Refuge, its proximity to Brownsville and Harlingen, and the likely use of Bahia Grande as a ‘playground’ for residents of those communities, is likely to result in a situation similar to designated Urban Wildlife Refuges in that the visitors and users are more likely to be non-traditional users of wildlife refuges than traditional users. For that reason, it is important to understand the ideas behind such refuges.

Urban Wildlife Refuges are a very recent concept; consequently, we don’t have a lot of institutional knowledge to draw on as we move forward. Although we don’t have a functioning Urban Wildlife Refuge as a model for our work, we can work from the stated goals of Urban Wildlife Refuges to come up with a conceptual template that will help us move forward. The USFWS defines a refuge as ‘urban’ if it is within 25 miles of a population of 250,000 or more, but Urban Wildlife Refuges are defined by more than proximity to urban areas.

A designated Urban Wildlife Refuge in the NWR system differs in significant ways from traditional USFWS refuges. Wildlife may still be first but attracting and engaging non-traditional audiences from the local community is a much higher priority relative to non-urban refuges because designated Urban Wildlife Refuges are charged with engaging urban communities as partners in wildlife conservation. Such refuges are seen as pathways to exposing non-traditional audiences to the larger network of National Wildlife Refuges in a way that leads to the development of a conservation constituency that supports refuges and the USFWS. Given the likely popularity of Bahia Grande to non-traditional audiences, Laguna Atascosa NWR is well-positioned to help achieve the goal of creating support among non-traditional audiences.

Islands of Habitat

This term has been coined for pockets of native flora, designed to reflect typical native plant communities, which are planted outside the refuge, such as in school yards, parks, and backyards. These ‘islands of habitat’ support native fauna, pollinators, and other native biota.

Transition Zones

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 of Engagement’ on the refuge that, as a whole, may require a wider Transition Zone. Attracting non-traditional urban audiences – an outcome that may help keep the USFWS, refuges and conservation relevant to those audiences – may also 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. However, such experiences should be assessed/considered anyway based on the longer-range goal of creating more support for the National Wildlife Refuge System. 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.

Stepping Stones of Engagement

One of the Standards of Excellence for Urban Wildlife Refuges is ‘Connecting people to nature via Stepping Stones of Engagement.’ As noted, Laguna Atascosa NWR is not an officially 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 frequents, which are unlikely to be on the refuge. Ideally, the first Stepping Stones should be ones that are 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.

Native Nature *(It is important to distinguish between the type of nature the USFWS conserves and restores and what the general public might consider 'nature,' such as a yard full of ornamentals.)*

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 the target audience, 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: Input from Outcomes worksheets

The following is a compilation of the information gathered in the first work session by asking the question, “*After engaging in interpretive opportunities [Specific Audience] will or won’t do what?*” The answers are desired outcomes. All the desired outcomes identified were considered in developing the Goal Hierarchy.

Audience	Desired Outcomes (what they will or won’t do)
Disabled	Take tour; ride Bayside drive (self-guided)
Youth	Bring parents hiking and biking
Youth	‘Friend’ refuge on Facebook
Youth	Mention us to their teachers
Youth	Become volunteers / interns
College Students	Become volunteers / interns
Tour Guides	Become advocates and have desire for opportunities on refuge
Local officials (elected)	Visit and become involved / partners
Reporters	Learn, grow and have interest in wildlife stories
Las Huelas (sp?)	Become advocates and partners with ‘Friends’
Cameron County officials	Become partners, not competitors
Active Plan supporters	Visit often and become wildlife enthusiasts, not just recreation enthusiasts.
Non-traditional urban audiences	Visit often, hike, become advocates
Beginning anglers	Show interest in other activities on refuge
Advanced anglers	Become advocates
Casual birders	Learn about Laguna
Local families	Hike, bike, picnic
Tourism families	Discover the refuge and spread the word
Kayakers	Tour the refuge (more than fishing)
Canoers	Tour the refuge (more than fishing)
Wade anglers	Fish, but do more
Horseback riders	Discover the trails; become advocates
Hunters	Do more than hunt – volunteer; become advocates
Elderly	Take tram tour
All visitors	Reduce littering to reduce impacts of plastics on wildlife and people.
Anglers & boaters	Lift, Drift, pole or troll to reduce seagrass impacts from boat propellers.
Residents	Support the need for hunting on the refuge.
Residents	Support the need for prescribed burns on the refuge.
Residents	Reduce habitat loss in the lower Rio Grande Valley.
Residents	Increase native habitat in yards by planting native plants.
Residents	Support refuge efforts to create wildlife corridors and conservation easements with partners.

All visitors	Take positive actions to mitigate climate change.
Residents	Support ecotourism in the region.
All visitors	Report ocelot sightings (alive and dead).
	Provide freshwater for wildlife.
Residents	Support the refuge as an asset to the community.
All visitors	Recommend family and friends visit the refuge.

Appendix C: Input from Message Worksheet

The following is a compilation of the information gathered in the first work session by asking the question, “*After learning about [Topic], visitors will know that [Message].*” All the messages identified can be included in some way, although the wording may change, and they may be used simply as supporting stories.

Topic / Experience	Message
Ecotourism	Brings \$463 million in revenue into the valley each year
Birding	Also brings in huge amounts of money each year
Biking	Is good for health and an excellent way to see Laguna Atascosa NWR
Thornscrub [habitat]	95% or more is gone from south Texas and restoration provides habitat and food for birds and ocelots
Ocelots	South Texas is the only place in the US where you might see one
Ocelots	Their unique presence in South Texas is a potential tourism draw
Ocelots	A partnership with Gladys Porter zoo may one day lead to a massive ocelot exhibit there (live exhibit)
Ocelots	Ocelots are specialized cats that are rare but on the road to recovery
Hunters	Funds from hunters buy refuge land
Hunters	\$ from hunters are used for hotel rooms, campsites, flights, rental cars, etc.
Laguna Atascosa	South Texas natural heritage is an important part of local culture that should be celebrated
The USFWS	Wildlife includes plants, animals, fish and the spiritual and physical connection humans have to nature
Wildlife corridors	Connecting corridors will be beneficial to wildlife species and people because corridors provide opportunities for recreation and reflection
Bahia Grande	The unit is important for fishing opportunities and non-traditional uses
Land Acquisition	Conservation does not mean ‘government takeover’ or ‘locking people out.’
Biodiversity	Laguna Atascosa NWR has the highest bird diversity in the NWR system
Redhead ducks	Laguna and surrounding area hold 80% of winter population
Aplomado falcons	S. Texas is the only place in the US to find these birds
Bahia Grande wetland	Prior to 2005 it was a dust bowl that was a hazard to local communities
Bahia Grande wetland	Over 60 partners worked with the USFWS to help solve the dust issue
Padre island	Without the protective ‘barrier island’ tropical weather systems would be more destructive to mainland South Texas.

Laguna Madre	It provides a huge economic impact thanks to the world-famous fishing
Tamaulipan thornscrub forest	Provides food and shelter to many wildlife species, and historically did so for people
Migratory songbirds	Depend on Tamaulipan thornscrub forest as a stopover for feeding and resting on their spring and fall migrations.
ocelots	Depend on large expanses of Tamaulipan thornscrub and travel corridors between forest habitats for their continued survival.
Freshwater wetlands	Are critical for native wildlife to survive droughts, and as resting and wintering habitat for migratory waterfowl and other birds.
Coastal prairie	Is a critical habitat for endangered aplomado falcons and rare mottled ducks and controlled burning is a method to keep it healthy.
Non-native, invasive plants and animals	Are a major threat to the native wildlife of the lower Rio Grande Valley.
global climate change	The effects of global climate change threaten all of the refuge's habitats and wildlife.
wildlife conservation	We all play a role in wildlife conservation and we invite you to be our partner in restoring habitat and taking actions in your daily lives to ensure that there will continue to be natural places for wildlife and people in the future.
Undeveloped beach and dune habitat on South Padre Island	Is imperative for the recovery of nesting sea turtles.
Mud and wind tidal flats	Provide essential wintering habitat for migratory shorebirds including the endangered piping plover and rufa red knot.

Appendix D: Target Audience Profiles

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 – 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 Laguna Atascosa 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 Laguna Atascosa 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 wildlife, especially on the Wildlife Drive. It will be important to provide the best experience possible for those visitors, perhaps by alerting them to evidence of wildlife, so they are aware that the area contains a lot of wildlife even if they can't see it.

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 personal benefit 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. As another example, visiting Laguna Atascosa NWR Visitor Center and/or the Wildlife Drive, takes a significant amount of travel time. 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.

Laguna Atascosa NWR is a significant destination for many birders in the spring and winter because of the number of birds present. When it re-opens, the Wildlife Tour is likely to enjoy popularity among both traditional and non-traditional audiences. The Bahia Grande Unit is likely to receive the most diversity of visitors, including anglers, hunters, birders, bicyclists, picnickers and others. 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 that species has been seen is likely enough information 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 home of aplomado falcons, and the most southerly refuge in Texas, 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 South Texas, including Brownsville, Harlingen, Laguna Vista, Port Isabel, Los Fresnos, San Benito, and South Padre Island. In addition, anyone living in the watershed is a target audience because water quality in the refuge depends to some extent on what happens in the upper part of the watershed. 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. 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 proper 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. This is especially true since the Wildlife Drive has been closed.

When it opens, the refuge proper will receive higher visitation from non-traditional audiences living in the surrounding area.

In addition to general characteristics of visitors and visitor groups, the specific target audiences profiled include the following:

- Local families
- Children
- Local Latinex families
- People with impairments
- Older people
- Millennials
- Residents

The following section contains audience characteristics and implications, beginning with universal characteristics (including preferred learning styles), 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.

All Visitors

The following characteristics and limitations apply to almost every situation and every audience.

Key Characteristics (implications will follow)

- 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 Instagram, 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 visitors 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. Many don’t know that the public is allowed on refuges.
- 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.
- Some urban dwellers might be confused about hunting being allowed on a ‘refuge.’

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 over interpretation.
- 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. (This is the Stepping Stones of Engagement approach.)
- 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.

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.

People with Impairments

The ADA is a civil rights law ensuring that the 20% of the U.S. population with disabilities have the opportunity to participate in all areas of public life. Using a Universal Design Approach, which focuses on creating experiences that can be enjoyed by all parts of the target audience, including people with disabilities, involves integrating multiple delivery tactics that involve multiple senses within the same interpretive opportunity. The result is an overall array of experiences with opportunities for everyone.

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. The following are specific characteristics and implications based on specific disabilities.

Mobility Impaired (includes those in wheelchairs)

Note: Surfaces that provide easy access for wheelchair users also generally work for people who use other mobility devices such as a walker or cane.

Characteristic: Visitors who use manual wheelchairs, power wheelchairs and scooters sit at varying heights but are lower to the ground than a standing adult, making it harder to see objects and read text mounted at a height intended for someone standing.

Implications:

- Take into account the average sightline for adults who are shorter in stature or use wheelchairs as well as the sightlines for standing adults. Use the height where the sightlines overlap for mounting heights. A good set of guidelines can be found at: <https://www.si.edu/Accessibility/SGAED#page21>.
- Design exhibit interactives so they are within reach range of people who use wheelchairs as well as for standing adults. The following is a link to Chapter 3: Building Blocks of the ADA Standards. The chapter focuses on information related to physical access. <https://www.access-board.gov/guidelines-and-standards/buildings-and-sites/about-the-ada-standards/ada-standards/chapter-3-building-blocks#308%20Reach%20Ranges>.
- Exhibits with text need to have it located at the right height and angle to be easily read from a wheelchair. All interpretive opportunities, including outdoor signage, needs to be designed for knee and toe clearance, thus allowing the person to get closer to text and other features of an exhibit. Pushbuttons and other devices that activate parts of the exhibit have to be within reach of someone sitting in a wheelchair.

Characteristic: Visitors who use wheelchairs or scooters need maneuvering clearance.

Implication: This has to be taken into account with all infrastructure – parking areas (accessible spaces), width of walkways, hallways, wheelchair locations integrated into the seating plan for a public program, etc.

Characteristic: Manually operating a wheelchair is physically challenging for some visitors depending upon the topography and surface they are navigating. Some people may need to move more slowly or may tire more easily.

Implication: Program pace (in terms of speed when moving) must be slowed down. Plans should be made for additional time between program stops, and program routes may need to be shortened.

Characteristic: Visitors who use wheelchairs do not like to be singled out. They prefer to participate in the same experiences as everyone else.

Implication: The Interpretive Program should be inclusive and be designed to treat everyone in the same manner. All elements of the Interpretive Program should be designed using a Universal Design Approach. That approach seeks to ensure that everyone can be involved in an interpretive opportunity at the same time and place.

Characteristic: People in wheelchairs have to expend significantly more time and effort to travel to and access sites. Consequently, they want to be sure that the experience that they are ‘buying’ with their time and effort will be worthwhile.

Implication: The website must contain detailed information on the experiences available to those in wheelchairs. In addition, since the Interpretive Program is designed as a network, with each opportunity marketing other opportunities, the ‘marketing’ information must make the benefit of engaging in the experience and the cost in terms of time and effort clear.

Disability: People who are blind or have limited vision

Characteristic: Difficulty seeing clearly or at all.

Implication: Key information should be offered in an audio format, ideally with supporting tactile elements (which will also appeal to other audiences). To facilitate reading by those who are experiencing some loss of vision, fonts should be easily readable with font size large enough to achieve a high degree of probability that people with low vision will be able to read the text. Also use universal symbols when appropriate.

Characteristic: People with vision loss need mobility and orientation information to successfully navigate unfamiliar terrain.

Implication: An accessible route is equally accessible to people with mobility and vision disabilities. There must be at least 2030 mm (80 in.) of clear head room along the circulation route. Obstacles to be avoided include overhanging branches. Color contrast on the edge of a path can be useful.

Disability: People who are deaf or have hearing loss

Characteristic: There is a range of hearing loss, from slight to profound. People who are Deaf often identify with the culture and language (American Sign Language) of their community.

Implication: Effective communication can be achieved through written materials, an accessible website, hiring a sign language interpreter for a program on request, and assistive listening equipment.

Older People

The US has an aging demographic with a significant portion of the population over 60 years in age, often retired, but still active. The Universal Design Approach advocated to accommodate people with disabilities also benefits older people because it is physical change, such as deteriorating eyesight, hearing and mobility that are the core of the issues that older adults have with interpretive and recreational experiences, not their age. Therefore, a separate category for ‘older adults’ is not needed.

Local Families

Characteristic: Families are made up individuals of many ages.

Implications: There is a need for a variety of interpretive strategies to address numerous learning styles and education levels. Experiences need to be within close proximity to amenities to account for the range of frequency in need to visit restrooms.

Characteristic: Families often have strict time limits based on the needs of various members.

Implication: Experiences need to be at convenient times and flexible in order to adapt to family needs.

Characteristic: Families have a need for a sense of safety and security.

Implications: Facilities need to be well-maintained, accessible, and secure. Guidelines for safety need to be well-communicated.

Characteristic: Family experiences are social.

Implications: Experiences need to engage the family as a whole, ideally with parents facilitating activities for their children.

Characteristic: Parents like the idea of exposing their children to new experiences. An experience in the natural world, such as the ones offered at the refuge, constitute a ‘new’ experience for many urban dwellers. However, it is one that they will not assume is ‘safe’ because it is likely an unknown.

Implications: The interpretive experiences, although they focus on inspiring rather than educating, need to be perceived as having obvious educational outcomes. It must also communicate that it is safe.

Characteristic: An array of limitations in regard to processing information are likely to be evident in a family group.

Implication: 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 tactic that is designed in such a way that everyone in the group has an intellectual entry point into that exhibit.

Characteristic: Visitors may not speak English, or may speak English as a second language.

Implication: There is a need for graphic and/or bilingual resources to help these visitors understand signage, communicate with staff, and to access interpretive programs.

Children

Although children typically will come as part of a family, it is important to understand specific characteristics in order to engage them. 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 and mental limitations and assets.

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.

Local Latinex families

Note: The term ‘Latinex’ includes people from Mexico, the Caribbean, and Central America who have settled in the area. This includes a lot of sub-groups who may speak different languages and who have different cultural norms, which does affect communication, but for the purposes of this plan, the language spoken by this group is assumed to be Spanish, and the cultural norms are assumed to be similar.

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, welcoming and that they are equal citizens).

Characteristic: At other locations in south Texas, Latinex 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.

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 staff in a visitor engagement context should wear polos with the USFWS logo rather than the complete uniform.

Millennials

Millennials are an important audience because they are a major non-traditional audience with increasing voting power and significant impact on local economies because of their travel habits. The following are a few key characteristics that influenced the selection of interpretive opportunities to offer:

Characteristic: They define themselves in part by the propensity for travel to experience new places and associated cultural traditions.

Implications: Offering unique events centered in part around the cultures of the area are likely to be attractive Millennials not only from the area, but in general.

Characteristic: They are informed and influenced by social media.

Implications: Having a social media presence is important for the refuge. Also, offering experiences that allow them to use social media is important.

Characteristic: For the most part they are tech savvy and have and use Apps.

Implications: This is an information delivery strategy that should be strongly considered.

Residents of the Watershed

Note: Residents in the watershed that affects Lower Rio Grande NWR are included because this is one of the only places to communicate with them regarding the importance of practicing good stewardship because of their connection with the watershed, and therefore with one or both refuges.

Introduction

Perhaps one of the most significant factors in further categorization of this audience is on the distance they have to travel to reach Laguna Atascosa proper. Note that when Bahia Grande is open, the distance to access at least one Unit of the refuge becomes much easier not only because of the lesser distance, but also because the unit is bordered by 2 major highways that access South Padre Island, which is a popular destination. 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, 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 Laguna Atascosa could be useful. Based on that equation, people living in Brownsville, Harlingen, Los Fresnos, Laguna Vista, Port Isabel and South Padre Island would likely consider a day trip to Laguna Atascosa if it had 2

hours of activities because they live an hour or closer away by car. Residents of the watershed living further away would likely to be tempted only if there were at least a half day of activities offered in the area. That doesn't mean that all the activities have to be on the refuge, but they probably need to be adjacent.

The following are key characteristics and implications of residents who live in the watershed less than an hour away by car, and those that live further.

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 Laguna Atascosa NWR:

- 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 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.

Characteristic: Often they visit as multi-generational families.

Implications:

- Some of the members are likely to be mobility impaired, so it is important that as many opportunities as possible 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. This is part of the rationale for having a short, fully accessible interpretive trail associated with the recommended picnic area at Bahia Grande.

- 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.
- 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 in Laguna Madre, enjoying sea food, crabbing, working in commercial fisheries that depend on fish raised in the sea grass beds, working in the tourism industry, or working in the oil and gas industry (infrastructure protected by Laguna Atascosa NWR).

Implication: The value of Laguna Atascosa NWR can be established in ways other than as a wildlife refuge.

Residents of the Watersheds: Living more than 1 hour away by car

Characteristic: People who live more than 2 hours or more away may be looking for experiences that take a day or more, thus requiring an overnight stay, which makes them highly valuable to lodging establishments in the area.

Implication: 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.

Appendix E: Parameters

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 Laguna Atascosa 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 is not going to be enough to implement everything recommended in this 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.

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.

Staffing

S-1: The refuge has very 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 not an issue on the main refuge but may be on Bahia Grande due to easier access. This may affect whether and how much signage and other fixed interpretive strategies are used and may affect choice of materials.

Safety Issues

SI-1: Visitors 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 types of dangers, and have the opportunity to purchase sunscreen, a hat, insect repellent, and water bottles for filling at water stations, (which must be in recyclable containers).

SI-2: Biological hazards do exist. This includes alligators, rattlesnakes and ticks. Visitors should be made aware of these hazards and how to avoid them.

Physical Infrastructure and Layout

PI-1: Parking at the Visitor Center is located in two small, adjacent lots without safe pedestrian access to the Visitor Center. This should be addressed as soon as possible so parent (and others) perceive the experience to be ‘safe.’

PI-2: Restrooms at the Visitor Center are located outside the main building and can be accessible after hours. Given the relatively small area with visitor experiences around the Visitor Center, the restrooms are very accessible to anyone spending time there, which should appeal to families and the elderly especially.

PI-3: Trails on the refuge are 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. However, there isn’t much opportunity to explore other parts of the refuge on foot (Prairie Trail and road through Bahia Grande).

PI-4: The Visitor Center area has a lot of short, flat trails, none of which are wide enough to accommodate wheelchairs. Although the area is set up well for exploring nature immediately after leaving the building, it cannot accommodate wheelchairs at this time. Widening the trails should be a high priority. Note that this will improve the experience of everyone from the perspective that most people visit in groups, and wider trails will allow them to walk abreast rather than single file.

PL-5: The Visitor Center area contains a small picnic area, but it is not shaded and is exposed to direct sunlight. To maximize use of this facility, a shade structure of some kind should be added.

PI-6: The area around the Visitor Center has 4 bird feeding stations, including one that can be viewed out of a window from inside the facility. These are very good places for people who are not bird watchers to see birds.

PI-7: A shaded amphitheater is located near the Visitor Center. This creates the opportunity to provide programs for groups of people.

PI-8: Because of the lack of a controlled entry, people can currently visit the area around the Visitor Center without paying a fee. The same situation is likely to occur at Bahia Grande.

PI-9: The refuge has a Wildlife Tour, accessible along the road to the Visitor Center, which has been and probably will be a significant attractor for non-traditional audiences. At least some of the interpretation along this route should be obvious and easily absorbed and understood by people not particularly aware of natural resource issues or the role of the USFWS in managing resources.

P-10: Restrooms on the Wildlife Drive aren't available until near the end of the route, at Redhead Ridge. Visitors need to be made aware of this situation before they start. This does create the opportunity to attract them to the Visitor Center (for the restrooms).

PI-11: The USFWS is planning a contact station and parking area at the Red Gate access point into Bahia Grande. This is where orientation and wayfinding information needs to be located, and where interpretive strategies will potentially be used by the most visitors to that Unit.

PL-12: The 'trail' through Bahia Grande is a 7-mile road that is not a loop. This will have significant impact on who will access the interior of this unit. Also, any interpretation should be located near the access points.

PI-13: Visitors can access the north end of the primary route through Bahia Grande from a small parking area off Highway 100. An aplomado falcon nesting structure can be seen from the parking area. This may be a location for interpretation but is not likely to be used much except by birders and possibly activity-oriented visitors (cyclists). If the latter start using it, it will need an orientation panel at the least.

P-14: Restrooms are planned for multiple locations along the primary road (trail) through Bahia Grande. This will be an important fact to communicate in order to make visitors feel comfortable making the decision to access the interior of the Unit along the road.

Location and Access

LA-1: The current visitor center is located in one of the most remote parts of the refuge. The location precludes the Visitor Center from acting as a natural hub for all visitors to the refuge. Visitors can easily access Bahia Grande, the Wildlife Drive and the Prairie Trail without going to the Visitor Center. Consequently, all major visitor entries must offer basic orientation and wayfinding information to that particular site and to the refuge in general.

LA-2: The Units of the refuge are distinct and far enough apart that, from a visitor perspective, they all represent separate experiences. All areas must offer basic orientation and wayfinding information and should also market the other areas.

LA-3: The Bahia Grande Unit is bordered on 2 sides by major highways that access South Padre Island, a popular visitor destination. Interpretive opportunities along these 2 highways have the potential to be accessed by more people than strategies in other units of the refuge.

Policy and Legal Issues

PL-1: All operations must comply with ADA rules and regulations. All information presented within the interpretive network will be accessible in some way for those with disabilities. There also needs to be a reasonable attempt to create a ‘like’ experience.

PL-2: Adolph Thomae Jr. County Park is USFWS property that is currently managed by Cameron County. It is a small site without much that draws attention to the fact that it is a USFWS site. The audience tends to be anglers launching boats into the ship canal.

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: The Visitor Center and surrounding area currently has a number of existing interpretive opportunities, such as indoor exhibits, outdoor signage, an Explorer’s Backpack, etc. To the extent possible, the interpretive network should incorporate existing opportunities.

EI-2: The Wildlife Drive has existing interpretive signage that was installed relatively recently. It is unlikely that the USFWS will be amenable to removing these signs, so they should be lower on the priority list.

EI-3: An Agents of Discovery App can be used at the Visitor Center to access information at 6 places. This App is one that is owned by a private company, so the USFWS has to pay for it, and would presumably have to pay for adding more places.

Potentially Complementary/Competing Opportunities

PCO-1: South Texas has a lot of other places for viewing wildlife, especially birds, which are more easily accessible than the Visitor Center area at Laguna Atascosa.

PCO-2: The South Texas Ecotourism Center, if constructed, could draw visitation away from the Visitor Center.

Other

O-1: The refuge has an issue with people not paying fees. Fee stations at the Wildlife Drive and Bahia Grande will be important, along with a more visible fee station for use after hours at the Visitor Center.

O-2: The Wildlife Drive, a popular opportunity with residents of the area, has been closed for several years, during which time the route has been modified. It may be important to provide information on the positive aspects of the modified route from the visitor's perspective when it re-opens, especially if visitors are not allowed to do things they used to be able to do.

O-3: The USFWS has been under pressure for a number of years to open Bahia Grande to public use. However, what people are actually able to do on-site may not match their expectation. Although this doesn't necessarily affect the interpretive network, it may be necessary to provide a component explaining why certain activities are limited or not allowed.

O-4: A South Texas Ecotourism Center is being planned for a site adjacent to the Bahia Grande Unit on Highway 100. The USFWS may or may not be a part of such a center. Whether the USFWS is a partner or not, there may be pressure to allow people visiting the center to access the Unit from the facility. If a decision is made to allow access at that point, site orientation and thematic overview strategies should be located at that point.

O-5: The South Texas Ecotourism Center is likely to be heavily used because of its location. This would be a good location to provide visitor information about a visit to the refuge – the Visitor Center, Wildlife Drive, and/or Bahia Grande.

O-6: If the USFWS is a part of the South Texas Ecotourism Center, it may be perceived by some people that the agency supports the businesses and interests that are also associated with the Center. It is for this reason that the USFWS should consider building their own facility. If they are a part of the Center, a disclaimer will probably be important.

O-7: The Lower Rio Grande NWR is also located in the area, with some units interspersed with Units of Laguna Atascosa NWR, but the LRG NWR does not have a place to reach visitors. Laguna Atascosa NWR Visitor Center and Bahia Grande may be the best locations for providing information that pertains to the LRG NWR.

Appendix F: Interpretive Inventory

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, Laguna Atascosa NWR contains few visuals that immediately capture a visitor's attention because they are not particularly unique. The exceptions for many people will be birds, which are most likely to be seen clearly where the USFWS has feeders (Visitor Center area). When looking at the entire refuge, the key features are the many different habitats, which in turn, create the opportunity to view a lot of different species of wildlife. It also then creates the opportunity to focus heavily on the story of the connection between wildlife and habitat.

Laguna Atascosa NWR does have other features that would be an asset in telling specific stories, such as the former gunnery targets along the Wildlife Drive, 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
Feeding stations at Visitor Center and associated birds and wildlife	Association of wildlife and habitat	One of best places to tell this story because of probability of seeing wildlife
Pollinator Garden	Importance and plight of pollinators	This will be a new feature that is currently planned for the Visitor Center.
Laguna Atascosa (the lake)	Importance of bodies of water for resident and migratory waterfowl	
Gator pond and gator trail between pond and Laguna Atascosa.	Wildlife and habitat; habitats with multiple components.	

Variety of habitats	Connection of wildlife to habitat and therefore the need to manage habitat to manage wildlife.	Important to connect not only habitat here but stopover habitat along the entire migration route, which includes several other refuges.
Land containing Wildlife Drive	Restoring habitat and wildlife	A good place for this story because of artifacts representing the time when it was a gunnery range, and because this is likely to be an opportunity frequented by a lot of local people.
Thornscrub	Importance of thornscrub as habitat for ocelots in particular	Possibly best seen along Wildlife Drive
Wildlife passages under roads	Impact of humans on wildlife populations. Issues with blocking wildlife routes.	Best seen on Wildlife Drive. Also important to interpret them on the Wildlife Drive because that is the reason it was closed for a few years.
Edge between habitats	Importance of edge habitat for some species.	Best seen at Redhead Ridge along Wildlife Drive.
Coastal Plain ecosystem	Significant reduction in this ecosystem due to human activity and consequent impact on wildlife that depend on this type of area for habitat.	Best told along Wildlife Drive and on Buena Vista Rd. (using farmed fields and communities as examples of encroachment on this type of ecosystem).
Juxtaposition of saltwater habitat and freshwater habitat	Habitat having several different components (story of redhead ducks)	Best told at Redhead Ridge along the Wildlife Drive.
Falcon nest areas	Impacts of human activity on native species and need to 'help' them to become re-established	Can be seen along Wildlife Drive and from small parking area along north edge of Bahia Grande.
Sea grass beds	Importance as nursery for young fish	These are not easily seen anywhere on the refuge, although they do occur along the coastline of Laguna Madre.
Tidal flats	Hunting grounds for herons and nursery for economically and recreationally important fish and crustaceans	Along Wildlife Drive adjacent to the shoreline, especially at Plover Point.
South Padre Island	Importance of barrier islands in protecting mainland from full force of storms. Also a key part of the habitat for sea turtles. Helps protect people, homes, gas and oil infrastructure.	Best viewed from along Wildlife Drive adjacent to the shoreline, especially at Plover Point.
Wetlands	Importance as fish and wildlife habitat.	Specifically coastal marshes, but also the importance of freshwater wetlands/sources. Pelican Lake may be the best wetland to use for this story.

Anything that reflects the sport of hunting	The importance of refuges as places to hunt, and the fact that the refuge system was essentially made possible by hunters.	
Gunnery targets and foundations of old buildings along Wildlife Drive	Story of area when used as a gunnery range. Contrasts with what is there now to tell the story of restoring habitat.	
Bahia Grande Unit	Restoring habitat; the value of partnerships; improving quality of life not just in terms of increased fish and wildlife production, but in air and water quality.	Best told at the Red Gate because that will likely be the most used visitor entry point.
Bahia Grande (lake)	Impact of areas in upper parts of a watershed on water quality in lower parts of watershed.	This is perhaps a story more applicable to areas of the Lower Rio Grande Valley NWR, but that refuge doesn't really have a place to tell the story.
Bahia Grande (lake)	Importance of islands for waterfowl nesting – protected from predators and disturbance by humans.	
Agricultural fields along Buena Vista Rd.	Human impact on natural habitat	
Gulf Intracoastal Waterway	tells the story of human needs vs wildlife - huge barges and shipping containers coming right through coastal habitat	Visible from Bahia Grande.
Lomas	Geomorphology	Best seen on Bahia Grande near the Red Gate.