

A close-up photograph of a dragonfly perched on a pink flower. The dragonfly is the central focus, with its transparent wings and segmented body clearly visible. The background is a soft, warm, golden-brown color, suggesting a sunset or sunrise. The lighting is dramatic, highlighting the intricate details of the dragonfly and the texture of the flower.

September 2019

FINAL DRAFT
Interpretive Plan

Lewisville Lake Environmental Learning Area
City of Lewisville, TX

CONSERVATION BY DESIGN

Table of Contents

SECTION 1 — BACKGROUND	3
About the Site	
About the Project	
Who Will Use This Plan?	
SECTION 2 — OUR PROCESS	5
SECTION 3 — ABOUT THE VISITORS	6
Who Visits LLELA?	
Lewisville Demographics	
Visitor Needs and Expectations	
Target Audiences	
Other Audiences That Will Benefit From Interpretive Developments	
SECTION 4 — WHY INTERPRET?	10
What Interpretive Goals and Objectives Do	
Interpretive Goals and Objectives for LLELA	
SECTION 5 — INTERPRETIVE THEMES & STORYLINES	13
Central Theme	
Sub-Themes and Storylines	
SECTION 6 — EXISTING CONDITIONS	15
The Setting	
At LLELA	
In Lewisville and Beyond	
SECTION 7 — ISSUES, CONCERNS AND OPPORTUNITIES	20
SECTION 8 — RECOMMENDATIONS: A VISION FOR THE VISITOR EXPERIENCE	22
SECTION 9 — APPENDICES	31
Appendix A—Visitor Survey	

DEFINITIONS

CBD	Conservation By Design (consultant)
City	City of Lewisville
COE	US Army Corps of Engineers
LISD	Lewisville Independent School District
LLELA	Lewisville Lake Environmental Learning Area
UNT	University of North Texas

Background

ABOUT THE SITE

Lewisville Lake Environmental Learning Area (LLELA) is a 2,600-acre site located at the base of the Lewisville Dam in Lewisville, TX. The site includes a network of trails, several camping areas, picnic tables, wildlife viewing blinds, non-motorized boat launches and a historic log house display.

While the land itself is owned by the US Army Corps of Engineers (COE) and designated for flood control, its operation is cooperatively managed by a consortium of agencies—City of Lewisville (City), University of North Texas (UNT), and Lewisville Independent School District (LISD)—with approval from and in cooperation with the COE.

LLELA is also the core component in the City's Green Centerpiece—an undeveloped, natural open space and urban wilderness area in the center of the city. This new focal point for the community was included in Lewisville 2025, the visioning process undertaken in preparation for the City's centennial celebration.¹ The benefits of open, green space are many—improving property values, tourism, direct usage, health, community cohesion, and air and water quality.²

1 Green Centerpiece Master Strategy, City of Lewisville, July 2016

2 <https://www.tpl.org/measuring-economic-value-city-park-system>

ABOUT THE PROJECT

While a range of educational and interpretive products and programs are offered (by multiple cooperative partners), there has been no overarching effort to align programs to an agreed-upon interpretive theme structure. Project partners recognize that such a theme structure would help visitors understand that LLELA is more than a place to enjoy outdoor recreation and is home to significant restoration and preservation efforts.

In support of this recognition, the City has commissioned the consulting firm Conservation By Design, Inc. (CBD) to conduct an interpretive planning process and develop recommendations that will guide the implementation of interpretation at the site for years to come.

LLELA MISSION

To preserve and restore native Texas ecosystems and biodiversity while providing opportunities for environmental education, research, and recreation.



Background



What Is Interpretation?

“a mission-driven communication process that forges intellectual and emotional connections between the interests of the audience and the inherent meanings of the resource.”

—National Association for Interpretation

WHO WILL USE THIS PLAN?

Cooperating partners—City, UNT, LISD, and COE—and their staff, volunteers and contractors will refer to this plan, use it and adapt it as conditions evolve and projects are funded and get underway.

The plan provides guidelines for the writers, interpreters, landscape architects, exhibit developers, graphic designers, interactive designers and exhibit fabricators who are responsible for its implementation.

Our Process

The project began in March 2019 with review of background information. Certified Interpretive Planner Melanie Pierson conducted a site visit in April 2019. During this visit, she facilitated a series of interpretive messaging workshops with staff, volunteers, park board members and other stakeholders, and spent time assessing the site and its operations and resources. She also interacted with a handful of visitors while on site.

A subsequent online survey was distributed to a LLELA mailing list and generated one hundred responses related to interpretation and the visitor experience at LLELA. See Appendix A for the list of survey questions. Survey responses are available from LLELA staff upon request.

The plan document was circulated for review among stakeholders multiple times.

This document captures the analysis undertaken during the planning process and findings related to the visitor experience, including interpretation. It takes into account the significance of the site along with the cooperating partners' priority to provide a roadmap for cost-effective, visitor-relevant and theme-driven interpretation that adds value to the quality of the visitor experience at LLELA.

The process of interpretive and wayfinding planning holds the visitor experience central, considering the following questions:

- Why would a person want to visit LLELA?
- Can visitors find LLELA?
- What's the first impression?
- Where/how can visitors get information about the site and its key messages?
- What are those key messages?
- Can visitors find their way around?
- What will visitors want to do, feel, learn and experience during their visit; and what do the cooperating partners hope they will do, learn, feel, etc.?
- How can the cooperating partners meet the interpretive goals identified herein in the most cost-effective manner, considering long-term costs, visitor trends, and sustainable values?

About the Visitors

Effective interpretation is enjoyable and relevant to visitors' lives. In order to provide experiences that are enjoyed by our visitors, we must first understand their needs, expectations, knowledge base and values.

WHO VISITS LLELA?

According to data collected over the last several years at the gate and via educational programs, approximately 20,000-30,000 people visit LLELA each year. While an official statistic is not available, anecdotal insight suggests that most visitors are local. Mountain biking is not allowed on LLELA's trails, but bikes are allowed on the paved road. Dogs are not allowed at LLELA unless they are service animals.

Visitors to LLELA include:

- Anglers (most predominant visitor type)
- School groups¹
- Researchers (solo and in small groups, mostly affiliated with universities)
- Birders (solo and in small groups)
- Photographers (solo and in small groups)
- Kayakers (tour groups and on their own)
- Hikers (including family groups)
- Special interest groups, including scouts and special needs
- Volunteers
- Wildlife enthusiasts
- Metroplex respite seekers
- Vacationers
- Campers
- Fitness regulars
- Families
- Special event attendees (including family groups)
- Genealogy researchers (attracted by information available at log cabin)
- Citizen scientists²

¹ About one-third of visitors arrive as part of organized educational groups.

² These individuals may have downloaded a mobile app such as iNaturalist but may be nature novices.

About the Visitors

LEWISVILLE DEMOGRAPHICS

Located in Denton County, Lewisville is considered to be part of the Dallas-Fort Worth-Arlington Metropolitan Statistical Area. Since the 2000s, the county has ranked as one of the fastest growing counties in the U.S.

According to current U.S. Census data, the city of Lewisville had an estimated population of 106,586 in 2018—an 11.7% increase since 2010. The county's population has grown even more rapidly—up nearly 30% between 2010 and 2018.

The population of Lewisville is slightly younger than the county as a whole, with significantly fewer seniors than the state of Texas or the U.S. as a whole.

As shown in the table on the following page, nearly a third of Lewisville residents are of Hispanic or Latino origin³. One in every five residents was born outside of the U.S. and more than one-third of persons over the age of five spoke a language other than English at home. The percentage of Asian residents in Lewisville and Denton County is nearly twice the national average.

³ According to the U.S. Census, a White person is defined as a person having origins in any of the original peoples of Europe, the Middle East, or North Africa. Hispanic origin can be viewed as the heritage, nationality, lineage, or country of birth of the person or the person's parents or ancestors before arriving in the United States. People who identify as Hispanic, Latino, or Spanish may be any race.

Census data also reveals that only 42.6% of housing units were owner occupied, suggesting that the majority of dwellings are occupied by renters.

Lewisville residents have a higher rate of college education than the country as a whole, with 33.2% of people 25 years or older possessing a bachelor's degree or higher. One out of every five persons under age 65 goes without health insurance.

Lewisville has a strong workforce, with 77% of the population age 16 years or older in the civilian labor force. However, per capita income is less than both the county and national averages.

VISITOR NEEDS AND EXPECTATIONS

When planning and designing visitor experiences, it is important to remember that visitors need to know where they are and what's expected of them. As psychologist Abraham Maslow outlined in 1954, people need to have their basic needs met—food, water, safety, and security—before they can attend to personal growth or take in new information.

Restrooms, wayfinding and orientation, and etiquette information all play into creating an environment where visitors are relaxed and able to receive information. Visitors need to feel welcome, comfortable, and clear about how they should interact with the site. Any facilities that are open to the public must be well-maintained, sanitary, and safe.

About the Visitors

US CENSUS CATEGORIES	LEWISVILLE	DENTON COUNTY	TEXAS	UNITED STATES
POPULATION				
Population estimates 2018	106,586	859,064	28,701,845	327,167,434
Population, percent change-2010 to 2018	11.7%	29.7%	14.1%	6.0%
AGE				
Persons under 18 years old, percent	25.4%	25.1%	26.0%	22.6%
Persons 65 years and over, percent	8.2%	9.8%	12.3%	15.6%
RACE AND HISPANIC ORIGIN				
White alone, percent	67.8%	77.2%	79.2%	76.6%
Black or African American alone, percent	12.9%	10.3%	12.7%	13.4%
Asian alone, percent	9.1%	9.0%	5.0%	5.8%
Hispanic or Latino, percent	31.7%	19.4%	39.4%	18.1%
White alone, not Hispanic or Latino, percent	43.2%	59.3%	42.0%	60.7%
POPULATION CHARACTERISTICS				
Foreign born persons, percent, 2013-2017	21.9%	15.0%	16.9%	13.4%
HOUSING				
Owner-occupied housing unit rate, 2013-2017	42.6%	64.5%	62.0%	63.8%
Median value of owner-occupied housing units, 2013-2017	\$172,100	\$232,000	\$151,500	\$193,500

US CENSUS CATEGORIES	LEWISVILLE	DENTON COUNTY	TEXAS	UNITED STATES
FAMILIES & LIVING ARRANGEMENTS				
Households, 2013-2017	38,719	275,164	9,430,419	118,825,921
Language other than English spoken at home, percent of persons age 5+ years, 2013-2017	35.9%	23.1%	35.3%	21.3%
EDUCATION				
High school graduate or higher, percent of persons age 25 years and older, 2013-2017	86.3%	92.0%	82.8%	87.3%
Bachelor's degree or higher, percent of persons age 25 years and older, 2013-2017	33.2%	43.4%	28.7%	30.9%
HEALTH				
Persons without health insurance, under age 65 years, percent	20.3%	12.9%	19.4%	10.2%
INCOME & POVERTY				
Per capita income in past 12 months (in 2017 dollars), 2013-2017	\$29,197	\$37,928	\$28,985	\$31,177
Persons in poverty, percent	10.9%	7.1%	14.7%	12.3%

About the Visitors

TARGET AUDIENCES

The most effective interpretive products are those that are tailored for a specific audience. Although the site will offer interpretation to all visitors, several groups have been identified by stakeholders as important audiences to target. Interpretive media should be shaped to address their interests and needs. Visitors may fall into more than one of the following categories.

Anglers

Anglers value the one-mile stretch of the Elm Fork of the Trinity River just below the Lewisville Dam for its ease of access and regular stocking, although they may not be aware of the management purpose of LLELA. These visitors would benefit from interpretation offered in Spanish and English that emphasizes interconnectivity and interdependence between people and nature and encourages stewardship behaviors.⁴

Local Residents

Local residents and their families utilize LLELA as a place to experience and explore nature. While some visit only during special events, others utilize the area on a regular basis, valuing the site for its undeveloped, “wild” character. These visitors would benefit from interpretation that puts the site’s purpose in context, imparts stewardship behaviors, and reinforces the significance of this habitat to the region’s biodiversity.

⁴ Additional languages may need to be considered; more information is needed in order to determine how best to serve this user group.

Nature Novices

Prompted by social networks and/or personal challenge and development, visitors with little exposure to the outdoors visit LLELA to gain experience and hone their outdoor skills and knowledge. These visitors would benefit from interpretation that discusses etiquette and prepares them for what to expect, as well as providing orientation to the habitat types and typical species. This group will benefit from information that reassures and increases a visitor’s comfort level in the outdoors.

OTHER AUDIENCES THAT WILL BENEFIT FROM INTERPRETIVE DEVELOPMENTS

Students

This group is exposed to guided educational programming that is closely aligned with state learning standards appropriate for their grade levels. Programming offered to this group is referred to as educational, rather than interpretive.⁵ Non-personal interpretive developments such as signs located onsite may be used as touchpoints or teaching guides during guided programming. Students may subsequently return for a non-guided experience with their families.

⁵ The difference between education and interpretation is generally described as educational programming focuses on the content, while interpretation focuses on the meaning and relationship to the individual. Each has components of the other, but the foci and purposes are different.

Why Interpret?

Interpretation is purposeful and mission-based. It offers experience-based learning opportunities that increase awareness, build personal connections with a place and its resources, and foster stewardship behaviors.

Information alone, however, doesn't inspire these changes. Merely understanding a topic isn't enough. To be effective, new information must spark insights and connections that are directly relevant to a visitor's life, interests, and values. Interpretation addresses both the intellectual and emotional realms of the visitor.

WHAT INTERPRETIVE GOALS AND OBJECTIVES DO

Interpretive goals and objectives provide guidelines for developing interpretive products and services. They also provide metrics with which to evaluate their effectiveness. They address both the values guiding the interpretation, and the impacts that interpretation can have on targeted audiences.

Recommendations in this interpretive plan are guided by the interpretive goals and objectives established herein. We recommend a variety of interpretive techniques and delivery systems to meet the needs of different audiences.

Interpretive Goals and Objectives

Interpretive goals and objectives are statements that articulate the intended purposes and objectives of interpretive activities. Goals encompass what management wants interpretation to do for a site, its visitors, and the community. Goals should guide the planning process from the outset. Objectives describe the specific desired changes we wish to inspire in our visitors. Objectives, therefore, should describe visitor behavior and be expressed in measurable terms.

Goals:

- State what it is you expect interpretation to do for the organization
- May be short-term or long-term
- Are stated using terms like "enhance understanding," "increase awareness," and "foster stewardship"—generally not easy to measure

Objectives:

- Are stated in specific and measurable (either qualitatively or quantitatively) terms describing visitor behavior or performance
- Provide details about how goals will be accomplished
- Lay the groundwork for accurate and meaningful evaluation of interpretive experiences

Why Interpret?

INTERPRETIVE GOALS AND OBJECTIVES FOR LLELA

To ensure interpretation serves the interests of the visitors and cooperating partners, staff and project stakeholders conceptualized the following goals for interpretation and the visitor experience in April 2019.

To chart progress towards these goals, specific visitor objectives have been developed. At minimum, these metrics can and should guide content development and design and keep project management on track. The visitor objectives are more specific than goals and, to the extent possible, are measurable. They spell out what we want visitors to know, feel and do as a result of visiting LLELA. Objectives provide details about how goals will be accomplished and can be developed to a variety of levels. Here, we emphasize qualitative objectives, revealing intangible values.

INTERPRETIVE GOAL 1: Increase awareness of the natural world and understanding of the dynamic relationship between humans and the forest and prairie ecosystems of North Texas.

Objective A: Visitors will feel an increased connection to the natural environment in Lewisville as a result of their visit to LLELA.

Objective B: Visitors will know that biodiversity is a hallmark of a healthy ecosystem. They will be able to cite one example of an important species present at LLELA.

Objective C: Visitors will understand the unique characteristics exhibited by Blackland Prairie, Eastern Cross Timbers Forest and Bottomland Hardwood Forest.

Objective D: Visitors will be able to name at least one way that human activities impact the native habitat and/or inhabitants of North Texas ecosystems. Visitors will know that humans and natural systems are interdependent.

Objective E: Visitors will know that natural stream flows in the Elm Fork of the Trinity River have been disrupted by construction of the dam, and that this affects both the plants and animals living in its floodplain.

Objective F: Visitors will understand that there are benefits and tradeoffs associated with dam construction.

Why Interpret?

INTERPRETIVE GOAL 2: Provide an improved experience by orienting visitors to opportunities and expectations at LLELA.

Objective A: Visitors will report learning about LLELA through a network of marketing and promotional activities.

Objective B: Visitors of all backgrounds and ages will report feeling welcome at LLELA.

Objective C: Visitors will have all of the information they need to safely, legally and responsibly recreate in the areas where site managers allow use to occur.

Objective D: Visitors will know where to go and how to best experience LLELA.

Objective E: Visitors will know that LLELA is a central feature in Lewisville's open space and natural assets.

Objective F: Visitors will understand that although access to some areas of LLELA may be limited as a means of habitat protection and restoration, opportunities exist for guided access to these sensitive sites.

INTERPRETIVE GOAL 3: Develop and strengthen support for the preservation and restoration of the habitat types present at LLELA.

Objective A: Visitors will feel an increased intellectual or emotional connection to the natural resources interpreted at LLELA and will demonstrate that connection by becoming a repeat visitor.

Objective B: Visitors will know that a network of cooperating partners are working together to achieve the mission of LLELA—preservation, restoration, education and research.

Objective C: Visitors will be able to name at least one way that scientific research occurring at LLELA is contributing to the protection and/or understanding of native habitats and species.

Objective D: Visitors will feel an increased sense of responsibility for habitat conservation and restoration, and a shared sense of personal stewardship.

Objective E: Volunteer hours contributed and annual pass purchases will increase each year.

Objective F: Visitors will participate in habitat protection and restoration activities at LLELA and will be inspired to take action at home.

Objective G: Visitors will complement their LLELA experience with other recreation and natural heritage experiences in the area and will feel an increased sense of place.

Interpretive Themes & Storylines

Interpretation is thematic. It tells one powerful, compelling story using a multitude of smaller illustrative stories. Themes are like the plot to the movie, or the moral of the story. That one central story should be compelling, relevant, and reveal the uniqueness and significance of the site. It should also be memorable. Social science research shows that information organized around a central theme gets more attention, keeps visitors focused, and creates messages that stay in the mind (and heart) long after a visit is over.

The following theme statements are for internal administrative and communications planning use and are not intended as marketing slogans or interpretive text as shown. Further refinement, editing, and crafting of text for the visitor is a later process that occurs during the development of specific interpretive products and programs.

CENTRAL THEME

LLELA stands as a gem of the natural world—inspiring discovery, revealing the resilience of nature and challenging us to take personal stewardship action. Its continued existence rests in our hands.

Interpretive Themes & Storylines

SUB-THEMES AND STORYLINES

1. Located in the heart of Lewisville, this green centerpiece is an important refuge for nature in North Texas.
 - a. Every species has a niche. Meet your native neighbors.
 - i. Survival needs
 - ii. Life zones—waterways, wetlands, woodlands and prairie
 - iii. Adaptations
 - iv. Competition/cooperation
 - b. The region's biodiversity is an indication of environmental health.
 - c. Nature preserves like LLELA are important pitstops for migrating birds and other wildlife.
 - d. Pollinators and wildlife depend on native plants—removing invasive species helps restore crucial habitat.
2. **Human activity, including the building of Lewisville Dam, changed life along the river.**
 - a. For thousands of years, the Wichita, Comanche and Caddo Indians travelled through and used the resources of the Trinity River region.
 - b. Native Texas ecosystems were altered by farming and ranching prior to the construction of the dam.
 - c. Dam construction disrupted natural streamflow patterns and moved the location of the river, further altering the ecology of the area.
 - d. The dam provides millions of people with a reliable water supply and protects against flooding.
3. **By restoring this land together, we bring back the landscapes and natural processes native to North Texas.**
 - a. We have a responsibility to restore the health of this landscape.
 - b. We benefit each other and future generations by respecting the environment and other users (stewardship).
 - c. People work together to preserve and share what they love.
 - d. LLELA is operated by a network of cooperating organizations.
 - e. LLELA supports a variety of ecosystems, each providing a valuable service to our own quality of life; we can take action to enhance the land's ability to continue these environmental services.
 - f. LLELA continues to be affected by factors like climate change and human activities.
4. **This place is your connection to enjoyable and meaningful outdoor experiences.**
 - a. LLELA provides respite in the midst of urban sprawl.
 - b. Outdoor recreation supports our physical health and mental well-being.
 - c. Together we continue to gain new knowledge about the interconnectedness of our natural and human communities.
 - d. Your actions make a difference in your natural community.

Existing Conditions

THE SETTING

The land that is now LLELA was historically a mix of Eastern Cross Timbers Forest, Bottomland Hardwood Forest and Blackland Prairie. The area was travelled by the Wichita, Comanche and Caddo Indians at various times, but the area was not claimed by any one Indian culture. Beginning around 1846, settlement of the area began and the land was divided among homesteaders to form ranches and farms. Agricultural use of the land disrupted the native habitats.

AT LLELA

As of April 2019, LLELA consists of approximately 2,600 acres. More than half of this acreage is dedicated to restoration and research, on which only limited access is currently publicly available on guided tours. The remaining acreage is open for public use, accessed via four designated trailheads.

LLELA is staffed by two of the cooperating agencies—UNT and the City. Three City

employees stationed at LLELA support education and interpretation activities, while two UNT employees support site administration and restoration activities. Continued UNT staff presence at LLELA is in question, however, as the original funding sources for these operations have dwindled.

The nonprofit group Friends of LLELA (www.llelafriends.org) provides additional support and operates the current visitor center. Located near the LLELA entrance next to staff offices, a classroom and greenhouse operations, the visitor center is open only on weekends and offers naturalist resources and other items on display. A few snack items are available for sale during hours the visitor center is open.

In addition to an extensive schedule of educational school programming conducted by staff, LLELA offers an array of interpretive programs for all ages, including:

- nature walks
- birding basics and walks



LLELA OFFICES, VISITOR CENTER AND CLASSROOM



INSIDE THE VISITOR CENTER

Existing Conditions

- campfire programs
- night hikes
- kayak tours (including a kayak-based painting program)
- basic camping classes
- fishing clinics
- log cabin tours
- star parties
- lectures

LLELA also hosts several special events, including Christmas at the Cabin, Mariposas (a butterfly/pollinator event), and BioBlitz, a citizen science event. Both the annual pollinator event and a New Year's Day celebration are presented in Spanish. LLELA does not currently conduct any program evaluation.

An active volunteer program provides support for both interpretive and educational programming and restoration activities, with three chapters of Master Naturalists participating. These specially trained individuals contribute the majority of volunteer hours each year.

Individuals interested in becoming a



volunteer contact the appropriate staff person directly. Volunteers receive staff support when developing and promoting interpretive programs.

The website (www.llela.org) provides timely updates on current trail and river conditions, as well as information on interpretive programming, the types of

research occurring at the preserve, a link to the Friends' website, and available outdoor education opportunities. A link to LLELA's iNaturalist page can be accessed from the home page, as well as a photo album and past issues of the newsletter.

There are six named hiking trails and one paddling trail within the publicly open area

Existing Conditions

at LLELA, accessed from the four trailheads. Each trailhead features an orientation kiosk with a map and safety and etiquette information. The log cabin site and two of the trails (Cicada Trail and Bittern Marsh Trail) features interpretive signage. The Bittern Marsh Trail and Blackjack Trail also feature an assortment of inspirational quotes posted along the trail. None of the other trails are signed.

Fishing is allowed at LLELA—at the dam outlet location only. Bilingual fishing etiquette and regulatory signage are present, as well as monofilament collection containers.

Wildlife viewing blinds are present at multiple locations on the Bittern Marsh and Cottonwood trails. While camping and picnicking are allowed at LLELA, bikes and pets are prohibited.



INTERPRETIVE SIGN ALONG THE COTTONWOOD TRAIL



ORIENTATION KIOSK



ENTRANCE TO LLELA



ENTRY BOOTH



BILINGUAL ETIQUETTE SIGNAGE AND UNDERUTILIZED FISHING LINE COLLECTION TUBE

Existing Conditions

IN LEWISVILLE AND BEYOND

LLELA is located in the center of Lewisville, on the north side of the Dallas-Fort Worth metropolitan area. There are a number of opportunities to hike and explore nature within an hour's drive, including:

- **LISD Outdoor Learning Area**—LISD is currently in the process of expanding facilities at the LISD Outdoor Learning Area (LISDOLA), their environmental education site located adjacent to LLELA and sharing a common entrance along Business-121. This facility serves scout groups, master naturalists, and more than 8,000 Lewisville students each year, but is closed to the general public. LLELA, however, serves students from both LISD and the surrounding area.
- **Lewisville hiking trails**—A number of hiking trails are available in and around Lewisville, with some in forested areas.
- **Lewisville parks**—A number of city parks provide picnicking and other recreation amenities. Most city parks, however, do not have the same wild, or natural, character as LLELA. Thrive, a new multigenerational recreation center, and adjacent Valley Vista Nature Park is currently in development and will offer trails, education and interpretation.
- **Clear Creek Natural Heritage Area**—Located about 18 miles north of LLELA, this preserve protects 2,900 acres in Lake Lewisville's upper floodplain and is managed by the city of Denton. It features one long, looping trail and an education center.
- **Connemara Meadow Nature Preserve**—Located just over 20 miles away in Plano, this 72-acre preserve offers hiking access and guided nature and astronomy walks. Dogs are allowed by permit only.
- **Ray Roberts Lake State Park**—Located a little over 30 miles north of LLELA, this expansive state park offers hiking trails, swimming, camping, fishing, and boating. Educational and interpretive programs are offered.
- **Dallas Arboretum and Botanical Garden**—Located about 35 miles southwest of LLELA, this 68-acre site is well maintained and features a children's garden in addition to many acres of manicured grounds. An extensive educational program serves nearly 700,000 students each year. Special events and venue rentals are also offered.
- **Heard Natural Science Museum & Wildlife Sanctuary**—This 289-acre site is located nearly 40 miles east of LLELA in McKinney. It offers educational and interpretive programming, indoor and outdoor exhibits, boating, nature trails, and special events.

Existing Conditions

- **Cedar Hill State Park**—Located nearly 40 miles south of LLELA, this large state park offers camping, hiking, biking, swimming, and fishing. Self-guided tours explore the history of farming at the Penn Farm Agricultural History Center. Guided programs are also offered.
- **Trinity River Audubon Center**— Located more than 40 miles away (south of Dallas), this facility is the gateway to explore the 6,000-acre Great Trinity Forest, the largest urban hardwood forest in the US. Educational and interpretive programming is offered, along with facility rentals.
- **Fort Worth Nature Center**—Located 50 miles southwest of LLELA, this city-owned park covers more than 3,600 acres and features more than 20 miles of hiking trails. Educational and interpretive programming is offered.
- **Trinity River Paddling Trail**—This paddling route has been nominated by the Trinity Nature Conservancy as a potential National Recreation Trail and is currently being considered by the National Park Service as a viable candidate. If designated, it would span the Dallas-Fort Worth metropolitan areas and surrounding cities.

Issues, Concerns and Opportunities

ISSUE

The entrance to LLELA is located at an intersection with many competing signs. The entrance monument sign could be made larger to increase visibility and the words “public welcome” or “open to the public” incorporated. The possibility of transforming the intersection into a roundabout with an artistic focalpoint has been discussed. The technical name “Environmental Learning Area” might be considered a barrier by some potential visitors. Consider adding language to increase the welcoming character (eg. LLELA Nature Preserve).

ISSUE

Despite bilingual etiquette and regulatory signage, litter is a significant problem at the dam outlet. Discarded fishing line causes both wildlife distress and death. Increased personal interaction with anglers, as well as innovative education programs, will complement an increased law enforcement presence here.

ISSUE

Flooding due to dam releases happen with little notice from the COE. Explore ways to increase notification time and broadcast to visitors.

OPPORTUNITY

Ensure consistency between program areas and excellent volunteer management by adding a dedicated volunteer coordinator to LLELA. This position would handle volunteer recruitment, orientation, job placement, evaluation, and appreciation.

OPPORTUNITY

A larger administration, education, restoration and interpretation complex will better serve staff, volunteers and visitors. Ensure that adequate storage space for educational materials and restroom facilities are incorporated.

OPPORTUNITY

Improve the visitor experience along trails through increased trail maintenance and orientation signage. Extend boardwalks and temporary planks where needed and include information on what to expect along the trails (including skill level and “character” of the trail, along with poison ivy and wildlife species to be aware of).

OPPORTUNITY

Improve access by families by switching to a season pass card rather than a sticker. This would allow families to arrive in any car and still be able to use their pass. Also, consider switching to a card valid for 12 months from the date of purchase rather than the calendar year. Such a switch will likely result in an increase in season pass purchases.

Issues, Concerns and Opportunities

OPPORTUNITY

Conduct program evaluation and solicit ideas from your mailing list and/or visiting public. Program records from the last several years indicate poor to fair attendance of many all ages interpretive programs. Improve event advertisement and reminders through social media.

OPPORTUNITY

A concurrent effort is underway to redesign wayfinding and signage throughout city parks and trails. Take the opportunity to rebrand LLELA and refresh its graphic identity as part of this effort. This will ensure consistency throughout LLELA, as well as reinforce LLELA's status as a city asset.

OPPORTUNITY

Improve road, trailhead and trail signage to provide better wayfinding for visitors. Add signage at each trailhead and at entry with current status.

Recommendations—A Vision for the Visitor Experience

In order to chart a roadmap for interpretation at LLELA, we must first define the optimal experience.

While themes focus on what targeted audiences will learn as a result of interpretation at the site, the visitor experience narrative explores what audiences will do.

We envision a high-functioning, fully developed LLELA that includes the following elements:

Overall Niche

LLELA is a friendly, visitor-focused destination where people gather to spend time in nature with family and friends, learn about the significance of native Texas ecosystems, and return again and again.

While the visitor center offers an active place to gather, discuss and learn, the trails and scenic viewpoints throughout the landscape at LLELA encourage observation, reflection and solitude. No other site in Lewisville offers the same sense of being immersed in wild nature.

Visitors to LLELA come from diverse socioeconomic groups and are unified in their love for and interest in learning about and spending time in the outdoors.

Finding LLELA

Visitors learn about LLELA through a variety of means: word-of-mouth, social media¹, advertisements and special events, school field trips, referral by partner organizations and travel planning websites and organizations.

Signage on the highways and surface streets clearly direct visitors to LLELA. Visitors utilize the website to develop clear expectations as to what there is to do at LLELA once they arrive. Visitors with specific interests—such as anglers and educators—find a tab on the home page providing easy access to pertinent information.²

1 LLELA staff members and volunteers who post to social media should pursue training in making more effective use of social media channels for natural history sites like LLELA. Explore [options](#) offered by the National Association for Interpretation, among other training opportunities.

2 The tab for educators provides resources to prepare and follow-up from tours and learn more, in addition to program descriptions and registration information.

Recommendations—A Vision for the Visitor Experience

Welcoming Entrance

A highly visible monument sign marks the entrance to LLELA. The admission kiosk is staffed by a friendly greeter who provides information specific to the purpose of their visit and a current trail map. The trail map/brochure is available in multiple languages. Clear wayfinding signage directs visitors to the visitor center and to each trailhead.

Visitor & Education Center

After parking, visitors are attracted to a large orientation kiosk that provides an overview of LLELA and its trail system. Featured destinations are highlighted, along with unique features of each trail. Upcoming events are clearly posted, as well as information on volunteer opportunities. Trail map brochures are available in a number of languages. This kiosk serves as an important information source regardless of whether the visitor center is open or closed.

Outside the building, colorful signage clearly indicates the building entrance

and invites the public in. Large graphic silhouettes—including those of plants, pollinators, birds, and other wildlife—attached to the outside of the building hint at the themes interpreted on site.

Restrooms are visible and well maintained and a refillable water station allows visitors to refill without the use of plastic water bottles.

Inside, exhibits introduce the interpretive themes and discuss the history of the site, the significance of the native habitats and inhabitants, and highlights from LLELA's restoration work.

An assortment of live animal displays provides opportunities to see local species up close, while interactive elements engage visitors during their visit. A TV screen



PLANT AND ANIMAL SILHOUETTES ENHANCE THE BUILDING ENTRANCE

Recommendations—A Vision for the Visitor Experience

features interviews with staff members, naturalists or researchers and their work at LLELA on a rotating schedule.

A large classroom with storage and lab equipment provides space for lectures, students and other visiting groups, and a volunteer corner provides lockers, resources and important information.

Visitor-provided photos taken at LLELA are on rotating display, along with a donation feature that allows visitors to vote for their favorite photo with each donation.

Activity-based backpacks featuring items such as field guides, binoculars and loupes, among other items, are available for checkout.

Current blooms and bird and other wildlife sightings are posted on a board near the entry, and visitors are able to sign up for upcoming events requiring registration.

A limited selection of fishing supplies and/or equipment is available for purchase along with LLELA memorabilia and other nature study items.

School Programming

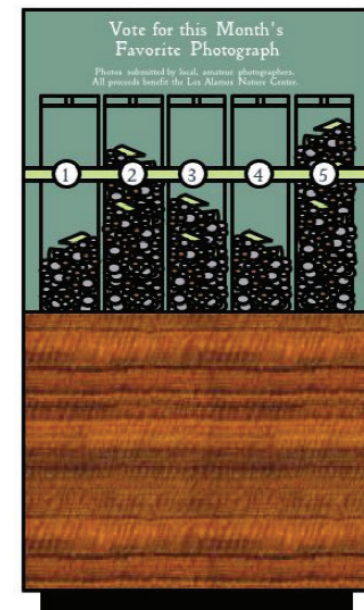
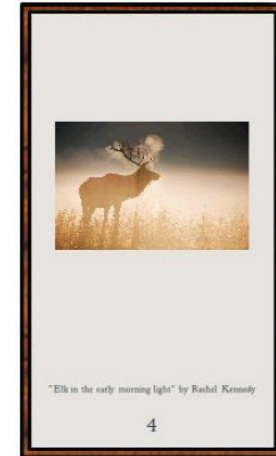
Students engage with LLELA before their arrival on-site. Lesson plans are correlated with state learning standards and pre- and post-visit activities deepen the students' experience. Collected student data is compiled and made available to other students tasked with drawing conclusions from observations on site.

Students are able to interact with LLELA staff and researchers before and after their field visit through the use of "Skype in the Classroom."³ Scheduled, live broadcasts are also available to classrooms throughout the region in lieu of a field visit for those who are not able to travel to the site.

Interpretive Programming

Visitors learn about available guided programs through a variety of means—website, social media, word-of-mouth and postings.

³ This technology is currently free, but there may be the opportunity to charge classrooms a fee to provide this virtual field trip experience.



VISITORS MAY CAST THEIR VOTE FOR THEIR FAVORITE PHOTO WITH THEIR DONATION.

Recommendations—A Vision for the Visitor Experience

Program offerings are enhanced through the addition of workshops in photography, nature journaling, botany, ethnobotany, plein air painting, natural dyes, and others that use the plants and animals of LLELA as the content focus. Visitors may also access a seasonal Species Scavenger Hunt that offers incentive to visit LLELA each season to discover a changing array of species. Publicly viewable ranking and/or other reward allows visitors to compete against themselves or others.

Similar to the camping basics program, a special “Get to Know Nature in Your Backyard” program is designed for newcomers to the area and/or nature novices who would like to increase their familiarity with the native plants and animals in and around Lewisville.

All interpretive programs are thematic and support at least one of the sub-themes presented in this interpretive plan.

Research, Restoration & Citizen Science

Research at LLELA is elevated by featuring each project and/or researcher prominently on the website and through social media posts and stories⁴. An “Ask an Expert” feature on the website allows visitors to submit questions that will be answered and posted so that all visitors may benefit.

Visitors have the opportunity to participate in a number of citizen science efforts beyond iNaturalist, BioBlitz and the Christmas bird counts. Participation in these as well as Monarch Watch, nesting bird counts and bird feeder counts reinforces the value of research to our future.

Visitors also have the opportunity to volunteer for specific research and restoration projects. Potential volunteers learn about active projects and opportunities and researcher biographies and are able to sign-up via social media, LLELA’s website, and a research- and restoration-specific e-newsletter. Research updates are posted regularly.

⁴ Entries should be dated, and should occur at least on a monthly basis.

In addition to ecological-based studies, LLELA is also a focal point for social science research related to nature-based recreation and education. Visitors of diverse ages and backgrounds are welcome at LLELA, and the organization actively seeks out information about preferences and characteristics of different cultural groups in order to remain welcoming and relevant.

Trailheads

Signage at the entry and at each trailhead announces the status of each trailhead. Each trailhead provides adequate parking, a well-maintained restroom, trashcan, and introductory information about each trail (as well as each trail’s current status). Visitors viewing each orientation panel have a clear sense of where they are, where the trail takes them, how long it will take and a preview of what they will see along the way. Visitors will be aware of any special considerations on each trail and will understand how to get help in case of an emergency.

Recommendations—A Vision for the Visitor Experience

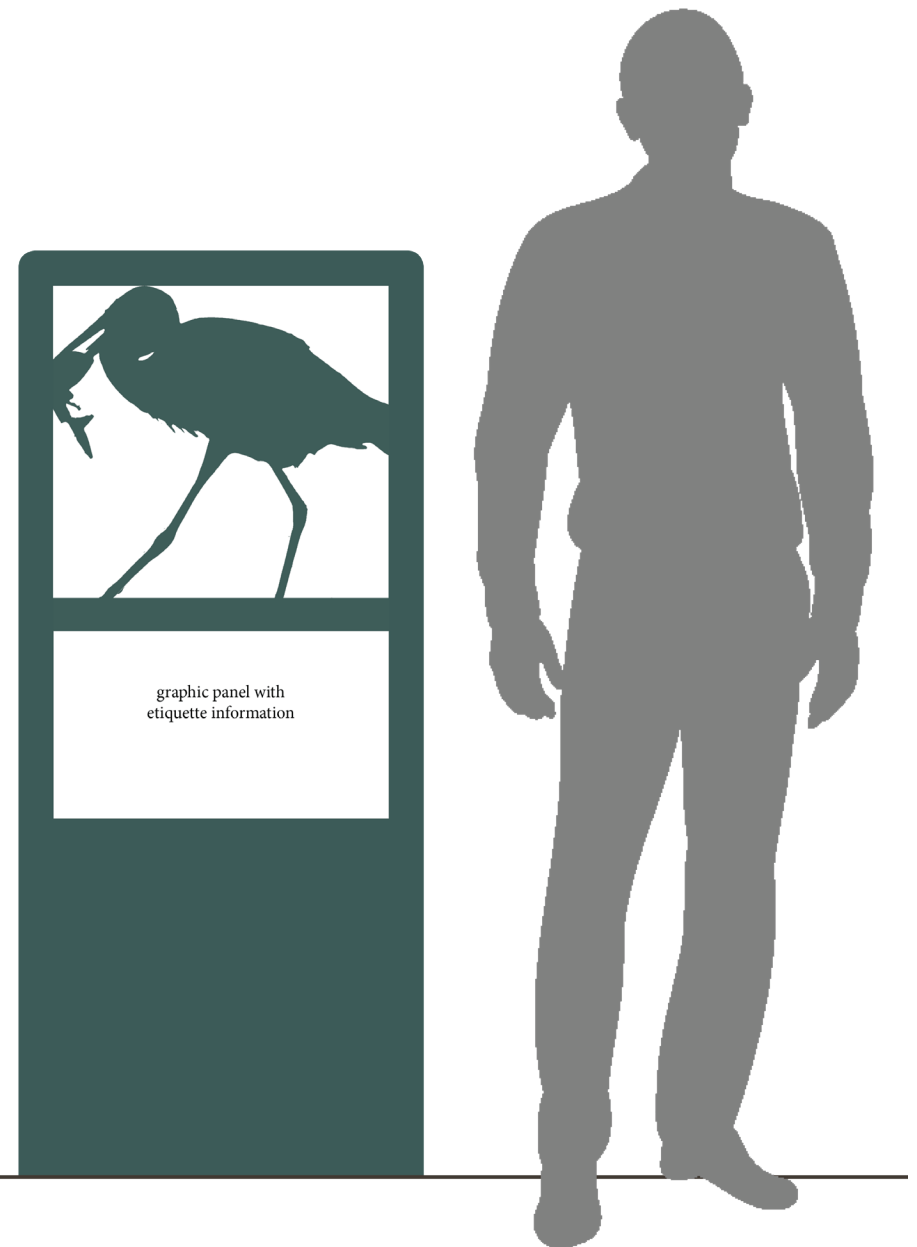
Trails

Trails are consistently well-maintained and feature reassurance markers every ¼ to ½ mile. Some trails are primitive and feature no other signage, while the Cottonwood and Bittern Marsh trails feature 5-7 strategically placed interpretive signs along their lengths.

Dam Outlet at Elm Fork of the Trinity River

An assortment of well-placed, attractive and bilingual signage encourages proper etiquette for anglers. Large metal silhouettes depicting fish, herons and other birds increase awareness of the species dependent on this river for survival. A bilingual ranger provides roving interpretation and a management presence that encourages respectful behavior.

LARGE METAL SILHOUETTES
COMBINE WITH ATTRACTIVE,
BILINGUAL INTERPRETIVE PANELS
AND A ROVING BILINGUAL
RANGER TO PROMOTE
RESPONSIBLE ANGLER BEHAVIOR.



Recommendations—A Vision for the Visitor Experience

Wildlife Viewing Blinds

Wildlife viewing blinds offer opportunities to the visitors to see wildlife species up close. At LLELA, these functional structures also feature artful elements, drawing the visitor closer and framing their view once inside. Viewing ports are cut in the shape of birds and plants, and colorful nature-themed murals adorn the outside of the structures. Simple and elegant identification information is posted inside each blind along with thought-provoking questions posed to the visitor.



WILDLIFE VIEWING
BLINDS INCORPORATE
INTERPRETATION, LIKE THE
BLINDS PRESENT AT THE
TRINITY RIVER AUDUBON
CENTER IN DALLAS
(PICTURED AT RIGHT).

Recommendations—A Vision for the Visitor Experience

IMPLEMENTATION								
The following table lists proposed interpretive and visitor experience-focused initiatives for LLELA. Phases are as follows: Phase 1 to begin in the plan adoption year; Phase 2 is short term (years 1-3); and Phase 3 is mid term (years 4-9).								
INITIATIVE	APPROX COST	NOTES	GOALS	THEMES	PHASE			
					1 BEGIN NOW	2 SHORT TERM	3 MID TERM	
Entry & Wayfinding	Varies; ties in to master wayfinding and signage project currently underway throughout all city parks and trails	Develop and install new signage on highways and surface streets that clearly directs visitors to the LLELA entrance. Develop a new entry monument sign that reduces visual clutter and makes it clear that the public is welcome. Install wayfinding signage within the preserve that clearly identifies each trailhead and other significant locations.	2, 2b	1, 4, 4a	X	X		
Website	in-house	Perform updates and add resources as described in pages 22-25.	1a, 2, 2b, 2c, 2d, 2f	1, 2, 3, 4	X	X		
Trail Map Brochure	in-house	Update and make available in multiple languages.	2b, 2c, 2d	1, 2, 3, 4	X	X		
Visitor & Education Center	Kiosk \$12-18K including signage; Visitor center TBD through separate master plan process	Provide an attractive, large kiosk near the entry that provides orientation, etiquette and programming information to visitors regardless of whether the facility is open or closed. Graphic silhouettes indicate the building entrance and hint at the themes interpreted within. Interior exhibits introduce the interpretive themes, the significance of LLELA's habitats, and highlights from LLELA's restoration work. Exhibits include live animals and interactive and multimedia elements. The classroom features storage and lab equipment, and a volunteer corner provides lockers, resources and important information. The center also features a photo gallery, activity backpacks available for checkout, current species sightings, event registration, and a selection of themed items for sale.	All	All		X	X	
Enhanced School Programming	in-house	Make student data available to other students, and explore the use of Skype in the Classroom for pre-, post- and virtual field trip experiences.	1a-f, 2b, 2f, 3a-g	All				X

Recommendations—A Vision for the Visitor Experience

IMPLEMENTATION							
The following table lists proposed interpretive and visitor experience-focused initiatives for LLELA.							
Phases are as follows: Phase 1 to begin in the plan adoption year; Phase 2 is short term (years 1-3); and Phase 3 is mid term (years 4-9).							
INITIATIVE	APPROX COST	NOTES	GOALS	THEMES	PHASE		
					1 BEGIN NOW	2 SHORT TERM	3 MID TERM
Enhanced Interpretive Programming	in-house	Add to existing programming with new workshops in photography, nature journaling, botany, ethnobotany, plein air painting, natural dyes and others that use the plants and animals of LLELA as the content focus. Consider adding a seasonal Species Scavenger Hunt (whether print or electronic) and an introductory program for local species for newcomers and nature novices.	All	All	X	X	
Research, Restoration & Citizen Science	in-house	Feature research projects and scientists prominently on the website and through social media, and include an "Ask an Expert" feature on the website. Increase citizen science opportunities and promote opportunities for volunteers to learn about and sign up for research and restoration projects.	All	All		X	X
Trailhead and Trail Signage	Update trailhead signage \$2-4K each trailhead; interpretive signs \$1.5-2K each	Provide status at each trailhead, update daily if necessary. Enhance existing trailhead signage to make it more obvious what visitors should expect on each trail. Other than reassurance markers, some trails remain primitive. Interpretive signage along the Cottonwood and Bittern Marsh trails should be updated at least every 10 years (for graphics, voice and material integrity).	1f, 2b-d, 2f, 3b, 3d, 3e	1, 4	X	X	
Dam Outlet	\$2-3.5K each silhouette/signage stanchion; roving interpretation in-house	Develop an assortment of attractive, bilingual signage encouraging proper fishing etiquette. Integrate large metal silhouettes of plant and animal species with graphic panels. Staff this location with a bilingual roving interpretive ranger on high use days.	1b, 1f, 2b, 2c, 3a, 3d	1a, 1c, 2d, 4	X	X	

Recommendations—A Vision for the Visitor Experience

IMPLEMENTATION							
The following table lists proposed interpretive and visitor experience-focused initiatives for LLELA. Phases are as follows: Phase 1 to begin in the plan adoption year; Phase 2 is short term (years 1-3); and Phase 3 is mid term (years 4-9).							
INITIATIVE	APPROX COST	NOTES	GOALS	THEMES	PHASE		
					1 BEGIN NOW	2 SHORT TERM	3 MID TERM
Wildlife Viewing Blinds	Varies depending on materials/technique	Enhance existing blind structures with artful thematic elements, including murals, shaped viewing ports, and identification and interpretive information.	1b, 1e, 1f, 3c, 3d	1a-d, 3a,3b, 3e, 3f, 4a, 4c			X

Appendix A—Visitor Survey

About the Survey

An electronic survey went out to the LLELA mailing list with the following questions.

Complete survey responses are available from LLELA staff upon request. A summary of select results follows on the next several pages.

Responses to question #6 are included on pages 18-19 of this plan, while a complete list of responses to question #5 is included in the following pages.

Survey Introduction

Located at the base of the Lewisville Lake dam, the Lewisville Lake Environmental Learning Area protects and restores native Texas ecosystems and biodiversity while providing opportunities for environmental education, research and recreation. In support of this mission, we are working to grow the site's impact, focus programming and staffing efforts, and improve the visitor experience.

As some of you may know, the City of Lewisville—a key partner in the operation of LLELA—recently commissioned the development of an interpretive plan that will guide interpretive products and programming at the site for the next decade. As supporters of LLELA, we value your opinion. Please share your thoughts with us through this 8-question survey (5-10 minutes).

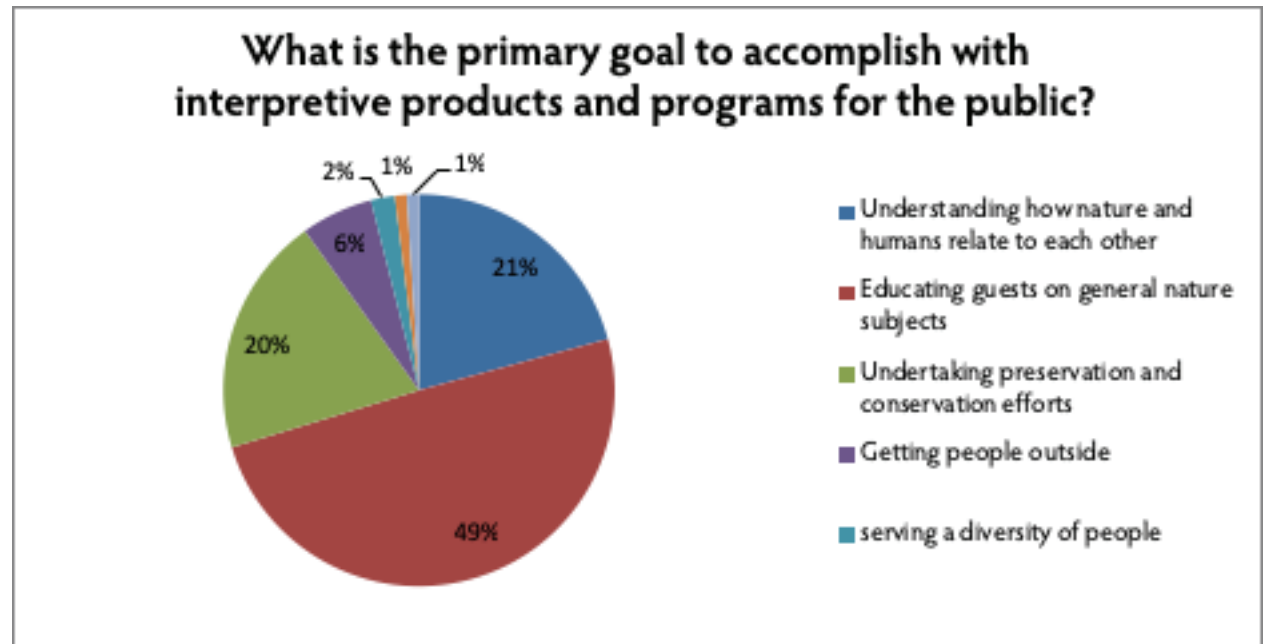
1. Interpretation should be purposeful. What is the primary goal that LLELA should be trying to accomplish by providing interpretive products and programs to the public?
2. What groups of visitors should we be tailoring our interpretive products and program to?
3. What is the one message that you want visitors to remember from their experience at LLELA?
4. What are the top 2-3 reasons that people come to LLELA?
5. In your opinion, how can LLELA improve the visitor experience?
6. What other facilities directly compete for visitors' time, attendance and attraction?
7. In your opinion, what is LLELA getting right?
8. In your opinion, what is the biggest threat to the success of LLELA?

Appendix A—Visitor Survey

Question #1

Interpretation should be purposeful. What is the primary goal that LLELA should be trying to accomplish by providing interpretive products and programs to the public?

Discussion—Almost half the respondents believe the primary goal of LLELA is to educate the public on general nature topics supported by helping the public to understand how nature and humans relate to each other. Helping the public to understand the value of ongoing preservation and conservation efforts also has high support as a primary goal.



Appendix A—Visitor Survey

Question #2

What groups of visitors should we be tailoring our interpretive products and program to?

Discussion—The most frequently mentioned groups are those currently being served such as school groups, children, families, teens and tweens, and “everyone.”

Other groups mentioned only once or twice which deserve discussion for future targeting include Spanish speakers, homeschoolers, handicapped, young families, volunteer groups, scouts, community organizations, residents within 25 miles, those news to nature, young adults, and seniors.

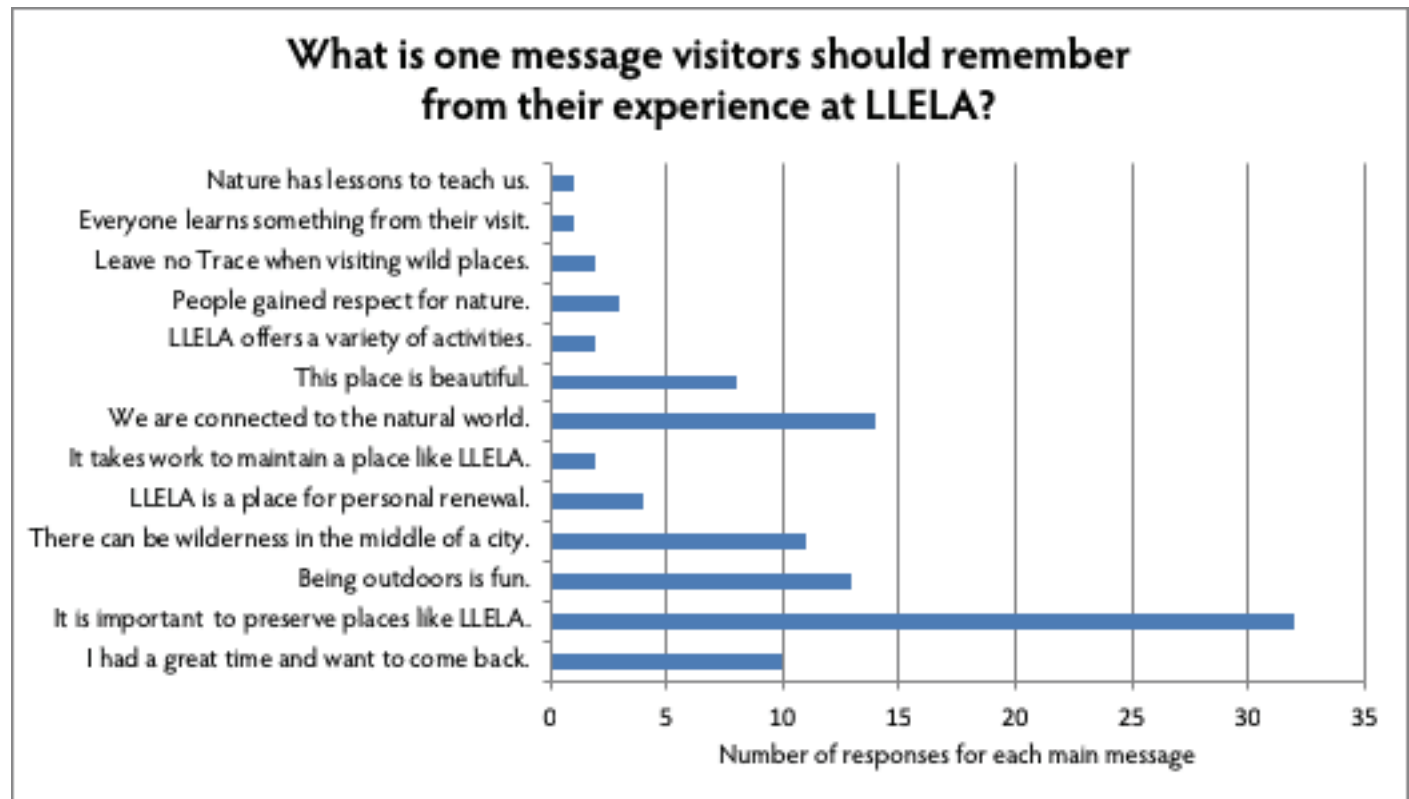


Appendix A—Visitor Survey

Question #3

What is the one message that you want visitors to remember from their experience at LLELA?

Discussion—Responses overwhelmingly support the idea of visitors leaving with a strong message of the value of preserving places like LLELA and how humans are connected to these places. People have a responsibility to help preserve these areas. If people have a good time, they will want to return and gradually develop a stronger commitment to preserving wild spaces.



Appendix A—Visitor Survey

Question #4

What are the top 2-3 reasons that people come to LLELA?

Discussion—The majority of responses were connecting with nature and the outdoors (49), hiking (47), fishing (35), and programs (27). Another strong response grouping listed bird watching (14), photography (10) and kayaking (6).

Many social reasons were also listed, including: enjoying a peaceful environment and reducing stress, sharing the experience with others, having family time, relishing the beauty of the place, easy access, and having a safe place.



Appendix A—Visitor Survey

Question #5

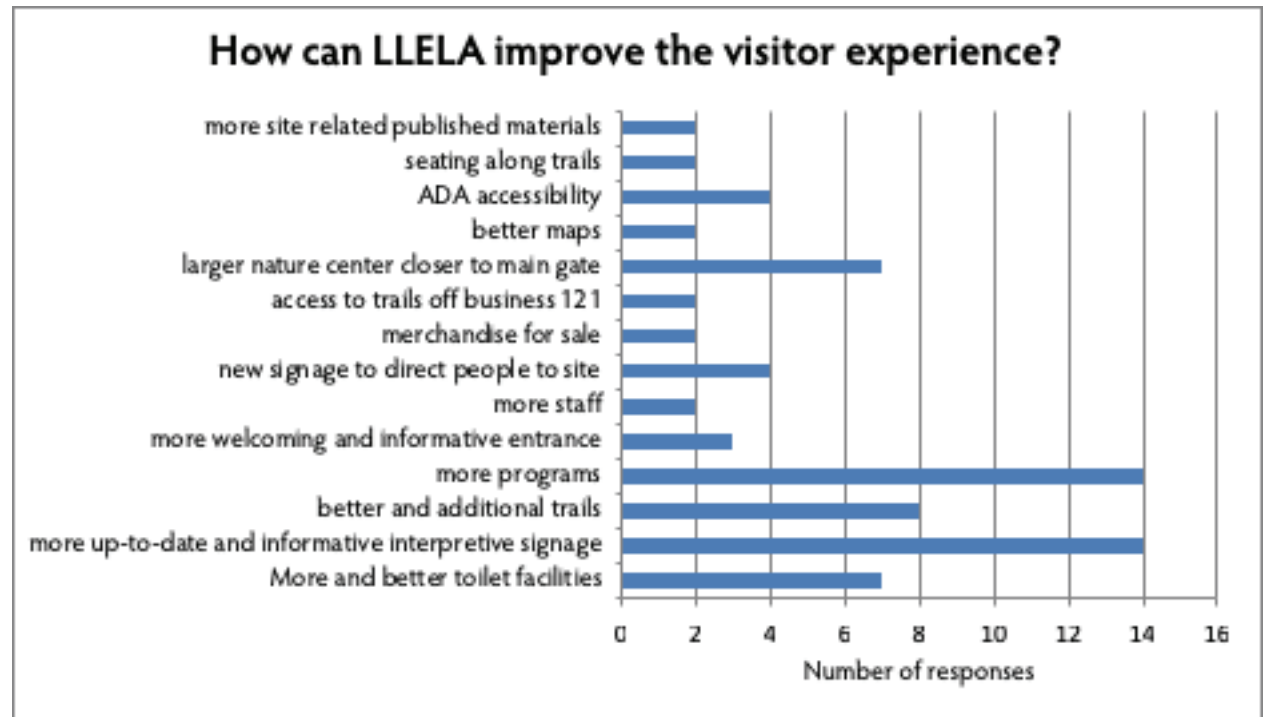
In your opinion, how can LLELA improve the visitor experience?

Discussion—The comments included at right are only those which were commented on more than once.

Programs and activities were identified in another question as a strength of LLELA and responses to this question indicate that the programs should continue to be offered.

A larger and more informative nature center, interpretive signage, more trails, and better toilet facilities also ranked high in improvements needed.

Anyone interested in this question should read the full list of comments as many of those listed only once could have powerful impacts. See the next page for a complete list of responses.



Appendix A—Visitor Survey

Question #5 (continued)

In your opinion, how can LLELA improve the visitor experience?

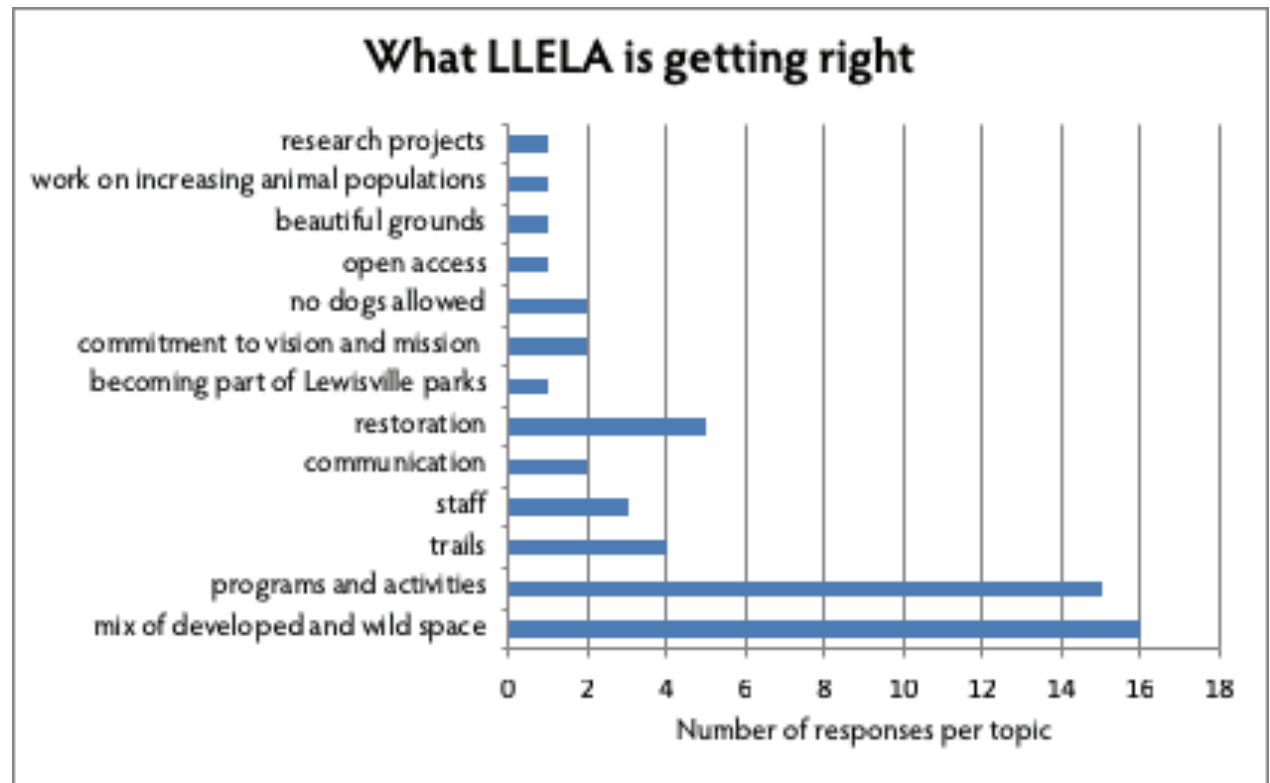
<u>Suggestion</u>	<u># of times mentioned</u>		
More up-to-date and informative interpretive signage	14	More site-related published materials	2
More programs	14	Funding for technology	1
Better and additional trails	8	Gravel in muddy areas	1
More and better toilet facilities	7	Swimming area	1
Larger nature center closer to main gate	7	Open at sunrise	1
New signage to direct people to site	4	Large animals - bison - attraction	1
ADA accessibility	4	Birthday parties	1
More welcoming and informative entrance	3	Space for RVs	1
More staff	2	Partner with landfills and plant pollinator plants on their hillsides	1
Merchandise for sale	2	Option to refill water bottles	1
Access to trails off Business 121	2	Allow residents to visit	1
Better maps	2	Outreach programs	1
Seating along trails	2	Park pass instead of car sticker	1
		Less man-made features	1
		Wider hours for programs offered (not just work hours)	1
		Better patrolling of fishing area	1
		Limit fishing times	1
		Control poison ivy	1
		Set aside small sections to allow dogs	1
		Eliminate gate in middle	1
		Newspaper photos and stories	1
		Annual pass 12-months from date of purchase	1
		"First time visitor guide" online	1
		Stock bass in river	1
		Adopt-a-Trail for middle and high school students	1
		Nature playground	1
		Contain river during water release	1
		Volunteer Coordinator	1

Appendix A—Visitor Survey

Question #7

In your opinion, what is LLELA getting right?

Discussion—There is strong support that LLELA is getting a good balance of developed and wild space on site as well as a good variety of programs and activities. Restoration efforts are also seen as strong and effective. Trails are well maintained and open for use. Staff is friendly and helpful. It is a strength that two people responded there is visible commitment to the vision and mission of LLELA.



Appendix A—Visitor Survey

Question #8

In your opinion, what is the biggest threat to the success of LLELA?

Discussion—While a wide variety of threats were listed, those with the most responses are listed above. One especially interesting comment appeared once and that was that the name “nature preserve” implied an exclusive audience. While some saw the no dogs policy a strength, others found it a threat in this question. The full list of responses provides additional insight into threats.

