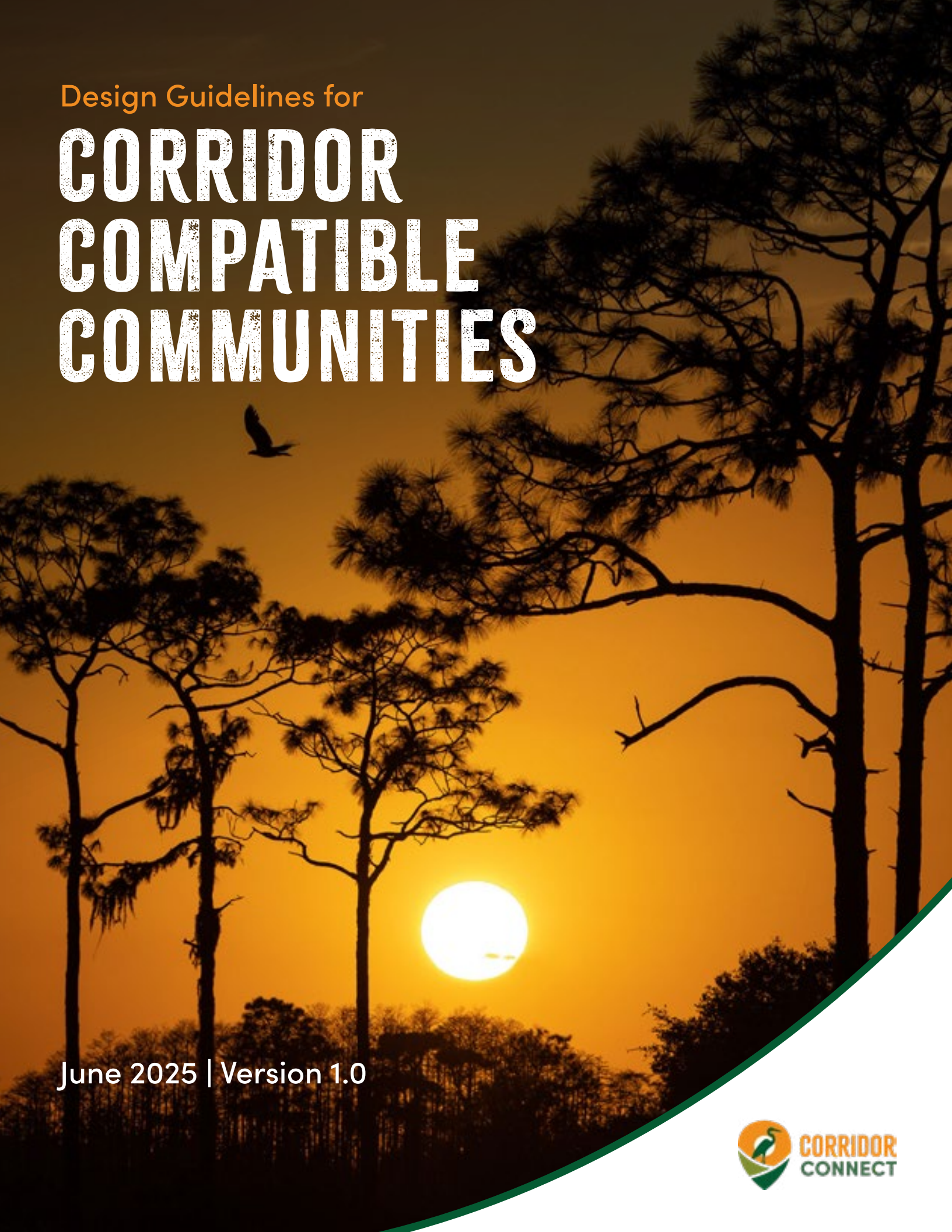
The following information is provided by
EAR Task Force Member Christianah Oyenuga
(representative of The Nature Conservancy)

Design Guidelines for

CORRIDOR COMPATIBLE COMMUNITIES



June 2025 | Version 1.0

CORRIDOR CONNECT

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Cover: A serene sunset with a majestic bald eagle soaring at Big Bend Swamp/Holopaw Ranch by *Katie Bryden/Wildpath* **Left:** Yarborough Ranch *Photo by Lauren Yoho/Wildpath*



Letter of Gratitude from
Mallory Dimmitt

Dear Reader,

We are thrilled to introduce this innovative tool designed to enhance how you live, work, and create community in Florida. The Florida Wildlife Corridor is a statewide network of nearly 18 million acres of connected lands and waters supporting wildlife and people. These Design Guidelines were developed to identify ways to foster compatible coexistence with this ambitious conservation initiative.

Connectivity Benefits: A connected Corridor yields benefits to habitats, species, and people. The Corridor's landscapes, from vast wetlands to upland forests, provide habitat for close to 2,000 unique species, 60 of which are animals listed as threatened or endangered. The Corridor also supports at least 114,000 jobs and provides at least $30 billion in annual value in sectors such as recreation, tourism, and agriculture including ranching and forestry.

Collaboration: Collaboration lies at the heart of the Florida Wildlife Corridor Foundation's mission. We are committed to working hand-in-hand with Florida residents, decision-makers, agencies, businesses, and non-profit organizations to advance the well-being of our state. Over the past two years, a dedicated team of planners and designers worked together to develop a vision for Corridor community compatible design. This process included extensive stakeholder engagement, ensuring these guidelines reflect diverse perspectives and shared aspirations.

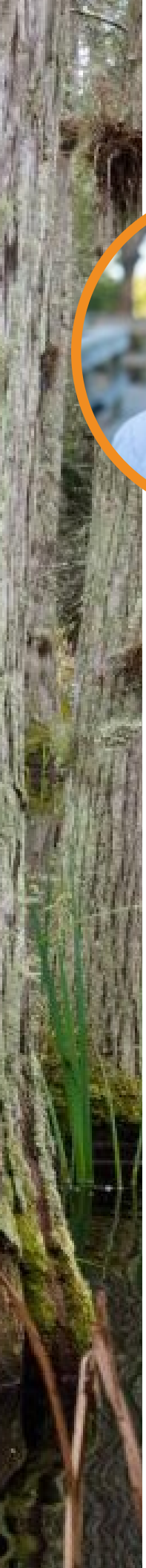
Compatibility: These Design Guidelines demonstrate how individuals and communities can positively engage with the Corridor, support its implementation, and yield community benefits. We are proud of this collective achievement and hope it inspires meaningful dialogue, thoughtful planning, and decisive action.

We extend our deepest gratitude to the collaborators, contributors, and you—the implementers—who will bring this vision to life.

In connection,

Mallory Dimmitt

Chief Executive Officer
Florida Wildlife Corridor Foundation





Letter of Gratitude from
Lindsay Stevens

Dear Reader,

I am grateful for the many individuals and related partner organizations who have dedicated their time and talent to working on the Corridor Compatible Communities guidelines. Your dedication, vision, and collaborative spirit have developed an important framework and focused dialogue on how we can preserve vital ecological connections while also helping to shape a future where both human communities and nature can thrive.

The work of conservation is never easy, and the challenges we face—balancing development pressures, economic considerations, coordination across jurisdictions, and engaging local communities—require a level of commitment and creativity that is truly admirable. Your efforts to ensure that growth in Florida remains compatible in placement and design with the long-term health of the Florida Wildlife Corridor are making a tangible impact, not just for wildlife, but for future generations of Floridians.

Whether it's fostering partnerships, conducting outreach, planning for smart growth, or championing ecological resilience, this team's work exemplifies the kind of collaborative leadership called for in this moment. You are helping to create a model for how communities across Florida and the nation can grow in harmony with the landscapes on which they depend. I must extend a special thanks you to my colleagues, the talented team at Cadence. Without their vision and leadership, the Corridor Compatible Communities guidelines would not have come to reality. In addition, we all owe the Florida Wildlife Corridor Foundation a debt of gratitude for convening and supporting our work from the germination of an idea to a greater movement.

Please accept my sincere appreciation for all that you do. Your work is vital, inspiring, and deeply valued. It is an honor to be on your team.

With gratitude,

Lindsay Stevens

Director of Sustainable Communities
Strategy and Protection
The Nature Conservancy

Left: Mallory Dimmitt on an expedition *Photo by Carlton Ward Jr./Wildpath*

Design Guidelines Rationale from
The Corridor Compatible Communities Collaboration Team

Dear Reader,

Florida's rapid population growth necessitates thoughtful planning. The guidelines and perspective shared in this Corridor Compatible Communities report are meant to be a useful tool to assist landowners, county planners, regional planning councils, developers, private consulting firms, elected officials and others as they seek to make decisions about where and how we grow. It is not overly technical, nor exhaustive, and we anticipate it will be refined over time as additional tools, resources and approaches are developed.

The guidelines captured in this report were developed in a collaborative process with input from a broad range of stakeholders representing various public and private sectors and interests. A partial list of the participants can be found in Appendix C.

The intent of this effort is to develop guidelines that are used widely, practical, and advance conservation outcomes, specifically to promote the retention and enhancement of wildlife corridor functions that sustain a high Quality of life for Floridians and a diverse and healthy native ecosystem. We are striving for voluntary adoption of these guidelines, recognizing that some elements do not apply to every project area. In some areas around the state there are resources of particular value or sensitivity to merit a more rigorous conservation approach than is outlined in this report. In such cases these recommendations may be insufficient to secure long-term conservation goals, and a more site-specific approach is advised.

Florida's population, estimated at 23 million in April 2024, is projected to reach from 24.5 million to 28.8 million by 2040, representing an increase of 1.5 million to 5.8 million residents, according to projections from the University of Florida's Bureau of Economic and Business Research. The Sea Level 2040 and the Agriculture 2040 reports, joint projects of the University of Florida's Center for Landscape Conservation Planning and 1000 Friends of Florida, depict two scenarios for these growth projections. Under a business-as-usual, trend scenario, current development patterns would continue, and nearly 1 million acres of natural and agricultural land would be developed to absorb the projected population growth. Under the alternative, conservation scenario, the same population growth would



be largely absorbed in urban areas at a 30 percent higher density, and high-priority natural and agricultural lands — much of the Florida Wildlife Corridor — would be permanently protected. The conservation scenario would avoid the conversion of 270,000 acres of natural and agricultural land to incompatible development. It would add more than 5 million acres to the inventory of protected natural land, and 2.4 million acres to the inventory of protected agricultural land. While these two scenarios represent projections, not predictions, they illustrate that how Florida chooses to accommodate its growing population will have significant impacts on the fate of the Wildlife Corridor.

Right Design and Right Location. If we are to safeguard a functional statewide wildlife corridor, while accommodating population growth, planning must address both where it is appropriate to locate new communities within Florida, and how those communities are designed. Vibrant and well-designed communities understandably attract additional growth and have impacts on the use of and demands for regional infrastructure. An identically designed community can lead to significantly different regional impacts depending on where it is sited. It is an aim of this report to equip readers with enough background and guidance that they can recognize important elements of the Florida Wildlife Corridor in order to avoid impacts accompanying the subject community as well as attendant growth that follows its creation.

The development of these guidelines is aimed at avoiding impacts to the Florida Wildlife Corridor, including unintended adverse impacts, by identifying critical aspects of landscape and habitat connections that must be retained to achieve sustainability, as well as to introduce elements of community design that can promote these important connections when appropriately applied. Despite our best intentions, without intentional and thoughtful consideration we risk losing the Corridor that Floridians have been stewarding for over a century.

Greetings,

The Corridor Compatible Communities Collaboration Team

Wolfe Creek Forest *Photo by Lauren Yoho/Wildpath*

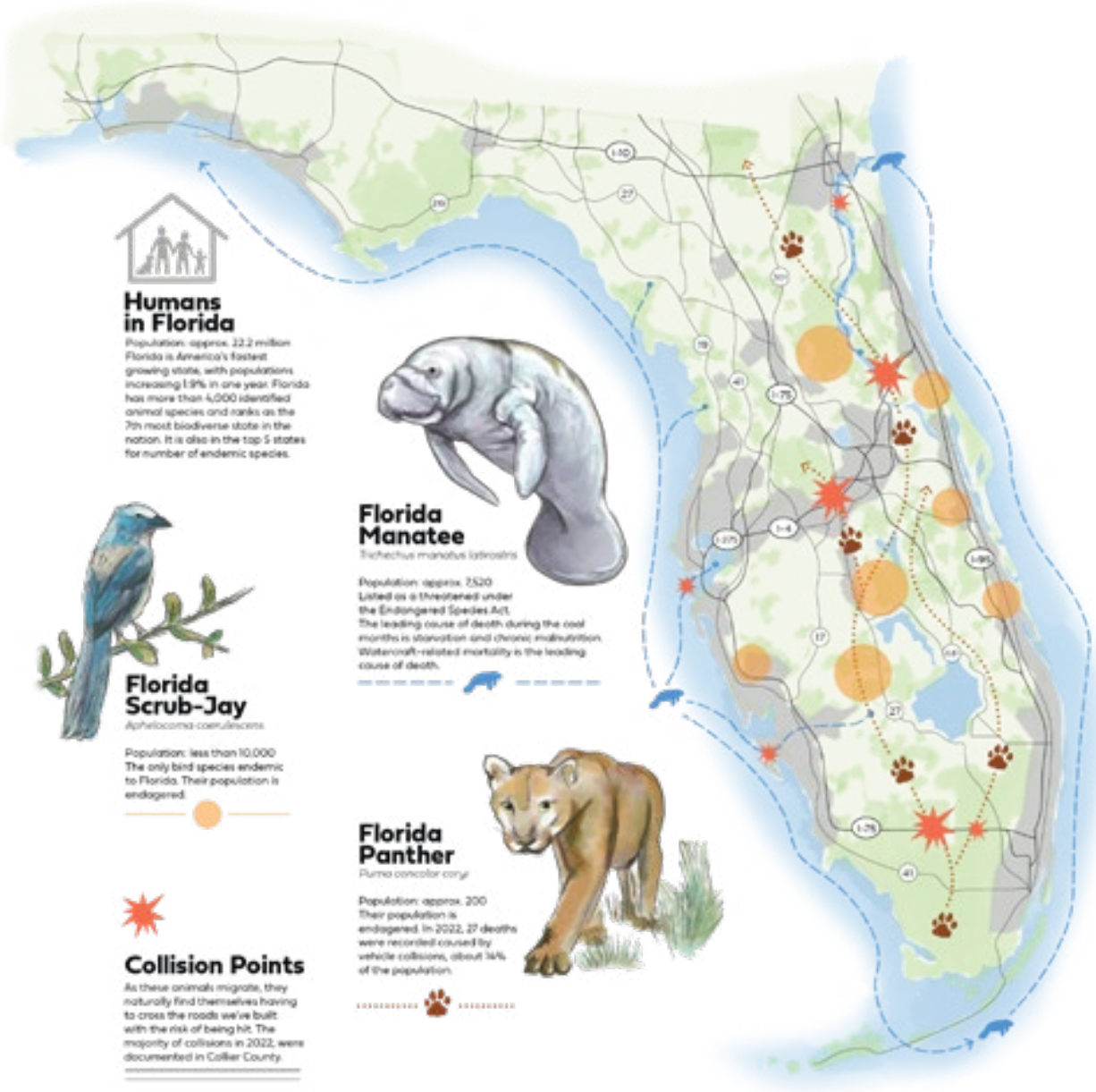
THE LAND WE SHARE

Out of 17.7 million acres in the Corridor, 10 million have conservation protections.

However, 7.7 million acres of vulnerable land remain at risk.

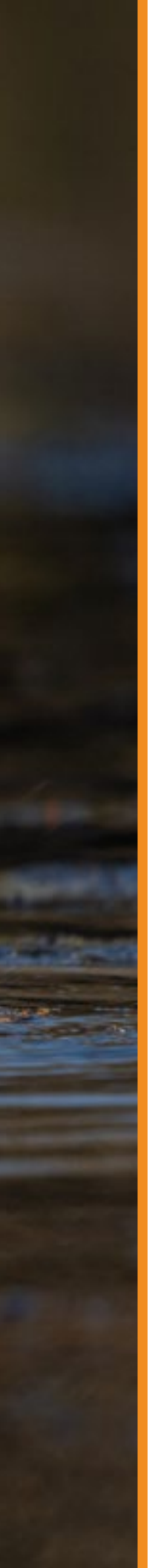
By acting now and changing the way we share the land, we can write a lasting legacy for our state.

This map illustrates how Florida is composed of conservation lands interrupted by highways, interstate roads and our human urban footprint. For wildlife, like the Florida Panther, this means high risk of collisions as they migrate in search of food or a mate and find themselves in our neighborhoods. Establishing a framework for how we can co-exist proves to be increasingly important as we grow,.



Map: *Cadence and Kelly Quinn*





BUILDING ON BEST PRACTICES

We created the nation's first national wildlife refuge, Pelican Island.

We created the nation's first eastern national forest, Ocala National Forest.

We created the nation's first national preserve, Big Cypress National Preserve.

We can build upon the green infrastructure that is already here to protect the Corridor.

And for the last 50 years, Florida has set the pace for conservation.

Left: White Ibis at Rainbow River *Photo by Carlton Ward Jr./Wildpath*

Step One

UTILIZE FLORIDA'S HARD-EARNED CONSERVATION PRACTICES AS A SPRINGBOARD FOR THE FUTURE

Decades of conservation work, research, and publications have led to the enormous successes of Florida's conservation networks.

The Florida Ecological Greenways Network (FEGN) was established in 1991 and forms the backbone for what is now the Florida Wildlife Corridor. Many organizations and government entities utilize the research and scientifically established database from the FEGN days to create the state's premier land conservation programs. These programs include Preservation 2000, which evolved into the Florida Forever Program, and the Rural and Family Lands Protection Program.

These *Design Guidelines for Corridor Compatible Communities* build upon the tireless work of the past to provide clear direction for protecting the Corridor in the future. Three primary publications formed the basis for the information provided herein:

1. *Land Mosaics: The Ecology of Landscapes and Regions* by Richard Forman (1995).
2. *Landscape Ecology Principles in Landscape Architecture and Land-Use Planning* by J.D. Olson, R. Foreman, and W.E. Dramstad (1996).
3. *Wildlife Habitat Planning Strategies, Design Features, and Best Management Practices for Florida Communities and Landowners* by 1000 Friends of Florida (2008).

Step Two

LEAD WITH THE LAND AND ECOLOGY AS THE GREAT GUIDE FOR DEVELOPMENT

Landscape ecology provides science-based principles for saving functional natural landscapes *and* executing responsibly designed spaces for humans to live.

How we use land and water to support human communities (e.g., neighborhoods, industry, agriculture, recreation, and transport) is a part of Florida's landscape ecology.

To protect a fully functional Florida Wildlife Corridor we must conscientiously select a scientifically sound, balanced approach to development that protects our diverse, natural ecosystems for wildlife and provides valuable ecological services for Florida's future generations.

Landscape ecology recognizes and explicitly includes humans as entities that affect change in the landscape. It provides a means to create a blueprint for integrating conservation and community development, allowing us to find ways for humans, plants, and wildlife to better co-exist.

By incorporating the methods of landscape ecology, this document provides guidance for developing land in-sync with healthy, functioning natural ecosystems that support and improve local biodiversity—it provides instruction as we create physical spaces for both wildlife and humans to thrive in.

Step Three

RIGHT LOCATION, RIGHT TEAM

Science-based conservation data showing critical wildlife movement corridors is easily accessible to developers, government agencies, and community members for collaboration and use.

Right Location

The design strategies CCC Guidelines are designed to be flexible rather than prescriptive and can be adopted based on the local context, surrounding environment, and needs and constraints of the project. Before developing a corridor-compatible community, two prerequisites must be met: choosing the right location for development and assembling a multidisciplinary team. These principles ensure that ecological needs and economic interests work together harmoniously for a better Florida. Pre-design site assessment begins with a landscape-level review of the prospective project area and its relationship to the Corridor to assess potential for restricting or severing wildlife movements that would further fragment the Corridor. The enlisted team should collaborate on site assessment and planning, design, construction, management, and effects on any adjacent wildlife corridors and/or conservation lands. This team would be responsible for determining if avoidance strategies and minimization efforts within the design of the Corridor Compatible Community were adequate to retain functional connectivity through the site. The team should develop a best practices management plan specific to the ecological needs and longevity of the site.

To achieve Corridor Compatible Community status, project teams need to use conservation data from the onset in planning and designing the community in the right location. To start using the data:

1. Review The Florida Ecological Greenways Network Map Viewer. experience.arcgis.com/experience/27b8d8cd961c4f5091655c52c74d3ada

2. The FEGN provides the scientific foundation for the geography of the Florida Wildlife Corridor. This statewide database

identifies and prioritizes a functionally connected statewide ecological network of public and private conservation lands. It is the primary data layer used to inform the Florida Forever, Rural and Family Lands Protection Program, and other federal, regional, and state land acquisition programs regarding the most important ecological corridors and intact landscape across the state for protection of Florida's native wildlife, ecosystem services, and ecological resiliency.

3. To further determine the right location, utilize the newly launched Corridor Connect Toolbox for layered conservation data. Within the toolbox, you can access the following datasets and integrate them with your proposed project's existing GIS database:

   a. *Corridor Land Cover Map*
   arcgis.com/apps/mapviewer/index.html?webmap=e25122da5e6644878badc07d96524a7

   b. *FEGN and Ecological Connectivity Planning Viewer*
   conservation.dcp.ufl.edu/fegn

   c. *ETDM Wildlife Crossings/Panther Least Cost Pathways*
   etdmpub.fla-etat.org/est

   d. *ETDM Assorted layers*
   etdmpub.fla-etat.org/est

   e. *Circuit Model & Horizons*
   archbold.maps.arcgis.com/apps/instant/basic/index.html?appid=c869b2ec842c4e55a805ab6831772412)

   f. Further instructions for utilizing the toolbox can be found at corridorconnect.org/media_center

4. Project sites that fall within narrow pinch points such as those shown in Appendix B have a high potential for Corridor fragmentation, making mitigation difficult and possibly cost prohibitive. **Any project that functionally and practically severs wildlife movements between adjacent habitat that is connected in the pre-project condition would not be considered a Corridor Compatible Community.** Consider avoiding projects in these vulnerable areas.

Step Three, *continued*

RIGHT LOCATION, RIGHT TEAM

5. Teams should conduct ground truthing exercises to verify conservation data reviewed on the online statewide data toolbox link are accurate and current to on-site conditions. Final mapping shall be completed utilizing the above steps to ensure protection of priority habitats.

6. Project teams should utilize the CCC Design Guidelines as a handbook for achieving connectivity.

Right Team

Due to their uniqueness and specific focus, the Qualities in **Table 01** (p. 19) also require professionals with specific expertise in order to qualify for points. To help achieve the right team, it is suggested that a core multidisciplinary project team must include at a minimum two (or more) of the following, in each stage of the project development from inception to completion, to qualify for CCC certification (prerequisite):

Landscape architects, land planners adept at incorporating nature-based design solutions, features, and native planting design into the built environment, have Low Impact Development expertise, and a broad knowledge of resilient and ecologically friendly designs. Encouraged, LEED, WEDG, Florida Master Naturalist Certified.

Environmental professionals to perform assessments and surveys, inform site designs, advise on environmental and corridor related considerations and design components, and developing environmental related plans (e.g. restoration, monitoring, maintenance). Prioritize consulting with conservation professionals specialized in working in the specific geographic area of the project site (Biologist, Ecologist, Academic Scientist).

Engineers as needed to address project specific engineering needs (e.g. civil, environmental, geotechnical, traffic) and with Low Impact Development and green infrastructure experience.

Outreach facilitation professionals to ensure inclusive and equitable interested party engagement.



Three teenage girls examine camera trap photos with William Freund of the F-Stop Foundation on the 2021 Spring to Shore Florida Wildlife Corridor Expedition
Photo by Alex Freeze

Step Three, *continued*

RIGHT LOCATION, RIGHT TEAM

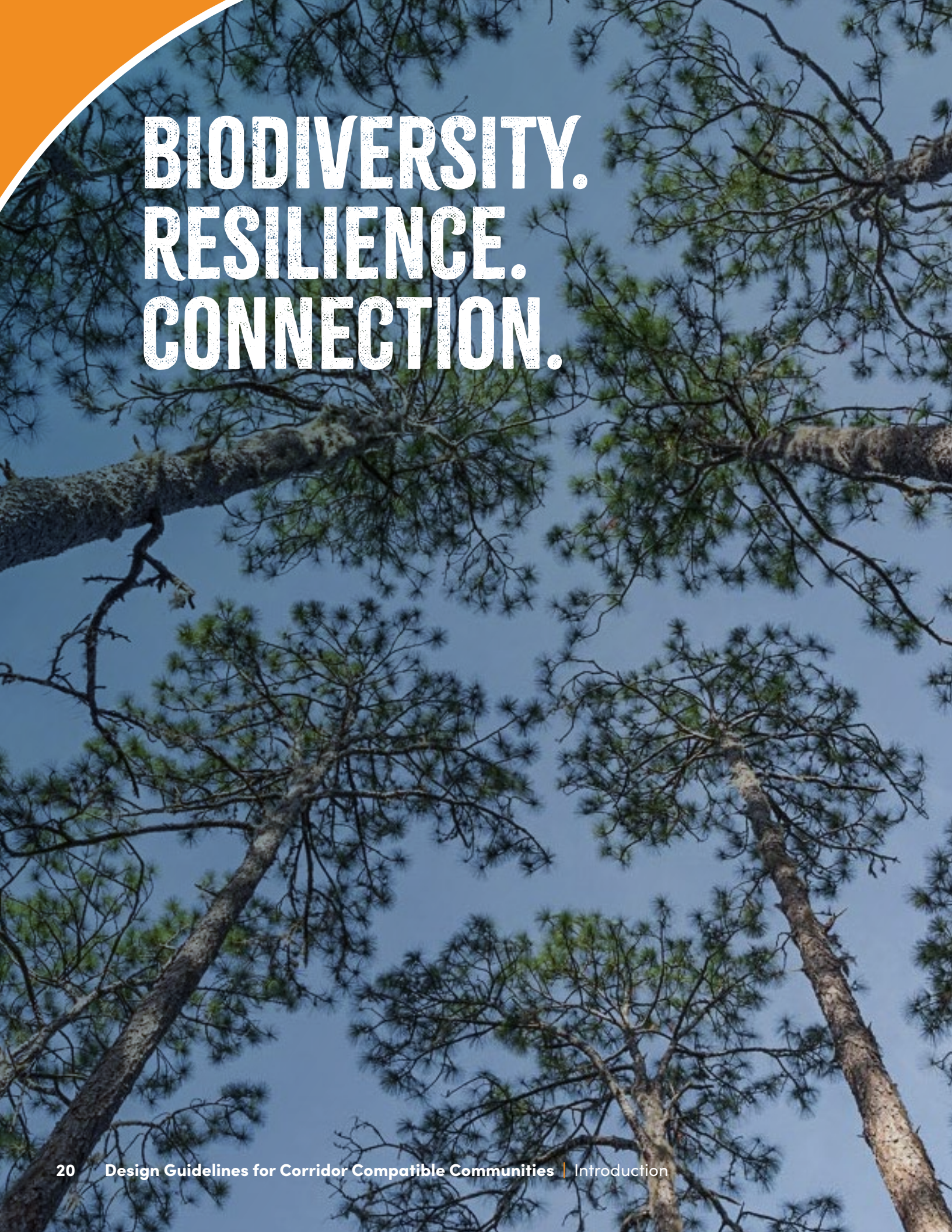
Marketing professionals to inform and strategize on marketing CCC Qualities and design strategies as community assets.

Community organizers to engage local interest groups to inform on specific topics such as the environment, community culture, and local history.

In addition, the project team should consult with to local and regional conservation and wildlife organizations identify existing research, tools, and other mechanisms applicable to the site. These organizations' local and regional expertise can help inform environmental and ecological assessments site design. Building relationships with these organizations may also result in them becoming project advocates and champions helping to support and advance the project.

TABLE 01: PROJECT TEAM EXPERTISE

QUALITY	EXPERTISE
QUALITY 1.1 **DESIGN WITH NATURE**	• Biologist or ecologist with at least 2 years experience working with the targeted corridor species and specific knowledge of their ecological and biological needs. • Land planner, landscape architect demonstrating 5 years experience with designing Low Impact Developments (LID). • Ancestral wisdom.
QUALITY 1.3 **INNOVATIVE & EQUITABLE ENGAGEMENT**	• Trusted local organizations to lead the engagement processes. • Ancestral wisdom experts. Historic resources experts.
QUALITY 1.4 **CONNECTIVITY BETWEEN CONSERVATION LANDS**	• Biologist or ecologist with at least 2 years experience working with the targeted corridor species and specific knowledge of their ecological and biological needs. • Landscape architect collaborating with ecologists and biologists to design vegetation that mirror adjacent conservation lands and support wildlife movement. • Ancestral wisdom experts. Historic resources experts.
QUALITY 1.5 **COMMUNITY LANDSCAPE STANDARDS**	• Landscape architect with experience in native plant design, sustainable landscape management, and integrating biodiversity standards into community developments.
QUALITY 2.1 **ROADWAY IMPACTS ON WILDLIFE**	• Roadway engineer or professional proficient in wildlife crossings and wildlife avoidance and minimization design techniques.
QUALITY 2.2 **REDUCING WATER QUALITY IMPACTS**	• Surface water engineer with at least 3 years experience with designing and implementing Green Stormwater Infrastructure.


BIODIVERSITY.
RESILIENCE.
CONNECTION.



The Goal:

TO SAVE AND PROTECT BIODIVERSITY, RESILIENCE, AND CONNECTION.

The *Design Guidelines for Corridor Compatible Communities* employs an evidence-based system of Qualities and guidelines focused on biodiversity, resilience, and connection as the three pillars of excellent land development strategies.

Biodiversity
Protect, regenerate, and promote biodiversity to ensure the critical natural systems needed for life on earth to flourish.

Resilience
Look to protect and mimic natural systems because they resist damage and recover quickly from climate hazards.

Connection
Place priority on the connectivity and system needs of wildlife and plant species so they may thrive.

Left: Longleaf Pine Ecosystem Florida Forever Project
Photo by Florida Department of Environmental Protection

How to Use This Document

THESE DESIGN GUIDELINES ARE A TOOL THAT ENSURES A CONNECTED CORRIDOR

Audience

This design guide looks to provide a digestible document for: community members, landowners, conservationists, architects, landscape architects, engineers, urban planners, policy makers, municipalities, land use attorneys, and developers.

Intent

Beta Version 1.0 of this document serves three main purposes:

1. To establish a new standard of best practices for wildlife-friendly development.
2. To provide educational guidance for professionals, students, and community members interested in wildlife-friendly design strategies.
3. To offer a resource for advocates seeking to incorporate wildlife-friendly development practices into local ordinances.

The subsequent version of this document is planned to be used as a rating system, similar to LEED®, WEDG®, SITES® Envision®, or Green Globes®. Version 2.0 will assess projects at the site and ecological level.

Document Structure

The current document is arranged in tiered categories that contain Qualities for planning and designing Corridor Compatible Communities. The information within represents a suite of best practices and design strategies that project teams can implement. The collection of tiered Qualities can be used as a launching point for discussion with landowners, community members, government agencies, and interested parties to create exceptional Corridor Compatible Communities.

The subsequent version of this document will add a scoring structure that is tiered, such that avoidance receives the highest points, followed by minimization and then mitigation. The hierarchy of the point system will weight categories and Qualities with the ultimate importance given to projects that achieve compatibility for a connected corridor.

Acknowledgements

Thank you for your invaluable contributions!

Corridor Compatible Communites Committee

Lead: Lindsay Stevens, JD, AICP, The Nature Conservancy
Co-lead: Rebecca Bradley, Cādence, Landscape Architecture
Haley Busch, 1000 Friends of Florida
Ernie Cox, Family Lands Remembered
Kim Dinkins, 1000 Friends of Florida
Kerry Flaherty-Walia, Tampa Bay Estuary Program
Elizabeth Fleming, Defenders of Wildlife
Alex Freeze, Florida Wildlife Corridor Foundation
Jason Lauritsen, Florida Wildlife Corridor Foundation
Daniel Smith, University of Florida

Technical Advisors

Lesley Bertolotti, The Nature Conservancy
Kierstyn Cox, The Nature Conservancy
Katasha Cornwell, Florida Department of Transportation
Isabella Guttuso Browne, University of Florida
Kailyn Lawson, The Florida Wildlife Corridor Foundation
Belinda Nettles, University of Florida
Christianah Oyenuga, Ph.D., The Nature Conservancy
Brent Setchell, Florida Department of Transportation
Jason Totoiu, Center for Biological Diversity

Supporters

1000 Friends of Florida
Cādence, Landscape Architecture
Defenders of Wildlife
Family Lands Remembered
Florida Department of Transportation
Florida Wildlife Corridor Foundation
Tampa Bay Estuary Program
The Nature Conservancy
University of Central Florida
University of Florida

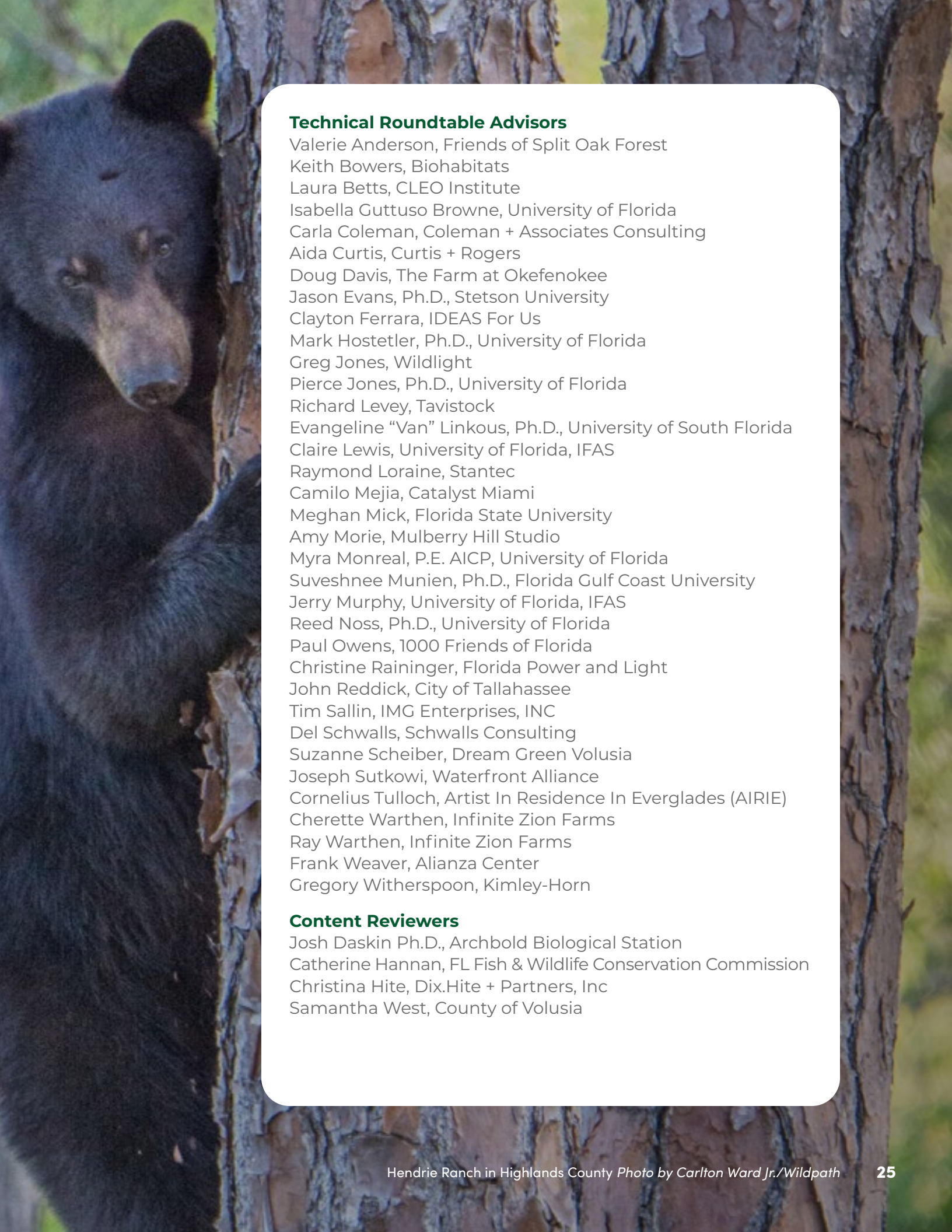
Book Design and Prepared By

Cādence, Landscape Architecture

Photography by

Florida Wildlife Corridor Foundation
Wildpath





Technical Roundtable Advisors

Valerie Anderson, Friends of Split Oak Forest
Keith Bowers, Biohabitats
Laura Betts, CLEO Institute
Isabella Guttuso Browne, University of Florida
Carla Coleman, Coleman + Associates Consulting
Aida Curtis, Curtis + Rogers
Doug Davis, The Farm at Okefenokee
Jason Evans, Ph.D., Stetson University
Clayton Ferrara, IDEAS For Us
Mark Hostetler, Ph.D., University of Florida
Greg Jones, Wildlight
Pierce Jones, Ph.D., University of Florida
Richard Levey, Tavistock
Evangeline "Van" Linkous, Ph.D., University of South Florida
Claire Lewis, University of Florida, IFAS
Raymond Loraine, Stantec
Camilo Mejia, Catalyst Miami
Meghan Mick, Florida State University
Amy Morie, Mulberry Hill Studio
Myra Monreal, P.E. AICP, University of Florida
Suveshnee Munien, Ph.D., Florida Gulf Coast University
Jerry Murphy, University of Florida, IFAS
Reed Noss, Ph.D., University of Florida
Paul Owens, 1000 Friends of Florida
Christine Raininger, Florida Power and Light
John Reddick, City of Tallahassee
Tim Sallin, IMG Enterprises, INC
Del Schwalls, Schwalls Consulting
Suzanne Scheiber, Dream Green Volusia
Joseph Sutkowi, Waterfront Alliance
Cornelius Tulloch, Artist In Residence In Everglades (AIRIE)
Cherette Warthen, Infinite Zion Farms
Ray Warthen, Infinite Zion Farms
Frank Weaver, Alianza Center
Gregory Witherspoon, Kimley-Horn

Content Reviewers

Josh Daskin Ph.D., Archbold Biological Station
Catherine Hannan, FL Fish & Wildlife Conservation Commission
Christina Hite, Dix.Hite + Partners, Inc
Samantha West, County of Volusia

Hendrie Ranch in Highlands County *Photo by Carlton Ward Jr./Wildpath*

CATEGORY 1





Archbold's Buck Island Ranch serves as a study site where scientists and ranchers work together to understand the impact of ranching and improve its sustainability
Photo by Carlton Ward Jr./Wildpath

Site Planning & Design

Quality 1.1

DESIGN WITH NATURE

Intent

The project is designed with careful regard to protect the existing ecology, wildlife habitat, and natural resources in and adjacent to the project site.

Description

This requirement recognizes projects that lead with the land and prioritize the protection of natural land, water, and other natural resources. These resources are vital for the survival and connection of native plants and animals (including humans) to the world around them. Projects that incorporate Low Impact Development (LID) and landscape ecology principles to avoid or minimize the impact to natural systems and resources within and adjacent to the project site best meet the intent of this Quality.

Landscape ecology principles offer valuable guidance to human development when designing with nature. It is difficult to replace or restore unique habitats found throughout Florida. A key principle of landscape ecology is looking beyond a project or a geopolitical boundary and looking at it from a larger landscape and ecosystem scale. Understanding the broader ecosystem or corridor connections and looking at land use and design decisions from the standpoint of the Florida Wildlife Corridor overall and within the regional context is essential to its success.

LID also supports designing with nature. LID incorporates natural infrastructure such as depressions, well drained soils, forests, trees, and/or nature-based solutions that use or mimic natural hydrologic and ecological processes. While LID is commonly considered an approach to land development or redevelopment to help manage stormwater, the key elements of LID also lend themselves to protecting natural areas allowing them to serve as corridors. Other benefits of LID include flood protection and risk reduction, attractive natural community amenities, water features, micro-parks, community gathering places, and opportunities for walking and biking trails through natural areas. Less visible

benefits include increased absorption of greenhouse gases, reduced urban heat island effects, and numerous ecological benefits. Realizing these benefits begins with an appropriately planned LID site design, early in the site's planning stage (UF & TNC 2024).

Design Strategies

Through an assessment of existing critical rare or endangered habitats and proximity to conserved and wild lands, projects should ensure minimal disruption to the ecosystem as a result of development. Conservation easements or other methods should be utilized if critical habitats exists on the project site. Even if not located on rare or endangered habitat, projects should place great care for locations of structures and infrastructure, considering beyond the minimum buffers and set backs, and incorporate an overall native plant palette for both buffers, common green space, and any residential or commercial landscape planned for the project. During the preliminary conceptual design phase, develop long-term plans for the promotion of species interaction and support of local biodiversity needs and goals.

Avoid Impacts To Important Natural Systems

It is difficult, if not impossible, to replace native habitats and the ecosystem services they provide to nature and people once they are removed. This Quality focuses on the key LID principle of natural features and avoiding impacts to important areas, in order to retain the benefits to wildlife and people. Protecting areas considered critical for wildlife movement or with rare habitats should be prioritized and legal mechanisms for their protection should be established. For wildlife corridors, avoidance strategies can include:

- Protecting hydrologic features and riparian buffers.
- Preserving open spaces and natural areas.
- Ensuring connectivity (preventing fragmentation) of wildlife habitats and conserving existing wildlife migration corridors.
- Avoiding impacts to designated wildlife habitat areas

(e.g. critical habitat) and sensitive ecological areas (e.g. containing rare species or endemic species). Any areas on the Endangered Species Act (ESA) list of critical habitats should be avoided for construction or development. By not developing in these areas and ensuring properly designed buffers between these natural areas and developed areas these critical, native habitats have the best opportunity to continue to function, thrive, and adapt over time.

It is also necessary to incorporating appropriate buffers and transitions between conserved, protected, and preserved areas and adjacent surface waters (e.g. lakes, wetlands, streams, and rivers) and developed areas. Designs with planted ecotones (transitional plantings) help support and protect the adjacent natural habitats and water Quality. Choosing the right buffer width depends on the type of habitat and species the buffer is intended to protect. Coordination with wildlife agencies (Florida Fish and Wildlife Conservation Commission [FWC] and the US Fish and Wildlife Service[FWS]) is essential in determining appropriate buffer size. See Quality 3.4 for more details on buffers.

It is seldom feasible to avoid impacts all together, so minimization strategies should be incorporated to off-set unavoidable impacts. Many of the other Qualities address minimization techniques and strategies: Quality 1.2, 1.3, 1.4, 2.1, 2.2, 3.1, 3.2, 3.3, 3.4.



Mangrove-marsh ecotone viewed from above at Everglades National Park
Photo by NPS/South Florida & Caribbean Network



Limpkin seen by kayak on the Blueways Trail at Loxahatchee Slough Natural Area
Photo by Stephanie Dunn, Cadence

Consider the Greater Wildlife Corridor Landscape

Establishing an effective wildlife corridor requires looking beyond one site or one geopolitical boundary. Collaborating with local governments and other developments on landscape scale planning for the corridor is key. Examples of incorporating landscape ecology into designs include:

- Site designs that incorporate corridors that are contiguous with adjacent corridors and natural lands thereby avoiding fragmentation of the corridor. Review the Florida Ecological Greenways Network (FEGN) to assess priority areas important for biodiversity and ecosystem services.
- Applying innovative approaches aimed at avoiding fragmentation of the corridor and ensuring it's ecological integrity at scale.

Quality 1.1
Design with Nature, *continued*

Incorporate other wildlife-friendly best practices and design techniques to minimize wildlife impacts and disturbance, including, but not limited to:

- Use International Dark-Sky Association (IDA) compliant outdoor lighting adjacent to wildlife corridors and natural areas.
- Locate amenities and activities that could be disruptive to wildlife (e.g. noise) away from natural areas and wildlife habitat and towards the center of the development/site.
- Allow for only wildlife compatible and passive recreation around and within natural areas.
- Restrict disruptive construction practices during critical periods for key wildlife species in the area (e.g. avoid clearing, blasting, and burning forested habitats during bear denning season).
- Avoid directly impacting natural features/systems and important habitats to the greatest extent possible, and ensure measures are in place to guarantee permanence of these areas.
- Create wildlife-friendly landscapes with native plants and habitat features.
- Only construct and develop in the least sensitive areas of the site. Reduce clearing and grading and heavy equipment in natural areas to retain native soils and root zones.
- Protect heritage and specimen trees instead of clear-cutting all trees at the site.
- Use creative design elements like positioning stormwater lakes as physical barriers between conservation lands and development.

Requirements
The following requirements must be demonstrated:

- How impacts to key wildlife corridors and habitats are avoided and how these areas are incorporated into the site design. At a minimum critical corridors must be maintained. These areas should be set aside as conservation areas within the project site. Conservation areas should be designated by state or land trust. Establish management plans and formal protective mechanisms.
- Incorporate other wildlife-friendly best practices and design techniques included in the design strategies listed above to minimize indirect impacts to wildlife.
- Show proof that natural infrastructure such as wetlands and waterways that serve as natural drainage features remain. Attempt to retain the site's pre-development hydrological regime.
- Incorporation of LID strategies, as suggested in this Quality above, into the site design to the greatest extent possible. Construction does not occur in critical habitat areas or sensitive ecological sites. The design works with the site's natural terrain instead of clear cutting and reshaping the landscape.
- Demonstrate that project buffers and ecotone transition zones between developed areas and protected/preserved areas (e.g. animal migration routes, natural areas) are sufficient to prevent disturbance and negative edge effects to the protected/preserved areas. Buffer zones and setbacks should exceed FWC/FWS minimum requirements by a minimum of 10 feet. Buffer design will depend on their purpose (e.g. water Quality protection, animal migration). Identify what species, purpose, and habitats are targeted for the designed buffers. (See also Quality 2.3 Buffers and Minimizing Edge Effects).
- Incorporate biophilic design into the approach of building and interior design components of the project. These design elements foster connection between people and the natural world.

Quality 1.1
Design with Nature, *continued*

Supporting Evidence

Narrative (1,000 words or less) that describes how the project meets the CCC requirement criteria, efforts taken to Design with Nature, key animal populations and plant habitats integrated into the project's site design, and overall effort to ensure connectivity for wild species.

List of the supporting materials, such as, Environmental Impact Assessments, conservation easements or other preservation submission paperwork. If a state or local government partnership has been secured, include any supporting documents. Also provide a short description of the relationship of these materials sought by the project team.

Dimensioned site plans indicating setback from vital habitats. Site plans should clearly indicate the buffer zones as required, the designed distance from the buffered feature and any conservation areas.

- Desktop regional ecological assessment and a site field ecological assessment within the site including a survey map, and a description of existing habitats and key plant and animal populations including any additional diagrams of habitat connectivity and animal movement; surveys should be performed by an ecologist/biologist and sealed by a professional environmental engineer.
- Dimensioned plan view and cross-section site plans sealed by a professional landscape architect or engineer indicating no-touch/preservation/protection areas, buffer zones with ecotone zones, low-impact design components, and other wildlife-friendly best practices.
- All relevant permitting documentation.

Resource Materials

Please use the following references to support your documentation process:

- Level III and IV Ecoregions of Florida, U.S Environmental Protection Agency: gaftp.epa.gov/EPADataCommons/ORD/Ecoregions/fl/fl_eco_pg.pdf
- Florida Wildlife Conservation Guide - Conservation Planning: myfwc.com/conservation/value/fwcg/conservation/planning
- Florida Wildlife Conservation Guide - Wildlife: myfwc.com/conservation/value/fwcg/wildlife
- The Florida Ecological Greenways Network (FEGN): conservation.dcp.ufl.edu/fegn
- Enabling Low Impact Development and Green Stormwater Infrastructure – A Code Audit Tool For Florida Counties and Municipalities. Prepared by University of Florida and The Nature Conservancy. (UF & TNC 2024): floridawildlifecorridor.canto.com/v/O370TTIPIG/album/NQD26
- National Ocean and Atmospheric Administration's Coastal & Waterfront Smart Growth - Low Impact Development Applications: coastalsmartgrowth.noaa.gov/gettingstarted/lid_apps.html
- Florida Wildlife Conservation and Buffers: A Practicable Tool for Protecting Streams and Wetlands: https://myfwc.com/media/18252/wetland-buffers-usfws.pdf
- Conservation Buffers: Design guidelines for buffers, corridors, and greenways | US Forest Service Research and Development. USDA Forest Service: research.fs.usda.gov/treesearch/33522
- Florida Wildlife Extension: Green Communities - Florida Wildlife Extension at UF/IFAS: wec.ifas.ufl.edu/extension/gc
- Applying landscape ecological concepts and metrics in sustainable landscape planning - ScienceDirect: sciencedirect.com/science/article/abs/pii/S0169204602000051

Quality 1.1
Design with Nature, *continued*

- DarkSky International | Protecting the night skies for present and future generations: darksky.org
- Principles of Landscape Ecology | Learn Science at Scitable: nature.com/scitable/knowledge/library/principles-of-landscape-ecology-13260702
- Florida Fish and Wildlife Conservation Commission Wildlife Friendly Designs - Bears: myfwc.com
- Florida Black Bear Crossings - Reduce Human Impacts on Bears | FW: myfwc.com/wildlifehabitats/wildlife/bear/crossings
- The Sustainable Sites Initiative SITES | Developing Sustainable Landscape: sustainablesites.org
- Design with Nature, by Ian L.McHarg: mcharg.upenn.edu/conversations/what-does-it-mean-design-nature-now
- The McHarg Center, Richard Weller, Frederick Steiner, and Billy Fleming: mcharg.upenn.edu
- Grey to Green, City of Winter Haven: floridawildlifecorridor.canto.com/v/O370TTIPIG/album/NQD26
- Volusia County Low Impact Development Guidebook: volusia.org/core/fileparse.php/6149/urlt/Request-3-LID-Guidebook-attachment.pdf
- Greening Development Site Location, Review and Design | NC Wildlife: ncwildlife.gov/wildlife-habitat/conservation-restoration-programs/green-growth-toolbox/greening-development-site-location-review-and-design#WildlifeFriendlyDevelopmentCertification-977

Quality 1.2

COEXISTING WITH THE CORRIDOR

Intent

Assess on-site conditions to inform a design and management approach in line with existing site ecology and conditions, and establish a baseline from which to measure ecological coexistence with the Florida Wildlife Corridor.

The purpose of the Florida Wildlife Corridor Act (Section 259.1055, Florida Statutes), and of the Florida Wildlife Corridor itself, is to create incentives for conservation and sustainable development while sustaining and conserving the green infrastructure that is the foundation of this state's economy and Quality of life by doing all of the following:

a. Maintaining wildlife access to the habitats needed to allow for migration of and genetic exchange amongst regional wildlife populations.

b. Preventing fragmentation of wildlife habitats.

c. Protecting the headwaters of major watersheds, including the Everglades and the St. Johns River.

d. Providing ecological connectivity of the lands needed for flood and sea-level rise resiliency and large-scale ecosystem functions, such as water management and prescribed burns essential for land management and restoration.

e. Preserving and protecting land and waters that are not only vital to wildlife but are critical to this state's groundwater recharge and that serve as watersheds that provide drinking water to most Floridians and help maintain the health of downstream coastal estuaries.

f. Providing for wildlife crossings for the protection and safety of wildlife and the traveling public.

g. Helping to sustain this state's working ranches, farms, and forests that provide compatible wildlife habitats while sustaining rural prosperity and agricultural production.

Quality 1.2
Coexisting with the Corridor, *continued*

Description
Coexistence or "Compatibility" is defined under the Community Planning Act as a condition in which land uses or conditions can coexist in relative proximity to each other in a stable fashion over time such that no use or condition is unduly negatively impacted directly or indirectly by another use or condition.

Development projects in the State of Florida are inherently exposed to the impacts of climate change and an increased exposure to extreme weather events. This, coupled with the impeding pressure on the land to house and serve the state's human migration rates, demonstrates the need for careful assessment and planning to ensure development and the biological integrity of the Florida Wildlife Corridor can coexist. Therefore, a multidisciplinary team should conduct an initial site assessment before designing the project. The result of these analyses will inform the design strategies for environmental health, biological diversity, wildlife connectivity, resiliency, adaptation, and mitigation of flood risk.

Design Strategies
Use Table 02 and the methods detailed in Appendix A: Initial Assessments to develop an assessment of the site's existing ecological conditions. These assessments are a prerequisite for achieving many Qualities laid forth in the design guidelines to ensure that projects are designed and managed appropriately to coexist and support the biological integrity of the Florida Wildlife Corridor.

Requirements
- ☐ Submit an assessment of the compatibility report documenting the project's compatibility to co-exist with the Florida Wildlife Corridor.

Supporting Evidence
Complete Table 02 that identifies that the assessments were completed.

Supporting materials for the documentation may include, but are not limited to, National Environmental Policy Act

(NEPA) documents, environmental impact statements, Geographic Information System (GIS) analysis from the provided conservation datasets (found within the FEGN and CCC Toolboxes), Lidar analysis, geotechnical reports, existing biological assessments, site plans, photographs, and flood maps.

Resource Materials
Please use the following references to support your documentation process:

- Florida Wildlife Corridor Act: Section 259.1055, Florida Statutes: leg.state.fl.us/statutes/index.cfm?App_mode=Display_Statute&Search_String=&URL=0200-0299/0259/Sections/0259.1055.html
- CCC Mind the Gap Toolbox:
  - **a.** *Corridor land cover map:* arcgis.com/apps/mapviewer/index.html?webmap=e25122da5e6644878badc07d96524a76
  - **b.** *FEGN and Ecological Connectivity Planning Viewer:* conservation.dcp.ufl.edu/fegn
  - **c.** *ETDM Wildlife Crossings/Panther Least Cost Pathways:* etdmpub.fla-etat.org/est
  - **d.** *ETDM Assorted layers:* etdmpub.fla-etat.org/est
  - **e.** *Circuit Model & Horizons:* archbold.maps.arcgis.com/apps/instant/basic/index.html?appid=c869b2ec842c4e55a805ab6831772412)
- Florida Cooperative Land Cover Map: fnai.org/services/coop-land-cover
- Florida Natural Areas Inventory Data Resources: fnai.org/publications/data-requests
- FEGN Priority 1-4 or Florida Forever Footprints: experience.arcgis.com/experience/27b8d8cd961c4f5091655c52c74d3ada/

Quality 1.2
Coexisting with the Corridor, *continued*

TABLE 02: ASSESSMENTS AND Quality REQUIREMENTS

ASSESSMENT	QUALITY REQUIREMENTS
ARCHAEOLOGICAL	1.1, 1.2, 2.1, 2.2, 4.1, 4.2, 4.3
COMMUNITY AND HISTORICAL CONTEXT	1.1, 1.2, 1.3, 1.4, 4.1, 4.2, 4.3
COMMUNITY PROFILE	1.2, 1.3, 1.6, 2.1, 2.3, 3.1, 3.4, 4.1, 4.2, 4.3
CONNECTIVITY	1.1, 1.2, 2.1, 2.2, 3.4
DISCHARGE RATE	1.2, 1.4, 1.5, 1.6, 2.2, 3.1, 3.2
ECOSYSTEM SERVICES	3.1, 3.2, 3.3
HABITAT EXTENT	1.1, 1.2, 3.1, 3.2, 3.3, 3.4
HABITAT QUALITY	1.1, 1.2, 2.2, 3.1, 3.2, 3.3, 3.4
IMPACTED AREA	3.1, 3.2, 3.3
LANDSCAPE ECOLOGY	1.6, 3.1, 3.2, 3.3, 3.4
LIGHTING	1.1, 1.2, 1.5, 2.1, 2.2, 3.4
PRECIPITATION	1.2, 2.2
RISK AND VULNERABILITY TO SEA LEVEL RISE *EXTREME EVENTS	1.1, 1.2, 2.2
SOIL CONTAMINATION	1.1
STORMWATER INFRASTRUCTURE	2.1, 2.2
STORMWATER QUALITY	2.1, 2.2
TRANSPORTATION ACCESS	1.2, 2.1, 2.2, 4.2
VEGETATION DENSITY/COVER	1.1, 3.1, 3.2, 3.3, 3.4
WATER USE AND WASTEWATER MANAGEMENT	1.5, 1.6, 2.2

Quality 1.3

INNOVATIVE & EQUITABLE ENGAGEMENT

Intent

Equitably engage with all interested parties in the vision, design, and implementation of the project to create corridors and lasting management and programming within developments that embody Quality wildlife connections, integrity of ecosystem services, and increase biodiversity.

Description

Corridor Compatible Communities are developments where humans respectfully share the land with other species. Efforts to engage and communicate with the community should go beyond minimum requirements by regulatory agencies. Interested parties should include but not be limited to those from tribal nations, those with diverse backgrounds, ethnicities, and social economic status, and those from different industries and local organizations. Building trust and strengthening relationships with interested parties involves thinking ahead and early coordination. Projects should establish an interested party engagement plan, involving trusted members of the community, from the beginning of the process. This engagement plan should demonstrate engagement from the visioning process, through design, and all the way through construction and operational management of the development.

Design Strategies

Conduct an engagement process that reflects the local community's characteristics to ensure the plan is relevant and culturally appropriate. Local organizations can help understand community culture, anchor public meetings, determine agenda topics, seek out local knowledge, and gather community input. Equitable engagement best practices should be followed. These include but are not limited to:

- Early communication and honest dialogue with interested parties.
- Universal design guidelines for digital and print communications.
- Multi-lingual communications.

Quality 1.3
Innovative and Equitable Engagement, *continued*

- Convening meetings at local community centers and at a variety of times, with child care provided.
- Enabling multiple avenues for public participation, such as, in-person, online, and via text apps.

Demonstrate equity, inclusivity, health, and well being of wildlife and humans, resilience, corridor connectivity, and biodiversity protection in the engagement plan. Engagement plans should focus on strategies and activities that build trust, seek out collaborative efforts with interested parties including like-minded developers, leverage trusted organizations and existing opportunities for engagement, ensure a diverse representation of people and ideas, and utilize a wide array of technological tools such as access to video conferencing platforms for public participation. Understanding community concerns and assets, as well as conservation goals and needs, is even more important in locations where critical pinch points in connection are at risk. Please see Appendix B to see if your project is in a corridor pinch point location.

Communities and wildlife habitats that have historically experienced environmental neglect and conservation disinvestment will require demonstration for more thoughtful and meaningful engagement.

1000 Friends of Florida's Citizen Planning Bill of Rights (1000fof.org/citizens/bill) for community engagement is a helpful resource to build upon a formidable engagement plan.

Interested Parties Engagement Plans
Establish effective engagement processes for interested parties that are guided by a framework plan that informs planning and execution.

Engagement Execution
Create successful engagement that includes multiple and diverse opportunities for feedback.

TABLE 03: QUALITIES REQUIRING INTERESTED PARTIES INVOLVEMENT

QUALITY	TITLE
QUALITY 1.1	Design with Nature
QUALITY 1.4	Connectivity Between Conservation Lands
QUALITY 1.5	Community Landscape Standards
QUALITY 2.1	Roadway Impacts on Wildlife
QUALITY 4.1	Communication of Wildlife Connectivity
QUALITY 4.2	Passive Recreation Trails & Other Amenities
QUALITY 4.3	Instilling Corridor Stewardship

Requirements

Project must demonstrate a robust and diverse community engagement plan and execution, exceeding regulatory agency requirements.

The following requirements must be demonstrated:

- Provide evidence that the project team conducted an analysis of interested parties early or in advance of the design stage to guide its community engagement strategy. At minimum, the project must have assessed the geographic areas, critical habitats, and interested parties impacted by the development and how they would be affected.
- Utilize multiple methods of engagement to capture local community and interested parties feedback for the development. Methods include, but are not limited to, pop-up events, QR code notifications, public workshops,

Quality 1.3
Innovative and Equitable Engagement, *continued*

webinars, charrettes, site tours, multi-lingual community surveys, WhatsApp text polls, and project websites. The project should include a summary of community feedback from each method of engagement. The project must meet the standards below or exceed local requirements for public review, whichever is more stringent:

- Four or more diverse methods of capturing feedback from the local community and interested parties including but not limited to a variety of meeting times, multilingual communications, accessibility, and child care provisions for at least one event.
- Notify adjacent community members and landowners beyond the minimum address notification radius by following natural system boundaries. This approach encourages broader collaboration with those whose proximity to nearby wildlands may influence or be impacted by downstream effects—often overlooked when relying solely on arbitrary distance-based notification practices.



Marion County Mind the Gaps Workshop
Photo by Ethan Coyle, Florida Wildlife Corridor Foundation

- Identify the influence of engagement plan outcomes on the project design. The project should provide evidence of how the initial designs were informed as a result of community input early in the process or how the design, amenities, programming, and required green buffers changed as a result of the community feedback.
- Plan to engage interested parties during the construction process.

Supporting Evidence

Narrative (500 words or less) that identifies material changes in the plans that resulted from the engagement process. The narrative should also discuss how interested parties analysis informed the types of engagement methods utilized and how the project collected and utilized feedback in the design process.

Holistic engagement plan that offers opportunities for equitable and inclusive involvement and input from all interested parties, which includes diverse modes of providing input and accessibility components.

Engagement plan implementation including types of engagement, dates/times, participants, and feedback received.

Supporting materials for this Quality include the project's Interested Parties Engagement Plan, Framework Plan, or other project documents that demonstrate the project undertook analysis of potential interested parties early or in advance of the design phase.

Resource Materials

- 1000 Friends of Florida Citizen Planning Bill of Rights: 1000fof.org/citizens/bill
- Kaner, Sam et al. 2014. Facilitators Guide to Participatory Decision-Making. Jossey-Bass: goodreads.com/book/show/927064.Facilitator_s_Guide_to_Participatory_Decision_Making

Quality 1.4

CONNECTIVITY BETWEEN CONSERVATION LANDS

Intent

Ensure connections to existing public or private conservation lands are incorporated into the design and have long-term protection and management mechanisms in place.

Description

Conservation areas are natural, open, or working lands with long-term legal mechanisms in place for their protection and management. Corridor connections between conservation lands are essential for animal migration, genetic biodiversity, and resilience of important habitats. They ensure our conservation lands are not fragile isolated islands.

In turn, these connections help ensure opportunities for human enjoyment of conservation lands such as recreational activities, wildlife viewing, fishing, historical exploration, scientific research, and traditional uses for indigenous peoples continue. As with conservation lands, connection corridors should have 1) long-term legal protection mechanisms and 2) established management plans with clear goals, and objectives, and detailed management, and monitoring of the corridor.

Design Strategies

If conservation lands are adjacent to the site, the site design should incorporate conservation corridors as buffers sufficient to prevent adverse ecological impacts (e.g. light or sound pollution, infringement, hydrologic alteration, etc.).

Landscape ecology principals addressed in Quality 1.1 should also be applied to meeting criteria for this Quality. Look to multidisciplinary professionals to ensure the landscape of the land is working toward improving connectivity and integrity of ecosystem services.

Conservation corridors can span multiple sites. The site design should incorporate corridors that connect with natural areas or conservation corridors of adjacent sites.

Project design should protect existing conservation corridors as a first priority and create new corridors as a second priority.

Corridor vegetation and structure should mimic what exists in nearby conservation lands and historical natural habitats.

Land use adjacent to connection corridors should be more passive in nature to minimize impacts to the corridors and human/wildlife conflicts.

Roadways or other infrastructure that could affect wildlife should not be sited within or cross connection corridors. If crossings are unavoidable, appropriate wildlife crossings should be incorporated into the design.

Corridors should also provide educational opportunities for the public about the importance of the lands and the practice of conservation (see Quality 4.1 for more details).

Requirements
The following requirements must be demonstrated:

- A connector corridor management plans with clear goals & objectives, and management, Management and monitoring requirements is established.
- Long-term legal protection mechanisms for the Connection Corridors are executed.
- Connection Corridors incorporate all applicable design strategies listed above.
- Project contributes to regional or local restoration plans and priorities.
- The project provides educational opportunities for the public about the importance of such corridors and State of Florida history of conserved lands.

Quality 1.4
Connectivity between Conservation Lands, *continued*

Supporting Evidence
Narrative (500 words or less) that describes how the project meets CCC guidelines scoring criteria. The narrative must identify the following:

- Labeled map of adjacent natural communities and state and federal conservation areas.
- Landscape or planting schedule, showing cross section of native vegetated buffer areas.
- Site plans that demonstrate setbacks exceed minimally required setbacks from property perimeter boundaries.
- Summary of acreage in “transitional areas”.
- Executed legal protection mechanisms.
- Evidence that a Connection Corridor Management Plan, with the components listed under the scoring section, was adopted by the controlling entity.

Resource Materials
Please use the following references to support your documentation process:

- The Florida Wildlife Corridor, Mapping Resources: floridawildlifecorridor.org/maps

Quality 1.5

COMMUNITY LANDSCAPE STANDARDS

Intent

Create and enforce community-wide landscape design and management standards for the landscape palette, management, and performance of landscaped areas within the development.

Description

Landscapes within the built components of the corridor should support biodiversity and wildlife and protect natural systems and resources while also providing aesthetics and enjoyment for people. Research has shown that these Corridor Compatible type landscapes are economically feasible, environmentally beneficial, and socially acceptable as follows.

Greater bio-volume and taxonomic richness in insects (arthropods) essential for migratory and other birds.

- 60-70% less water for outdoor purposes than conventional grassed and irrigated landscapes.
- The potential for 70% less nutrient loading from the landscapes to surface waters, based on preliminary modeling results.
- Comparable (or less) cost to maintain than conventional landscapes.
- Homeowners have equal or greater satisfaction with their yards.

The long-term success of Corridor Compatible Landscapes relies on creation, adoption, and adherence to community-wide landscape standards, for both the public realm and private uses, enshrining the procedures and strategies to:

- Ensure connectivity of essential ecological attributes within landscaped areas (e.g. foraging habitat for pollinators, areas for smaller fauna to transverse).
- Protect the Quality and quantity of water needed for natural systems within the corridor.

Quality 1.5
Community Landscape Standards, *continued*

- Ensure longevity of standards by enshrining them into binding community documents (e.g. bylaws, development orders, stewardship district documents).
- Allow for adaptive approaches to allow for refinement and to ensure achievement of corridor compatible landscape goals.

Design Strategies

Below are approaches and design strategies for inclusion into a community's landscape standards encompassing both the public realm and private uses. The standards should be enshrined into binding community documents (e.g. bylaws, development orders, stewardship district documents) to ensure their longevity.

Ecology

- Maximize biodiversity and ecosystem services by utilizing a minimum of 80% local native palette and including a minimum diversity requirement (e.g. 15 native species per lot).
- Identify any focal or targeted species that are desirable in the landscape and consider the needs of those species in landscape designs such as incorporating forage and host plants, opportunities for resting and shelter, water features, and habitat size needs of target species to provide long-term sustainable habitat.

Water Use

- **Minimize or eliminate irrigation beyond establishment. (Conventional Landscapes use 50 in/yr while sustainable landscapes use an average of 14.7 in/yr). Actual irrigation use should be measured to make sure the reductions of water use are being realized.** One way to do this is to have secondary irrigation meters which allow for a direct measurement of water used for irrigation. It is especially important to ensure the irrigation is substantially reduced following the plant establishment period to achieve water reduction goals. Adjusting irrigation systems following establishment is often forgotten. For higher outdoor water users, collaboratively working with homeowners on lowering water use is recommended.

- Minimize or eliminate reclaimed water irrigation beyond establishment, as this can reduce off-site nitrogen and phosphorus loads by more than 70% over conventional landscapes, which translates to reductions of over 180 lbs-N/ac/yr and 27 lbs-P/ac/yr. A zero fertilizer, freshwater irrigated landscape regime can achieve similar reductions.

Plants

- **Require no less than 80% native plants that are adapted to the climate and thus require less nutrient and water inputs.**
- Maximize the use of alternative groundcovers, such as perennial peanut, sunshine mimosa, and frog fruit, and minimize the use of turf grass which requires more chemicals, fertilizers, irrigation, and maintenance than alternative groundcovers.
- **Minimize the use of turf to use areas in backyards and allow in only over a certain percentage of the lot (e.g. = or < 20% of the overall lot); use alternative drought tolerant and low maintenance ground covers in front and side yards and in common areas.**
- **Develop an allowable plant list with mostly native species or all Florida-Friendly species for the project that is appropriate to the ecoregion. This may already exist or it could be developed with the County's University of Florida's Institute of Food and Agricultural Sciences (UF IFAS) extension agent or the local Florida Native Plant Society (FNPS) chapter.**
- **Prohibit Category I invasive plants as defined by the Florida Invasive Species Council (FISC) and discourage the use of Category II plants.** Category I invasive plants have altered native plant communities by displacing native species, changing community structures or ecological functions, or hybridizing with natives. Category II invasive plants have increased in abundance or frequency but have not yet altered Florida plant communities to the extent shown by Category I species. These species may become

Category I if ecological damage is demonstrated (Definitions from FISC website: floridainvasives.org/plant-list).

- **Prohibit the use of synthetic fertilizers and chemicals.** Encourage organic techniques such as compost, compost teas, and worm teas as fertilizer, corn gluten as pre-emergent weed preventative, and insecticidal soap as insect control, while eliminating or limiting the use of synthetic pesticides, fertilizers, and herbicides. Limit use of pesticides to as needed only and restrict programmatic or scheduled pesticide applications.

Soils

- **Ensure healthy soils where plants, including ground covers, are proposed by:**
  - Retaining native soils where possible.
  - Avoiding unnecessary soil compaction especially in planting areas.
  - Tilling high Quality compost into the first 18 inches of the soil, if soils are nutrient and organic matter poor.
  - Applying at least 2-3 inches of mulch within planting beds and around trees (without mounding at the tree base) to help retain soil moisture and appropriate temperatures.
- Since the transport of materials can be costly, consider looking for a local compost and mulch facility or setting up an on-site composting and mulch facility to recycle natural materials already on site.

Management

- Require a master landscape maintenance contract with a landscape maintenance company experienced in native plant care and natural maintenance techniques, which are

very different than the typical “mow and blow” landscape maintenance. This is recommended for common areas and front lawns at a minimum and will help ensure the longevity, aesthetics, and benefits of these more natural landscaped areas, facilitate tracking of inputs (e.g. fertilizers) onto the landscape, and allow for easier enforcement of standards. Require landscape companies to complete native plant maintenance certification or training programs.

- Develop an overall management plan that includes: specific landscaping goals and objectives, management activities to support these management objectives, opportunities for adaptive management approaches, an on-going monitoring component with appropriate monitoring intervals to evaluate if goals are being met and if not, steps for bringing it back on track, and funding sources for implementation of the plan.

Education and Awareness

- Implement a homeowner corridor compatible landscape education and awareness program to build understanding and appreciation of these landscapes with homeowners. Program components could include:
    - What to expect from corridor compatible landscapes and native plants (e.g. seasonal variability, wildlife usage).
    - Why water demands are lower and when to irrigate.
    - Wildlife friendly maintenance practices.
    - A community water usage dashboard.
    - Lecture series.
    - Hands on experiences.
    - Signage, brochures and flyers.

Quality 1.5
Community Landscape Standards, *continued*

Requirements
The following requirements must be demonstrated:

- Proof of adopted community-wide corridor compatible landscape standards that encompass both the public and private use areas of the development. At a minimum these should include the provisions and design strategies listed above in bold.
- Provide an overall management and education plan per above provisions listed under management and education and awareness strategies.
- Add adaptive management components to the standards and management plan. These additional components will be established and reviewed throughout the life of the project and will ensure the site is equipped to acclimate to changes in climate, site conditions, etc.

Supporting Evidence
Narrative (500 words or less) describing how the project meets CCC guidelines required criteria. The narrative should describe practices in place as well as information on how and to whom the community standards are distributed and monitored.

Sample Table of Contents from community standards documents.

Adopted community landscape design standards meeting the design criteria/guidance for Corridor Compatible landscapes; include implementation, management, and outreach and education components, and measurable and quantifiable goals met as depicted above.

Master Landscape Management agreements with company experienced in native plant care/management.

Resource Materials

Please use the following references to support your documentation process:

- The New Yard Pattern Book for Florida's Sustainable Single Family Homes, OUTSIDE, Sustainable Landscape Collaborative: outsidecollab.com/the-new-yard-pattern-book
- Sustainable Floridians | Creating Thriving Florida Communities: floridawildlifecorridor.canto.com/v/O370TTIPIG/album/NQD26
- IFAS native plant material landscape guide: floridawildlifecorridor.canto.com/v/O370TTIPIG/album/NQD26
- UF IFAS Mulch Guidance: ffl.ifas.ufl.edu/about-ffl/9-principles/principle-4-mulch
- Florida-Friendly Landscaping™ Program - University of Florida, Institute of Food and Agricultural Sciences - UF/IFAS: ffl.ifas.ufl.edu
- UF/IFAS Extension Florida-Friendly Landscaping Natural Landscape Recognition Checklist: ffl.ifas.ufl.edu/media/fflifasufledu/docs/checklists/CLUE_FFL_Natural_Landscape_Recognition_Checklist_2024.pdf
- UF Program for Resource Efficiency 2022. Healthy Soils: floridawildlifecorridor.canto.com/v/O370TTIPIG/album/NQD26
- UF Program for Resource Efficiency 2022. Sustainable Landscapes Groundcovers: floridawildlifecorridor.canto.com/v/O370TTIPIG/album/NQD26
- Florida Invasive Species Council Invasive Plan: floridainvasives.org/plant-list

Quality 1.6

METRICS & DATA COLLECTION PARTNERSHIP

Intent

Expand capacity for tracking, monitoring, and evaluating wildlife populations (including species diversity and abundance), quality of wildlife habitat areas, and impacts on wetlands and surface water quality, and include adaptive management measures to address potential negative impacts.

Description

Create partnerships with academic or research institutions, non-profit organizations, citizen science programs, or other qualified entities to study and monitor the project site to support and advance the understating of impacts to environmental systems and native wildlife occupancy and habitat use. Such partnerships will create the opportunity for consistent monitoring of the project site to promote sustainability and resilience (including adaptation to climate change and extreme weather events).

The data and analysis obtained from on-site research and monitoring will serve to inform the conservation management plan required for management of the project site post-development, allowing for adjustment over time.

Design Strategies

Establish research partners for long-term environmental monitoring. Research partners shall establish a monitoring plan to collect relevant data that can be used to periodically evaluate and improve site management. Utilizing an adaptive management strategy insures long-term viability and resilience to changes in climate, ecosystem dynamics, plant community composition, invasive species, and adjacent land uses.

Requirements
The following requirements must be demonstrated:

- A narrative outlining the proposed methods and data to be collected to evaluate the site before, during, and after construction. The monitoring protocol must be submitted for review and approval before construction.
- An agreement with a research partner. This agreement should outline the extent to which the partner is involved in the project. The partnership should begin before construction and should last a minimum of three years after the completion of the project.
- The project team demonstrates the use of ongoing programming within the development which collaborates with local citizen scientists for bioblitz like events and ongoing monitoring of targeted wildlife activity reflective of key species the landscape was designed to support.
- The project team demonstrates the use of existing studies or research projects related to the project to inform the design.

Supporting Evidence
Narrative (1,000 words or less) that describes how the project meets CCC guidelines scoring criteria, including how the site is maintaining an information database that could be shared for research purposes.

Examples may include an image database if collecting trail camera data, or examples such as genetics on managed or imperiled species.

Resource Materials
Please use the following references to support your documentation process:

- Archbold Open Data: archbold-open-data-archbold.hub.arcgis.com
- BioBlitz Florida: edis.ifas.ufl.edu/publication/UW449
- iNaturalist: inaturalist.org

CATEGORY 2





The Caloosahatchee Ecoscape Florida Forever Project brings critical connections to areas important to the Florida panthers' northward recovery and survival
Photo by Carlton Ward Jr./Wildpath

Reducing Impacts from Infrastructure

Quality 2.1

ROADWAY IMPACTS ON WILDLIFE

Intent

Reduce habitat fragmentation and wildlife-vehicle collisions from roads through roadway siting and design techniques.

Description

Wildlife impacts from roadways include habitat fragmentation and loss, collision-related injury and mortality, disruption of movement patterns, and reduced gene pools and populations. These impacts extend much further than the footprint of the roadway itself the extent of which is termed “road effect zones”, which are estimated to be 20 percent greater than the actual footprint of the road. Habitat degradation at the edge of roadways, known as “edge effect”, is common and allows for opportunistic exotic and invasive plants and animals to out-compete naturally occurring species (UF IFAS EDIS document).

There are many strategies, however, to help avoid and minimize these roadway impacts. First and foremost, to the greatest extent feasible, choose roadway alignments that avoid direct and indirect impacts to natural areas being preserved, created, or restored, and to areas serving as corridors adjacent to or within the site. In areas where this is not feasible or where existing roads already exist, structural design features such as wildlife crossing structures (big or small), wildlife fencing, traffic calming features, low or no curb designs, slow speed zones, and warning signs can help to minimize wildlife impacts, and facilitate safer wildlife movement and migration, and reconnect already fragmented habitats.

Design Strategies

The USFWS’s Roadway Design Guidelines are an excellent resource for design approaches to avoid and minimize roadway impacts on wildlife. It includes a project checklist, one pagers which include the intent, principles, and metrics, and a thorough list of resources for each design recommendation. It acts as a library of design techniques that can be chosen based on the specific project need and situation.

In addition, below are some specific recommendations:

Avoidance

- Site the roadway alignment to avoid road effect zones to important natural areas (preserved, created, or restored) and areas serving as corridors adjacent to or within the site. Ensuring roadways are sited adjacent to compatible land uses on both sides, instead of abutting natural areas, can help with this.
- Evaluate the full road zone effect and if it extends to a natural area or important habitat or corridor area, incorporate measures to minimize this effect such as lower speeds, roads with less traffic volume, and buffers.
- Avoid road alignments that traverse or come close to wildlife movement and migration “pinch points”.

Minimization

Wildlife Crossings

Wildlife crossing structures such as wildlife overpasses and underpasses, are scientifically proven design elements that reduce wildlife-vehicle collisions and enable places for wildlife to cross safely. There are many types and sizes of wildlife crossings each with specific design elements important to improving function, and maximizing wildlife usage and biodiversity, and focusing on target species for which the corridor is being designed. Correct design selection is important for ensuring their performance and success.

There are generally three phases associated with a wildlife crossing project: 1) planning, 2) design and construction, and 3) post-construction. In the pre-construction phase environmental assessments are performed to collect field and landscape data, determine potential (or existing) impacts to species and species habitat in the area, and identify the need and location for potential wildlife crossing structures. Environmental assessments identify the species and habitats that are or could be impacted by the roadway, how the species

Quality 2.1
Roadway Impacts on Wildlife, *continued*

would be harmed, their migration/movement routes, and potential wildlife crossing conflict areas. These areas should be considered for wildlife crossings.

Once a need is identified and potential locations targeted, the site and structural design phase begins. This phase addresses site constraints and opportunities and matches the most appropriate structure size and design to the targeted species and site and roadway characteristics. Essential wildlife-fencing and landscaping is also addressed in the design phase. Plans to detail wildlife-friendly features include small critter crossings (pipe culverts), slow speed zones, curb type, signage, lighting, and buffer zones. Drawings and details show appropriately located wildlife crossing box culvert or bridge structures for larger mammal and reptile species.

Lastly, the post-construction phase includes site and structure maintenance, monitoring, and evaluation of wildlife use, and adaptive management to improve function and performance is recommended. Monitoring the wildlife crossing structures over time (preferably 5 yrs or more, minimum of 3 yrs) to evaluate overall performance and should include data and analysis on species use and avoidance. This information can be used to devise a plan (and identify measures) for improvements, if needed, to increase performance and insure long-term viability.

Other Design Features as:

- Traffic calming features to encourage adherence to slower speed zones.
- Low or no curbs to prevent trapping smaller wildlife on roadways.
- More walkable communities to minimize traffic volume.
- Road geometries designed for lower speeds, safety, and alertness.
- The effects of noise, light, and roadway pollution on habitats and wildlife.

Design roadways within the development to increase permeability of wildlife connectivity and to prevent fragmentation of habitats. Utilize available data sources to better understand potential impacts on the ecosystem from the proposed development especially to identify any existing wildlife corridors and to strive for more permeability in the development for wildlife movement.

For example within a neighborhood you will likely have residential streets with very low speeds (i.e. 20 mph or less) that may feed out to neighborhood spine roads with slightly higher speeds (<35 mph). Additionally, the new neighborhood creates new sources and destinations of traffic which add traffic onto new or existing collector and arterial roads (>35 mph) which increases potential wildlife-vehicle collisions on these roads and eventually may create a barrier to wildlife movement. Each of the roadways and the impacts to wildlife should be addressed separately by the new development.

Residential Streets (<20 mph)
Residential streets are generally two-lane roads and may have sidewalks on both sides. They typically have street lighting for added resident safety. Cars may be parked in the street along the curb. Density, lot size, fencing, domestic wildlife, vegetative cover, pesticide usage, etc., are all factors contributing to the presence of native wildlife.

Considerations: While large and medium size mammals will have little difficulty traversing a low-speed/low-volume road during off hours, consider adding a small pipe culvert under the residential street for smaller reptiles which don't move as fast. Consider shielding or directing lights away from this corridor. Many small amphibians and reptiles are impeded by the most common roadway feature, the curb. Consider alternate curb types for low speed roads, avoid 6" Type F curb when possible. If Type F-curb must be installed, consider breaks in the linear footage of that curb type, every 100' or so. Also, consider aligning breaks with adjacent wetlands, trails, or corridors in the development's design. Adjacent landscape and bioswales that accompany roadway design could include Florida native plants,

transitional plants that work with adjacent wild lands habitats to increase biodiversity.

Spine Roads (<35 mph)
Spine roads are generally two lane roads and may have sidewalks and landscaping features. The residences adjacent to spine roads may have walls or fences to separate the road from the residences. Spine roads may have to cross wetlands or floodplains to reach the whole community. Typically drainage culverts are installed to connect the bisected wetland or floodplain. However, these pipes are normally wet year round and typically placed in the center of the wetland.

Considerations: The edge of wetlands offers a superior location to add wildlife crossing culverts to improve connectivity for wider variety of species. Nominal size culverts (36"-48") will easily accommodate an abundance of small and medium size wildlife. Culvert inverts should be above the seasonal high water to allow for wildlife movement during most times of the year. For larger, more agile species, considerations should be made to slow vehicles and improve visibility through the crossing zone. For example, reducing speeds from 35 mph to <25 mph takes more than just signage. Friction must be provided for drivers to react and slow down. Friction can be added by narrowing lanes, changing the pavement type, or adding speed humps or tables. Signage should consider a wildlife protection component (i.e. Slow down for our wildlife). Consider a slower nighttime speed zone. Consider impacts of roadway lighting within the crossing zone.

Existing Collector and Arterial Roads (>35 mph)
New development adds traffic on existing collector and arterial roads. Many of these roads were constructed many decades ago when there was much less traffic volume and before the awareness of impacts to wildlife. These roadways with their high volume and speeds become a significant barrier to wildlife movement if wildlife crossing features are not incorporated.

Requirements
The following requirements must be demonstrated:

- At the beginning of the site design, the design team partners with a wildlife biologist familiar with wildlife crossing designs and/or other team members with similar experience to assist with the planning and design of a wildlife crossing(s) for the designated site. To perform this includes a roadway siting and alignment study that evaluates the impact of the full road zone effect on wildlife, habitats, and migration “pinch points” with the goal of choosing roadway alignments that avoid impacts to wildlife and habitats to the greatest extent possible A report is prepared to document the selection of the location, size, and type of the crossing(s) along with the list of target species and correspondence with the wildlife crossing expert.
- Drawings and details that show appropriately located wildlife crossing box culvert or bridge structures for larger mammal and reptile species, if assessment states these structures are required.
- Generate a monitoring plan describing monitoring to evaluate the effectiveness of structural and non-structural impact minimization strategies and approaches for adaptive management and improvements, if deficiencies are identified. This plan will also include long-term maintenance requirements and highlight the species benefited.
- Perform an impact minimization study evaluating the most effective and site appropriate structural (e.g. culverts and wildlife crossings) and non-structural (e.g. slow speed zones and signage) wildlife impact minimization techniques and maximize their usage in the roadway design especially when near natural areas.
- Develop plans to detail wildlife-friendly features including small critter crossings (pipe culverts), slow speed zones, curb type, signage, lighting, and buffer zones.
- Use creative and effective ways to educate the public about

the importance of the crossing structure and inform the public about the wildlife usage.

Supporting Evidence

Narrative (1000 words or less) describing the assessment of and plan to address 1) roadway alignment decisions and how the chosen alignments avoid impacts to the greatest extent possible and 2) wildlife-oriented road improvements to facilitate safe movement and migration of wildlife and reconnection of fragmented habitats. Narrative should also include agency coordination showing proof of review of pinch point map.

Impact minimization study identifying the most appropriate and effective best practices and techniques to minimize impacts to wildlife from roadways and vehicles specific to the site conditions.

Dimensioned plan view and cross-section roadway plans sealed by a professional roadway engineer indicating type and location of structural (e.g. culverts and wildlife crossings) and non-structural (e.g. slow speed zones) wildlife impact minimization techniques as determined in the minimization analysis.

Monitoring plan as described above. For wildlife crossings, the plan should include monitoring of preferably 5 yrs or more, but a minimum of 3 yrs, to evaluate overall performance and should include data and analysis on species use and avoidance. This information can be used to devise a plan and identify measures for improvements, if needed, to increase performance and ensure long-term viability.

Resource Materials

Please use the following references to support your documentation process:

- Florida Greenbook Resources: fdot.gov/roadway/FloridaGreenbook/FGB.shtm
- FDOT Curb and Gutter Standard Plans: https://fdotwww.blob.core.windows.net/sitefinity/docs/default-source/design/standardplans/2025/idx/520-001.pdf?sfvrsn=d9639d08_1

- Florida Department of Transportation Wildlife Crossing Guidelines (2023): fdotwww.blob.core.windows.net/sitefinity/docs/default-source/environment/pubs/protected-species/wildlifecrossingguidelines_2023_final.pdf?sfvrsn=24352ec3_4
- Florida Department of Transportation's Environmental Screening Tool Map Viewer: etdmpub.fla-etat.org/es
- U.S. Fish and Wildlife Service's Roadway Design Guidelines: https://highways.dot.gov/sites/fhwa.dot.gov/files/docs/federal-lands/programs/federal-lands-planning-program/8266/fws-rdg.pdf
- FDOT Landscape Architecture Program (Beautification Grant, Wildflower Program and other resources): fdot.gov/roadway/landscape-architecture/landscape-architecture-programs
- Florida Ecological Greenways Network (FEGN): conservation.dcp.ufl.edu/fegn/#:~:text=The%20Florida%20Ecological%20Greenways%20Network%20(FEGN)%20is%20a%20statewide%20database,public%20and%20private%20conservation%20lands.
- FWC Florida Panther Mortality Map and Data: geodata.myfwc.com/datasets/myfwc::florida-panther-mortality/about
- FWC Florida Black Bear Mortality Map and Data: geodata.myfwc.com/datasets/myfwc::fl-black-bear-mortality-locations/about
- UF IFAS EDIS document. The Impacts of Roads on Florida's Threatened and Endangered Wildlife: An Overview: edis.ifas.ufl.edu/publication/FR462
- Book - Handbook of Road Ecology by Rodney van der Ree, Daniel J. Smith, Clara Grilo: wiley.com/go/vanderree/roadecology
- Book - Road Ecology Science and Solutions, by Richard Forman, Daniel Sperling, et al.: islandpress.org/books/road-ecology#desc
- Book - Crossings, How Road Ecology is Shaping the Future of our Planet, by Ben Goldfarb: bengoldfarb.com/crossings
- Example Possible Impact Fee Calculations for Panther Crossings Document, FDOT Information: floridawildlifecorridor.canto.com/v/O370TTIPIG/album/NQD26

Quality 2.2

REDUCING WATER QUALITY IMPACTS

Intent

Incorporate techniques and approaches to reduce the flow of unavoidable stormwater runoff, and protect surface water and groundwater systems on which wildlife depends.

Description

While perhaps not commonly associated with wildlife corridors, water is critical to a healthy wildlife corridor. Corridors are commonly associated with aquatic habitats that provide access to water and foraging opportunities for migrating wildlife. The water must be clean and have appropriate water regimes for these aquatic systems to flourish and support the appropriate flora and fauna. Stormwater runoff from development with 30-50 percent impervious area is three times greater than from areas with natural ground. It carries chemicals, nutrients, sediment, and other pollutants with it to lakes, rivers, streams, wetlands, and groundwater degrading their habitat value and wildlife utilization. Therefore, stormwater management is essential.

Stormwater mitigation incorporates Green Stormwater Management Infrastructure (GSI) techniques that mimic natural processes to manage stormwater that remains after avoidance and minimization measures. These features work within LID site designs and can be applied at a variety of scales (from individual buildings to watersheds) and development settings (urban, suburban, or rural). GSI techniques are designed to manage both water Quality and quantity. Using GSI in series (e.g., treatment trains) allows stormwater to be treated by multiple techniques that apply different treatment processes (UF & TNC 2024).

To maximize the effectiveness of LID and Green Stormwater Management Infrastructure (GSI), the key principles are avoiding stormwater runoff first, followed by minimizing stormwater runoff, and then mitigating for unavoidable stormwater runoff. LID avoidance techniques are discussed in Quality 1.1 and this Quality includes GSI which focuses on minimizing, treating, and slowing stormwater runoff which

could not be avoided using the LID avoidance design strategies in Quality 1.1.

Pollutant loading depends on water runoff and land use. The amount of water runoff is generally a function of the volume and intensity of precipitation, the time between rain events, soil type, and land cover. The removal of pollutants from runoff depends on the performance of Best Management Practices (BMPs) such as incorporating pervious pavements, rain gardens, swales, and natural and nature-based features. Nature-based solutions also capture and store stormwater and therefore reduce discharge volume. The use of natural and nature-based features should be prioritized and should exceed local and regional goals.

Design Strategies

Strive for net improvement of the Quality of water coming from the site for both new development and redevelopment sites. Explore existing pollutant issues with adjacent and nearby local waterbodies, identify approaches and BMPs for ensuring the development does not exacerbate existing/pre-development water Quality and pollutant issues or create new ones, and identify how to mitigate pollution risks to local water bodies from the development.

Minimize stormwater runoff and associated pollutant loads by employing designs that keep stormwater near its source and allow natural processes, such as infiltration, filtration, and storage, to occur in pervious areas of the development. Plans should identify opportunities to minimize the amount of impervious area to reduce runoff and convey stormwater onto pervious areas that can soak it up. Natural infrastructure can be incorporated into site designs and stormwater systems so that they enhance and protect existing natural resources. Measures to minimize stormwater runoff include (UF & TNC 2024):

- **Limit and disconnect impervious surfaces** to allow water to soak into the soil or evaporate by means such as permeable surfaces, vegetated swales, eliminating curbs where possible, depressing medians, and minimizing surface parking.
- **Capture stormwater close to the source** to provide

opportunities for it to hydrate vegetated areas, infiltrate the soil, or evaporate instead of contributing to runoff volumes.

- **Focus on natural processes** such as infiltration, vegetative nutrient uptake, soil absorption, and landscape roughness to clean and slow runoff.
- **Incorporate redundant runoff controls and an array of practices**, such as alternative routes for water, hybrid and multi-functional design components, and treatment trains, to increase reliability, resilience, and effectiveness of stormwater systems (UF & TNC 2024).

Mitigation is focused on incorporating GSI techniques that mimic natural processes to manage stormwater that remains after avoidance and minimization measures. These features work within LID site designs and can be applied at a variety of scales (from individual buildings to watersheds) and development settings (urban, suburban, or rural). GSI techniques are designed to manage both water Quality and quantity. Using GSI in series (e.g., treatment trains) allows stormwater to be treated by multiple techniques that apply different treatment processes (UF & TNC 2024).

- **Install pervious surfaces** that minimize runoff by allowing water to infiltrate the ground.
- **Incorporate GSI** that can treat, store, and absorb runoff such as rain gardens, bioswales, and wet detention systems with littoral zones or floating wetlands.
- **Develop reliable and long-term maintenance programs** with clear and enforceable guidelines to ensure continued performance of LID.
- Incorporate other BMPs and approaches to avoid nutrient loading to stormwater into the community's legal guiding documents such as:
    - Ensure proper disposal of yard waste (e.g. grass clippings) or pet waste.

- Eliminate the use of synthetic pesticides, fertilizers, and herbicides. Use only chemicals with low toxicity, persistence, and bio-availability, and avoid application during the wet season. Ensure controls are employed to minimize runoff when they are used.
- Sites with surface waters such as lakes, rivers, and wetlands should include appropriate riparian buffers. A buffer is a strip of naturally vegetated land along a lake, stream, or wetland that provides numerous benefits and protects water resources from neighboring land uses (USFWS 2001). The USFWS publication on buffers (2001), provides guidance on buffer width depending on the planning goals ranging from nutrient removal to habitat for certain species.
- Develop an ongoing stormwater operations and maintenance (O&M) plan to ensure appropriate maintenance of GSI and stormwater features, and verify that they are working properly. The O&M plan should identify the responsible entity, funding source for its implementation, and maintenance schedule and requirements.

Requirements

The following requirements must be demonstrated:

- Conduct pre- and post-construction water Quality analysis to determine existing and post-construction pollution sources and the most effective approaches for how to avoid or minimize these pollutants following construction. Employ those approaches with the goal of improving the Quality of the water following construction and mitigating pollution risks to local waterbodies.
- Conduct an analysis of the site's existing ecological, hydrological, and topographic features to help identify opportunities for natural infrastructure and incorporate them into the site design. Using that analysis then design

natural and nature-based features to filter water runoff and attenuate pollutants before reaching waterways.

- ☐ Design retention water bodies above and beyond minimum requirements with littoral edge and riparian ecology elements.
- ☐ Maximize the use of green stormwater techniques described in the design strategies to minimize and mitigate stormwater runoff. Ensure functional riparian buffers are used adjacent to waterways and wetlands.
- ☐ Employ non-structural techniques such as prohibiting the use of synthetic fertilizers and chemicals and managing pet waste and grass clippings. Apply fertilizer and chemical pest or herbicide control to avoid the wettest periods of the year and employ to minimize runoff. Use only pesticides and fertilizers with low toxicity, persistence, and bio-availability and follow best practices as outlined in Quality 1.6 Community Landscape Standards.

Supporting Evidence
Narrative (1,000 words or less) that describes how the project meets the CCC required criteria.

The narrative should describe how the project maximizes the incorporation of natural infrastructure, GSI, and other approaches to protecting water Quality. It should include all approaches considered and rationale for their inclusion or elimination. It should also include a summary of the water Quality analysis identifying the pollution sources and how they will be controlled. The narrative should list additional resources used to inform any design decisions:

- Pre- and post-construction water Quality analysis as described above.
- Ecological, hydrological, and topographic features analysis as described above.
- Dimensioned plan view and cross-section stormwater plans

sealed by a professional engineer indicating type and location of natural infrastructure and GSI features.

- Annotated site plans clearly identifying the total nutrient pollutant load attenuated by stormwater control options.
- Stormwater O&M plan including natural infrastructure and GSI components as described above.

Resource Materials

Please use the following references to support your documentation requirements:

- National Pollutant Discharge Elimination System (NPDES) Stormwater program: epa.gov/npdes/npdes-stormwater-program
- BMP Trains Model: stars.library.ucf.edu/bmptrains
- FDEP – Environmental Resource Permits (Stormwater): floridadep.gov/water/submerged-lands-environmental-resources-coordination/content/erp-stormwater
- EPA. Soak Up the Rain: epa.gov/soakuptherain
- Enabling Low Impact Development and Green Stormwater Infrastructure – A Code Audit Tool For Florida Counties and Municipalities. Prepared by University of Florida and The Nature Conservancy. (UF & TNC 2024): floridawildlifecorridor.canto.com/v/O370TTIPIG/album/NQD26
- Green Stormwater Infrastructure, Florida Department of Protection: gsi.floridadep.gov
- Green Infrastructure Toolkit. Georgetown Law, Climate Center: georgetownclimate.org/adaptation/toolkits/green-infrastructure-toolkit/how-to-pay-for-green-infrastructure-funding-and-financing.html?chapter
- US Fish and Wildlife Service. 2001. Buffers: A Practicable Tool for Protecting Streams and Wetlands: myfwc.com/media/18252/wetland-buffers-usfws.pdf

CATEGORY 3



A Florida grasshopper sparrow, the most endangered bird in North America, sings from an early morning perch within the Corrigan Ranch Florida Forever Project
Photo by Carlton Ward Jr./Wildpath

Biodiversity & Ecological Improvements

Quality 3.1

NATIVE HABITAT CREATION

Intent

Create new habitat within the site to support biodiversity and animal movement and provide access to foraging and resting places.

Description

While protecting existing native habitat is preferred, it is not always feasible or sufficient. When natural habitat does not exist, is of poor Quality, or is limited in spatial extent, habitat creation within the site is needed to support local and regional biodiversity, species movement, foraging, and resting opportunities. Habitat creation contributes to ecological restoration which can result in numerous ecosystem service benefits such as improved air and water quality, human health, and enjoyment. Newly created habitat should mimic local native habitats and align with local and regional ecosystem goals.

Develop habitat plans that:

1. Describe the locations and types of habitat to be created.
2. List targeted wildlife usage and benefits from the habitat.
3. Include impact reduction and mitigation plans from commercial use.
4. Consult with local biologists, ecologists, botanists, and other specialists to inform the design, describing in detail the extent of their involvement and participation in the design process as well as their partnership in the monitoring of the site post-construction.

Design Strategies

Engage the project team at the beginning of the project to determine the most suitable locations for new habitat.

- Develop a planting list of native species specific to the local region. Native plants can increase the vigor of the habitat, surrounding ecosystem, and biodiversity of the area.

- Work with local entities to create educational opportunities for the public that will not infringe upon or disrupt the habitat and wildlife.
- Develop a post-construction monitoring and management plan for created habitats. Include strategies to monitor and adapt the management practices when necessary, evaluate potential stressors of the habitat and develop mitigation strategies. Outline the parties responsible for regular management of the site, estimate the monitoring and management budget, and identify the parties responsible for funding and implementing the plan.

Requirements

To meet requirements for this Quality at least 80% of the site must comprise protected or created habitat. If no new habitat is created on site, the requirements are not met.

The following requirements must be demonstrated:

- ☐ Long-term legal protection mechanisms for the habitat creation areas.
- ☐ A detailed habitat plan including the components listed in the Design Strategies section above.
- ☐ Adoption by the long-term controlling entity of the habitat plan and monitoring and management plan.
- ☐ An interactive component to engage with and inform the public about the importance of native habitats.
- ☐ Annotated site plans clearly identifying the total percentage of acreage (or square footage) of habitat created.
- ☐ Additional documents describing the efforts taken to recover lost ecosystem services, including planting plans, construction documents, descriptions of the intended species to benefit from the new habitat, Management plans for the removal of invasive species, and a site monitoring plan.

Quality 3.1
Native Habitat Creation, *continued*

Supporting Evidence

Narrative (1,000 words or less) that identifies the project team and the consulting partners along with a short description of their roles and involvement. The narrative should describe the efforts taken to restore ecosystem services and provide evidence-based methods for the evaluation of success.

The narrative should list additional resources used to inform any design decisions. Projects without sufficient management planning for this Quality may not meet the requirements.

- Map of adjacent natural communities and native habitat creation areas.
- Detailed habitat plan and monitoring and management plan.
- Executed legal protection mechanisms.
- Final approved site plan showing the location and spatial extent of created habitat areas.
- Plan view and cross section drawings of the natural habitat creation areas.

Resource Materials

- The FEGN Dashboard: FEGN Dashboard: arcgis.com
- The FEGN Viewer: FEGN Online Map Viewer: arcgis.com
- Florida's Outstanding Florida Waters: Outstanding Florida Waters (OFWs): arcgis.com
- Florida Friendly Landscaping: ffl.ifas.ufl.edu
- Tampa Bay Estuary Program: tbep.org/habitat-master-plan-update
- Level III and IV Ecoregions of Florida, U.S Environmental Protection Agency: gaftp.epa.gov/EPADataCommons/ORD/Ecoregions/fl/fl_eco_pg.pdf
- Coastal and Heartland National Estuary Partnership: chnep.wateratlas.usf.edu/habitat-restoration-needs/#hrn-plan-home

- Sarasota Bay Estuary Program: sarasotabay.org/programs/habitat-restoration
- Species of Greatest Conservation Need - Florida Natural Areas Inventory: fnai.org
- Florida Native Plant Society Good Citizen Guide (All Regional Documents) Regional Key Map: fnps.org/assets/pdf/pubs/Regions%20Map%20REV.pdf
    - Western Panhandle Region: fnps.org/assets/pdf/pubs/A_Western%20Panhandle%20Handout.pdf
    - Eastern Panhandle Region: fnps.org/assets/pdf/pubs/B_Eastern%20Panhandle%20Handout.pdf
    - North Central Region: fnps.org/assets/pdf/pubs/C_N%20Central%20Florida%20Handout.pdf
    - Northeast Region: fnps.org/assets/pdf/pubs/D_NE%20Handout.pdf
    - Central Region: fnps.org/assets/pdf/pubs/E_Central%20Handout.pdf
    - Central East Coast Region: fnps.org/assets/pdf/pubs/F_Central%20E%20Coast%20Handout.pdf
    - Central Ridge Region: fnps.org/assets/pdf/pubs/G_Central%20Ridge%20Handout.pdf
    - West Central Region: fnps.org/assets/pdf/pubs/H_West%20Central%20Handout.pdf
    - Southwest Central Coast Region: fnps.org/assets/pdf/pubs/I_SW%20Central%20Coast%20Handout.pdf
    - Southeast Central Coast Region: fnps.org/assets/pdf/pubs/J_South%20Central%20East%20Coast%20Handout.pdf
    - Southwest Region: fnps.org/assets/pdf/pubs/K_Southwest%20Handout.pdf
    - South Florida Region: fnps.org/assets/pdf/pubs/L_South%20Florida%20Handout.pdf

Quality 3.2

HABITAT RESTORATION & MANAGEMENT

Intent

Restore and revitalize disturbed landscapes to functioning natural plant and animal communities.

Description

Engage the project team to develop strategies to reduce disturbance to the site's existing natural resources and ecosystem before, during, and after construction. Plan for post-construction management of the habitat and include plans to monitor and adapt the management practices when necessary. Evaluate potential stressors of the habitat and develop mitigation strategies. The project should aim to reduce impacts to, including but not limited to:

- Biodiversity
- Native vegetation
- Habitats of special significance as defined by state, regional, or federal governments (e.g., wetlands, threatened and endangered species)
- Habitat Quality
- Water Quality, retention, and recharge
- Sound, air, and light pollution
- Other locally important ecosystem services as highlighted in state, regional, and local plans

Design Strategies

Plan to maintain and preserve any existing biodiversity or ecosystem services currently being performed on the site as well as any functioning habitat areas.

Plans should describe the steps to be taken to restore damaged or affected habitat areas within the site. An initial assessment should be performed that identifies potential critical, threatened, or endangered habitats on site. These locations should be given top priority and a multi-disciplinary team of specialists should be placed in charge of the design and restoration plans. A description should be provided in the plan that outlines the steps taken to avoid a disruption to existing habitat and ecosystem services during all phases of the project.

If access is necessary to critical habitat areas, a limit should be placed on the number of daily users and a visitor management plan developed.

Requirements
The following requirements must be demonstrated:

- The project does not contribute to a loss of native habitat and ecosystem services and serves to restore any services previously lost.
- The project maintains a level of restoration and preservation needed to retain existing ecosystem services, designing to support endangered, threatened, or locally rare endemic species where possible. Habitat restored or preserved is either:
  - Greater than five acres or at least 50 percent of project size is created, restored or preserved for habitat purposes.
  - Greater than two acres or at least 20 percent of project size is created or restored, or greater than four acres or at least 30 percent of project size is preserved for habitat purposes.
  - Greater than one acre or at least 10 percent of project size is created or restored, or greater than two acres or at least 20 percent of project size is preserved for habitat purposes.
  - Project contributes to regional or local restoration plans and priorities.

Supporting Evidence
Narrative (500 words or less) that describes the efforts taken to restore ecosystem services and provides evidence-backed methods for the evaluation of success.

List of additional resources used to inform any design decisions. Projects without sufficient management planning for this Quality may not meet the requirements.

Annotated site plans clearly identifying the total percentage of acreage (or square footage) of habitat restored.

Additional documents describing the efforts taken to recover

lost ecosystem services, including planting plans, construction documents, descriptions of the intended species to benefit from the new habitat, management plans for the removal of invasive species, and a site monitoring plan.

Resource Materials
Please use the following references to support your documentation process:

- USFWS Partners for Fish & Wildlife is a pro-active program: fws.gov/project/working-private-landowners-florida
- Florida Resilient Coastlines Program - Through the Florida: floridadep.gov/rcp/florida-resilient-coastlines-program
- NOAA's Community-based Restoration Program: fisheries.noaa.gov/national/habitat-conservation/community-based-habitat-restoration
- The Landowner Assistance Program: myfwc.com/conservation/special-initiatives/lap
- Wildlife and Habitat Assistance: myfwc.com/conservation/special-initiatives/lap/assistance
- The Tampa Bay Habitat Restoration: Best Management Practices Manual: tbep.org/habitat-master-plan-update/
- Outside Sustainable Landscape Collaborative: outsidecollab.com/resourcesfnps
- The Florida Native Plant Society (FNPS): fnps.org/resources/pubs
- Managing Longleaf Pine Forests for our Future: managing-longleaf-pine-forests-for-our-future_climate-smart-guide.pdf
- Restoring and Managing Longleaf Pine Ecosystems site contains data, tools and publications hosted by the US Forest Service and USDA: research.fs.usda.gov/srs/centers/longleaf#resources

Quality 3.3

PLANT COMMUNITIES

Intent

Maximize the use of native plants and ensure that habitat areas are ecologically connected both within the development site and to surrounding conservation areas to enhance biodiversity and promote landscape scale connectivity.

Description

The addition of native and diverse plant communities can result in a reduction in management costs and environmental impacts and can support local wildlife species. Contiguous, connected plant communities have larger benefits than smaller, isolated patches. Diversity within habitat areas can lead to a greater variety in the wildlife that utilizes and benefits from the site and can promote genetic biodiversity.

Design Strategies

Ensure that locally native and habitat-appropriate plants are being used throughout the site, considering local and regional biodiversity goals. Provide ample diversity with regards to the seasonality of the selected plants to ensure that ecosystem services are provided year-round. Consider foraging and shelter requirements of local wildlife so those needs can be met. Where possible, restore habitat connections across the site to provide continuous, uninterrupted habitat throughout which wildlife can flourish. Describe the steps taken to remove invasive species and maintain regular management of the habitats. Incorporate educational features that engage the public and inform them about the importance of native plants.

Consider the effects of climate change over the design life of the project and resilience to extreme or harsh weather conditions and events to prevent additional management and replacement expenses.

Quality 3.3
Plant Communities, *continued*

Requirements
The following requirements must be demonstrated:

- 85 percent or more of the total plant coverage on the site is comprised of native plants as indicated on the planting plan.
- Planting plan indicates diverse habitat areas that support local fauna. These habitat areas provide continuous, uninterrupted connection between the site and adjacent conservation areas through existing or proposed corridors.
- A plan is provided for the management, identification, and removal of invasive flora on the site.
- Educational signage is provided to inform the public about the importance of native plants and the role they play to support local biodiversity and ecosystems.
- Demonstration that scarce plant species were introduced to create more biodiversity.

Supporting Evidence
Narrative (500 words or less) that clearly lists the plant species selected for the project and highlights the diversity and benefits to ecosystem services provided. Such services include but are not limited to foraging, shelter, ability to withstand climate change, etc. Projects without sufficient Management planning for this Quality may not meet the requirements.

- Annotated plant list that highlights native species and describes the predicted ability to withstand climate change.
- Annotated site plan that clearly indicates the percentage of native plant coverage.
- Management plan for the identification and removal of invasive species.
- Annotated site plan describing the types and locations of the educational features used throughout the site.

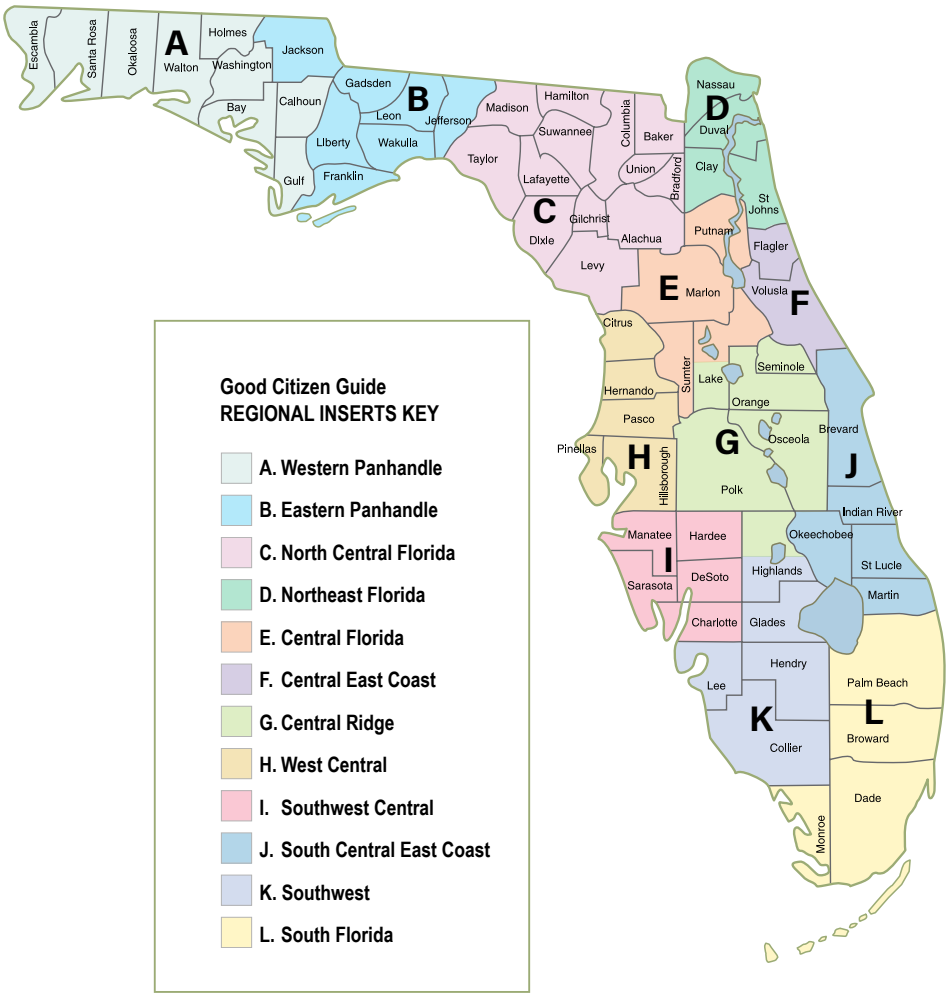
Resource Materials

Please use the following references to support your documentation process:

- Species of Greatest Conservation Need - Florida Natural Areas Inventory: fnai.org
- The FEGN Dashboard: FEGN Dashboard: arcgis.com
- The FEGN Viewer: FEGN Online Map Viewer: arcgis.com
- Florida's Outstanding Florida Waters: Outstanding Florida Waters (OFWs): arcgis.com
- Florida Friendly Landscaping: ffl.ifas.ufl.edu
- Florida Native Plant Society Good Citizen Guide (All Regional Documents) Regional Key Map: fnps.org/assets/pdf/pubs/Regions%20Map%20REV.pdf
    - Western Panhandle Region: fnps.org/assets/pdf/pubs/A_Western%20Panhandle%20Handout.pdf
    - Eastern Panhandle Region: fnps.org/assets/pdf/pubs/B_Eastern%20Panhandle%20Handout.pdf
    - North Central Region: fnps.org/assets/pdf/pubs/C_N%20Central%20Florida%20Handout.pdf
    - Northeast Region: fnps.org/assets/pdf/pubs/D_NE%20Handout.pdf
    - Central Region: fnps.org/assets/pdf/pubs/E_Central%20Handout.pdf
    - Central East Coast Region: fnps.org/assets/pdf/pubs/F_Central%20E%20Coast%20Handout.pdf
    - Central Ridge Region: fnps.org/assets/pdf/pubs/G_Central%20Ridge%20Handout.pdf
    - West Central Region: fnps.org/assets/pdf/pubs/H_West%20Central%20Handout.pdf
    - Southwest Central Coast Region: fnps.org/assets/pdf/pubs/I_SW%20Central%20Coast%20Handout.pdf

Quality 3.3
Plant Communities, *continued*

- Southeast Central Coast Region: fnps.org/assets/pdf/pubs/J_South%20Central%20East%20Coast%20Handout.pdf
- Southwest Region: fnps.org/assets/pdf/pubs/K_Southwest%20Handout.pdf
- South Florida Region: fnps.org/assets/pdf/pubs/L_South%20Florida%20Handout.pdf



Quality 3.4

WILDLIFE BUFFERS & MINIMIZING EDGE EFFECTS

Intent

Ensure that development adjacent to wildlife habitat corridors incorporates effective buffering strategies to facilitate wildlife movement and avoid negative edge effects while providing ecological connectivity.

Description

Properly designed buffers serve as transitional zones between developed areas allowing wildlife to move and behave normally through the buffers and natural corridors, while reducing harmful edge effects such as noise, light pollution, invasive specie encroachment, human/wildlife conflicts, and fire/wind exposure. These buffers should be designed using native plant species and appropriate habitat structures to support wildlife movement and ecosystem functions. In addition buffers must be planned with consideration of site conditions, habitat management requirements, local ecological characteristics, and future climate resilience.

Design Strategies

The design team should assess the wildlife using or expected to use the corridor or habitat for which the buffer is being designed, the vegetative composition of the corridor, and the adjacent land use. This analysis will be used to inform the design of the buffer to ensure that a seamless connection is constructed. Larger, more robust buffers will provide greater benefits than lesser ones. More intensive land uses will likely require larger buffers to account for greater edge effects. More secretive or reclusive species may require denser buffer plantings for extra privacy. Vegetative composition should be native, representative of the ecosystems and habitats the wildlife typically use to provide food and shelter for wildlife and support the local ecosystem. It should also include transitional zones for a successful transition from the native wilder corridor to the more manicured development landscape.

Quality 3.4
Wildlife Buffers & Minimizing Edge Effects, *continued*

Develop a plan for the management of the buffer over time. The buffer should allow for habitat migration due to climate change or extreme weather events. The management plan should address proximity to habitat that may require fire management practices. Local scientific studies and research should be utilized to inform the project team of predicted future land and weather conditions so that the buffer design is efficient and successful over the design life of the project.

Requirements

The following requirements must be demonstrated:

- Provide a wildlife buffer plan and drawings describing the purpose, function and desired benefits of the buffer, the plant palette, wildlife served, necessary buffer widths and the contributions made to biodiversity. This must also detail the plant palette of the adjacent corridor and species composition and density in each buffer transitional zone.
- Implement a long term management plan is design and implemented including measures for minimizing negative edge effects, sustaining ecological functions and allowable and prohibited activities within each transitional zone such as no dumping, pesticide use, invasive species planting and how this will be implemented (e.g. signage, homeowner education), and tips on human wildlife interactions.
- Consultation with wildlife agencies (e.g. Florida Fish and Wildlife Conservation Commission, the US Fish and Wildlife Service, the National Oceanic and Atmospheric Administration) on the species and buffer design needs to allow for normal species movement.

Supporting Evidence

Narrative (1,000 words or less) describes how the project adheres to buffer design and edge effect avoidance strategies. Additionally, scientific justification must be provided for the buffer composition, transitional zones, plant species and density and overall buffer width, and include an assessment of anticipated climate adaptation measures.

Management and monitoring plan to ensure the long-term functionality of the buffer area.

Site plan and cross-section drawings that depicting the width of the buffer and transitional zones, plant species and density within each zone, and location of signage regarding allowable and prohibited activities.

Annotated plant list that highlights native species and describes the predicted ability to withstand climate change.

Construction documents that identify areas of planned or routine wildlife habitat management.

Resource Materials

Please use the following references to support your documentation process:

- Florida's Outstanding Florida Waters: Outstanding Florida Waters (OFWs): arcgis.com
- Florida Friendly Landscaping: ffl.ifas.ufl.edu
- Florida Native Plant Society Good Citizen Guide (All Regional Documents) Regional Key Map: fnps.org/assets/pdf/pubs/Regions%20Map%20REV.pdf
- US Fish and Wildlife Service "Buffers: A Practicable Tool for Protecting Streams and Wetlands located at: myfwc.com/media/18252/wetland-buffers-usfws.pdf
- US Department of Agriculture and US Forest Service Southern Research Station. Conservation Buffers Design Guidelines for Buffers, Corridors, and Greenways: srs.fs.usda.gov/pubs/gtr/gtr_srs109.pdf (USDA & USFS).

CATEGORY 4





Withlacoochee River on the 2021 Spring to Shore FL Wildlife Corridor Expedition
Photo by Alex Freeze / Florida Wildlife Corridor Foundation

Community Access, Culture & Education

Quality 4.1

COMMUNICATION OF WILDLIFE CONNECTIVITY

Intent

Inform and educate community members about the Florida Wildlife Corridor.

Description

The Florida Wildlife Corridor consists of 18 million acres of connected public and private lands that run from the tip of the Panhandle to the Everglades and is home to over 1,700 native species.

The visitor and resident experience can be improved by providing educational components and opportunities related to the Florida Wildlife Corridor throughout the development. Providing context showing the relationship between the development and the Corridor as a whole will highlight the importance of a connected and continuous Corridor for the dependent native species.

Design Strategies

Conduct research and public engagement to assess the appropriate methods for incorporating educational features into the development. Work with local partners to develop a schedule of regular educational programming activities that will serve to inform the public in an interactive manner of the significance of the Florida Wildlife Corridor. If the development resides on historically significant indigenous lands, the project team must work with representatives of the tribal nations to acknowledge the history of the site and design appropriate educational features regarding the history of that land.

Incorporate passive and self-guided features referencing the historical, environmental, and cultural context of the Corridor. Some examples may include informational panels, photographs, local artwork, spotting scopes, and maps. Identify geographic, historical, and ecological features that may no longer be visible or may no longer exist such as buried waterways or former habitats of rare, threatened, or endangered species. Solicit local artists to design aspects of public areas or to exhibit work on-site paying tribute to the cultural and environmental significance of the Corridor.

Include in the overall management plan of the development a section regarding the monitoring of the educational components on site to ensure that the most effective programming is being used.

Requirements
The following requirements must be demonstrated:

- Provide proof of an agreement to ensure regular educational programming activities will occur on site that will include topics explaining the significance of the Florida Wildlife Corridor and biodiversity.
- Installation of different types of passive educational features relating to the environment, historical, or cultural site context, such as signage, art installations, and visibility features. (Create matrix for size of project site/per minimum of educational features required).

- Agreements or contracts between the project team and any partners hired to assist in the creation of educational components and programming for the development.
- Annotated site plans detailing the locations and types of educational features and signage.

Supporting Evidence
Narrative (500 words or less) that describes the importance of educational features and the benefits such components bring to a project. It should also describe how the features selected for the development align with the goals and values of the project as well as the historical context of the site. The project team must clearly identify at least three different types of educational programming on site as supporting evidence for this Quality. If the project team partnered with any local education-based groups or artists, those partnerships must be identified and the extent to which these partnerships are engaged with the project must be described in the narrative.

Quality 4.1
Communication of Wildlife Connectivity, *continued*

Resource Materials

Please use the following references to support your documentation process:

- Please see Corridor Connect link for CC communications and future typical signage package: corridorconnect.org/page/tracking-corridor-progress
- Florida Fish and Wildlife Foundation. Living with Wildlife and Preventing Wildlife Conflicts: myfwc.com/conservation/you-conserve/wildlife/

Quality 4.2

PASSIVE RECREATION TRAILS & OTHER AMENITIES

Intent

Create trails or other passive recreation opportunities within natural areas and describe the measures taken to prevent disruption and degradation to the natural area.

Description

Time spent outdoors provides an abundance of mental and physical health benefits. Through connecting the development to the Corridor, the development can function in a way that serves both the community and the natural environment. Well-connected pathways can be created that are both pedestrian and multi-use with the project development. When applicable in buffer areas, access for passive trails that guide the public through Corridor compatible buffers can be provided that are safe and respectful and in a manner that does not disrupt or degrade the ecosystem. Educational opportunities and programs throughout the development can be created so the public can interact with project-based natural amenities and can learn how their design contributes to the protection and functionality of the Corridor.

Design Strategies

Through using the research and assessments from public engagement events to inform the design, the project team should develop trails and other passive recreation activities throughout the development that allow the public to engage with nature. Such features should not be in close proximity to sensitive or critical habitat areas. The design team must ensure that any interaction that occurs between the public and the Corridor occurs in a safe and controlled manner.

An analysis of current regional trails or plans for new trails must be conducted to ensure that the site plan is in alignment with that of the community is previously developed trail connection plans. Provide zones for passive recreation.

Requirements

The following requirements must be demonstrated:

Quality 4.2
Passive Recreation Trails & Other Amenities, *continued*

- ☐ All proposed trails are ADA compliant and align with community priorities. For locations where ADA-compliant trails are not feasible, provide a written description explaining why and outlining alternative access that has been provided to ensure equitable access. The narrative must also explain the safety measures taken to ensure the users interact with the Florida Wildlife Corridor and the wildlife in a safe and controlled manner.
- ☐ A narrative is provided that describes the measures taken to ensure that no degradation or disruption to the natural areas of the Florida Wildlife Corridor occurs. Such measures must be listed and explained in detail with supporting drawings provided when necessary. Additionally, the narrative provides a management plan that guarantees routine checks of the trails to ensure they are still in working condition and requires frequent monitoring of the flora and fauna that surrounds the trails to ensure no disruption or degradation has occurred. The plan should also include who is responsible for he maintenance and how it will be accomplished.
- ☐ The trails contribute to any existing regional plans for passive public access to the Florida Wildlife Corridor.

Supporting Evidence

Narrative (500 words or less) that describing the extent to which the initial research and public engagement events informed the design of the project and how the needs of the community were met. It should detail the benefits provided to the public regarding health and wellness, accessibility, etc.

- Site plans depicting percentage of publicly accessible space.
- Annotated site plans detailing trail routes, types of trails, public amenities, etc.

Resource Materials

Please use the following references to support your documentation process:

- Please see Corridor Connect link for a Trails Toolkit: corridorconnect.org

Quality 4.3

INSTILLING CORRIDOR STEWARDSHIP

Intent

Foster a culture of biodiversity stewardship that resonates with residents, new and old, and extends across generations and cultures.

Description

This Quality recognizes projects that instill a CCC mindset into the community's values and culture. Communities that are involved with CCC-related activities and connect with nature within their community are more likely to support CCC practices now and into the future. This Quality goes beyond informational and educational programming as seen in Quality 4.1 and builds on the involvement of existing and new residents into the CCC experience and approaches from the onset of a project.

Design Strategies

There are many approaches to creating a culture and value of biodiversity stewardship in a community and a variety of these with different activity levels should be established to ensure everyone is able to participate in some way.

Offer discrete fun community events for residents to engage with science while collecting valuable data:

- Hold community iNaturalist bio-blitzes Bioblitz Guide: inaturalist.freshdesk.com/en/support/solutions/articles/151000194866.
- Register your community and/or your group in the annual City-Nature challenge: citynaturechallenge.org.
- Hold environmentally-focused community events (clean ups, bird watching, contests, exotic removal).

For those residents that want to and can be more involved, establish a volunteer citizen science or conservation program that offers a hands-on science and nature experience ongoing. Residents can be trained to assist with CCC-related monitoring activities such as wildlife assessments and surveys, water Quality monitoring, and vegetation surveys. Not only does this give them first-hand experience, but it could also lower the monitoring costs.

Quality 4.3
Instilling Corridor Stewardship, *continued*

- Create community groups and committees focused on nature, wildlife, and environmental stewardship (hiking, bird watching, wildlife education, etc.).
- Create incentives, awards, or recognition for individuals or groups that promote biodiversity stewardship or serve as biodiversity stewards.
- Establish a biodiversity or nature ambassador program that empowers community members to amplify the voice of nature within the community.
- Promote a nature experience within the community such as pollinator and community gardens, trail systems with educational signage, and nature-friendly practices that reduce chemical use and waste.
- Connect with local nature and wildlife focused organizations to leverage and build upon existing programming and opportunities.
- Leverage social media to spread awareness of biodiversity conservation, highlight success stories, and promote biodiversity as a source of community pride.
- Promote adoption of nature-friendly practices.
- Establish an organized community entity focused on environmental stewardship and community engagement, which can greatly increase the likelihood of successfully embedding stewardship into the community's values and culture. An example of this is the Florida Headwaters Foundation.

Requirements

The following requirements must be demonstrated:

- ☐ Submit a calendar of events that shows new or leveraged existing community events to promote opportunities for residents to participate in a variety of activities that support biodiversity science and stewardship in their communities.
- ☐ Establish community groups, programs, and partnerships

that provide continuing opportunities for residents to engage with stewardship and CCC practices. Examples of these community-facing initiatives can include:

- Committees (nature, wildlife, environmental stewardship)
- Ambassador programs
- Community nature experiences (gardens, trails)
- Partnerships with nature and wildlife organizations

Supporting Evidence
Detailed plan that reflects ongoing and/or planned community activities and initiatives dedicated to establishing and nurturing a CCC mindset within community values and cultures. This plan should include short- and long-term approaches to community engagement that focus on new and existing residents and inclusivity.

Resource Materials
Please use the following references to support your documentation process:

- iNaturalist Bioblitz Guide: inaturalist.freshdesk.com/en/support/solutions/articles/151000194866
- City-Nature Challenge: citynaturechallenge.org
- Florida Headwaters Foundation: flheadwatersfoundation.org
- How to Engage Your Community in Wildlife Conservation Efforts | Cultivating Flora: cultivatingflora.com/how-to-engage-your-community-in-wildlife-conservation-efforts/#google_vignette





A barred owl perches within the Bluefield to Cow Creek Florida Forever project area. This easement will help to maintain the rural landscape, natural wetlands, and water resources of the region
Photo by Lauren Yoho/Wildpath

Design Resources

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Archaeological

Using the State of Florida Guide to Archaeological Site Form, Version 5.0 determine if the project site contains any physical remains of past human activity.

Community and Historical Context

Needs

Identify areas where the community has identified needs such as critical habitat and wildlife conservation, increased desire of biodiversity, and access to passive recreation in nature. This context can be found in studies done by municipalities, local boards, advocacy groups, or nonprofits.

Historical and Existing Plans

Identify and note significant goals and priorities of existing community vision plans, conservations studies or planning policies. Review previous planning documents for the area regarding public sector projects, master plans or comprehensive plans and when possible adjacent other private sector development efforts. Plans may exist at multiple levels of government, municipal, regional, and states. Review planning, economic and conservation reports. Review these to note potential for community concerns that may arise, identify community needs, asses the potential for engagement fatigue, and potential pitfalls for the project. Asses regional priorities, specifically related to ecology, greenways, trails, and low impact development.

Asset Mapping

Conduct a review of community assets and amenities to identify potential needs that may be served by or impacted by the site. Assess community characteristics like transportation access, accessible open and green space, community facilities, and trails.

Site History

Review historic records to understand the history of the site and surrounding properties, focusing on site uses and its integration with nearby wildlife and residents.

Community Profile

Community Boundaries

Develop a community profile with demographics to build your understanding of the communities geographically or functionally affected by the development project. Information should be gathered at multiple scales including ranging closely - a quarter mile from the site to understand the areas immediately adjacent to and more broadly areas within two miles of the site. Further analyses using council district boundaries, zip codes, or neighborhoods will be advantageous in some communities. Geographic boundaries of the assessment should be adjusted to incorporate marginalized groups who may not be represented but the immediate community but are within the bio-regional area of the site. For example, for projects sited in low-income or historically under-served communities in rural areas, project teams might focus on residents within a larger area to ensure a diverse cross section of community is profiled.

Conduct comparisons of data between geographic levels to compare the specifics of the community you are working into the broader city or region.

Demographics

Use U.S. Census Bureau data, information from CoStar or other proprietary real estate sources, and local municipal or regional government datasets to understand the demographics of the community in the geographies defined as the project site. Consider some of the following breakdowns for a broad look at the data - income, age, language spoken at home, race, ethnicity, home ownership, English proficiency, education level, unemployment, and health outcomes.

Interested Parties

Identify key community members, interested parties and groups to inform the engagement process. Groups should be identified through multiple lenses including potential users of the project, people or groups impacted by the site's operations and construction processes, business owners, local and regional nonprofit organizations, formal and informal stewardship

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groups, citizen scientists, and others. Refer to recent planning initiatives and discussions with community leaders in the area to help identify a diverse full list of interested parties.

Connectivity

Identify elements of existing wildlife connectivity on site to show how the new development will keep these connection hallways intact. Assess surrounding areas of habitat that can be linked to by creating additional moments in the design for functional wildlife connectivity to expand beyond project boundaries.

Discharge Rate

If stormwater leaves the site via direct drainage or is otherwise managed on site, this analysis is not necessary. If the stormwater system is connected to a municipal stormwater or combined sewer system, determine the current discharge rate, using the Natural Resource Conservation Service Technical Release 55 (Tr -55) or comparable method to attain a runoff curve number (inches of runoff discharge/inches of rainfall) to calculate runoff discharge from pre-and post-development conditions to project effectiveness of options for managing runoff volume and peak flow discharges.

Ecosystem Services

List key ecosystem services that the site currently provides. An analysis of existing trees indicating species and size and whether they are native, invasive, volunteer, or other factors that would determine their benefit to site and whether they should be preserved as part of development plans.

Habitat Extent

Determine the total area occupied by existing specific types of habitat or ecosystem. Determining the size of the habitat extent will further inform the size and distribution of ecological systems and will inform project team for predicting potential distribution of species based on habitat availability and habitat structure.

Habitat Quality

Determine the quality of habitat.

Impacted Area

Identify the acreage of, describe, and map any impacted or previously disturbed areas or provide a draft environmental impact statement.

Landscape Ecology

The steps below help asses potential challenges and sensitivities to inform a site analysis of the landscape ecology.

Habitat Extent:

- Level 1, desktop analysis (appropriate for retrofits and urban infill with little habitat): Map extent of existing habitats, with an emphasis on critical and vulnerable habitats, including, but not limited to, the following:
    - Wetlands and mangroves and jurisdiction as mapped by federal agencies, the USACE and/or state regulatory entities or via natural resources investigation and delineation by a professional (denoting presence and extent of hydric soils and hydrophytic vegetation, and wetlands hydrology). Wetlands are defined in the Clean Water Act and delineated according to the appropriate state supplement to the USACE delineation manual. Note: If wetlands are not mapped but suspected on site, contact state regulatory agencies or an environmental professional, who can also perform a site review to assist with delineation;172
    - Water bodies, including streams and unconnected ponds or lakes.
    - Coastal shrublands and maritime forest.
    - Significant habitats and those supporting threatened, endangered, or locally rare species, as designated by

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federal or state agencies.

- Regional, state, or local habitat restoration plan priority restoration and conservation areas.
- Coastal barriers resource system and natural protective features or those vulnerable to erosion (dunes, bluffs).
- Ecological Systems of the United States (NatureServe).173

- Level 2 (on-site) analysis: In addition to referencing the data collected via a desktop (level 1) analysis, delineate habitats on site and develop a detailed existing conditions habitat map.

Habitat Quality:

- In addition to an inventory of current and historical land use (if available), use one of two approaches to assess habitat Quality. If in-water modification (other than minor) is pursued, a benthic index of biotic integrity is required.
- Level 1, rapid inventory assessment (retrofit, urban infill): Conduct a field assessment of the project site including upland, intertidal, littoral, and in-water areas (if there will be in-water construction) with consideration given to adjacent sites. The rapid inventory assessment must identify and determine the Quality of these ecological communities through measures of biodiversity, species richness, and abundance or other measures of productivity. Estimate habitat and soil type and extent.
- Level 2, intensive functional assessment: Conduct an in-depth, intensive functional assessment of ecological assessment and habitat suitability analysis for any planned restoration or mitigation. Identify the performance and value of ecosystems functions and services provided by the natural resources on site. An advanced hydrologic analysis should accompany this assessment. Option two is required for projects expecting to result in impacts to critical habitats as defined in Credit 4.1. Site with ecological sensitivity. If potentially relevant, consult the USACE's Wetlands Delineation Manual, state guidance, and/or a professional

trained in wetlands delineation to determine the extent of wetlands and any adjacent regulated areas.

Note: For retrofit and redevelopment projects in areas with no existing habitat, assessment of habitat Quality may be omitted (must be consistent with "presence and extent of existing habitat" analysis).

Lighting

Develop lighting strategies to minimize the impact of artificial illumination on native wildlife and natural ecosystems. Focus on using low-intensity, shielded, and wildlife-friendly lighting (typically in amber or red wavelengths), the reduction of light pollution, and controlling the placement and operation of lighting systems. These practices are essential to prevent disruption of critical behaviors such as nesting, foraging, navigation, and reproduction for sensitive species like sea turtles, migratory birds, and nocturnal animals.

The Florida Fish and Wildlife Conservation Commission (FWC), in collaboration with the U.S. Fish and Wildlife Service, has developed comprehensive guidelines and a Wildlife Lighting Certification Program to assist property owners, developers, and municipalities in implementing wildlife-friendly lighting solutions. Although non-mandatory, FWC offers a framework for creating and enforcing regulations that help protect coastal wildlife from the harmful effects of artificial lighting.

FWC recommends meeting the following three criteria:

1. **Keep it LOW:** Fixtures should be mounted as low as possible to minimize light dispersion. Only the minimum wattage or lumen output necessary for the intended purpose should be used.
2. **Keep it LONG:** Utilize light sources that emit long wavelengths (560 nanometers or greater), such as amber, orange, or red LEDs. These wavelengths are less disruptive to wildlife, particularly sea turtles, as they are less likely to interfere with natural behaviors like nesting and hatchling orientation.

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3. **Keep it SHIELDED:** Lighting fixtures must be designed to prevent light from being visible from the beach. This involves using full cutoff fixtures that direct light downward and incorporating shielding to block the light source from view.

Precipitation

Calculate the current and regionally adjusted climate projections for your region, as follows. This information will inform the approach for managing stormwater.

Conduct a percentile storm event-based analysis:

- Obtain a long-term rainfall record using the EPA Stormwater Calculator tool or from a nearby weather station (daily precipitation will suffice, but it is preferable to obtain at least the most recent 30 years of daily records), available from many sources including NOAA.
- Remove data for small rainfall events that are 0.1 inch or less and snowfall events that do not immediately melt from the data set. (These are events that don't typically cause runoff and could potentially render the analysis inaccurate).
- Using a spreadsheet or simple statistical package, sort the rainfall events from highest to lowest in inches or centimeters. In the next column, calculate the percentage of rainfall events that are less than each ranked event (event number/total number of events). For example, if there were 1,000 rainfall events and the highest rainfall event was a 4-inch event, then 999 events (or a percentile of 999/1000, or 99.9 percent) are less than the 4-inch rainfall event.
- Review expected future precipitation trends based on downscaled climate change projections, via the USGS National Climate Change Viewer, local, municipal, or state regional climate projections. Adjust target precipitation event to accommodate expected regional shifts in precipitation based on the design life of the project and infrastructure.
- First Street Foundation's 8th National Risk Assessment

developed the First Street Foundation-Precipitation Model which factors in the increasing probability of extreme precipitation events over the next 30 years as a result of climate change.

Risk and Vulnerability to Extreme Events and Sea Level Rise

An assessment of risk and vulnerabilities associated with future inundation, storm surge, riverine flooding, and other types of flood events in the site context (including existing structures) should be conducted to at least a level one analysis. In this assessment and planning context, risk is a combination of exposure to hazard events and future inundation and existing vulnerabilities. Designers should use this analysis to reduce the vulnerabilities of existing and future structural and natural components. Vulnerability refers to the propensity of exposed elements to suffer adverse impacts (based on their sensitivity and capacity for responding to that risk). 190

As sea level rises, the extent, frequency, and duration of coastal flooding will increase. It is important to consider the effects of both regular inundation (flooding associated with regular tidal cycles, spring tides, on-shore winds) and event based flooding (extreme rainfall, inundation from surge and waves during coastal storm events) in siting and design. The steps below support a risk and vulnerability assessment to inform a design approach consistent with guidance detailed in Quality 1.1

- **Site topography:** A topographic analysis will inform site design and integrated flood risk reduction strategy, through identification of areas vulnerable to flooding and sea level rise. Design teams should gather the highest resolution topographic data (usually Light Detection and Ranging, LiDAR) available. The USGS's National Map page provides some one-meter resolution data, and many states and municipalities also have more extensive or higher resolution topographic information available in GIS databases, and therefore should be consulted as well. Depending on the level of complexity of the project, and whether high-resolution

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data are available), a more detailed topographic survey should be performed. These topographic analyses should be overlain with FEMA current 100-year flood maps including base flood elevation and considering future high-water levels (see "sea level rise," below) to determine detailed grading, design flood elevation for structures and paths, and planting/landscape design. Additionally, low-lying hydrologically unconnected areas that may also flood due to extreme rainfall should be mapped for these purposes.191

- **Structural and natural vulnerabilities** that may contribute to flooding should be identified, and points of existing vulnerability should be annotated. These may include, but are not limited to:
    - Low-lying areas and areas where heavy precipitation is likely to become trapped (not hydrologically connected).
    - Existing buildings, piers, and other structures (including edge stabilization) vulnerable to scour or with low durability.
    - Stormwater drains.
    - Existing flood management berms or structures likely to be overtopped and retain floodwaters.
    - Plantings or habitats that are likely to be more frequently inundated or exposed to (but unable to handle) saltwater.
- **Sea level rise (coastal only):** An understanding of the regionally adjusted rate of sea level rise is critical to determining site-wide planning and design, including plantings, elevation, and any site-wide flood risk reduction measures (when paired with site topography and base flood elevation). In addition to raising local risks to extreme flooding, regular inundation from future high tides can affect infrastructure, built structures, natural resources, and edge stabilization as well as day-to-day access, operations, or activities. Conduct the following analyses to inform site planning and design:

- Determine the local/regional sea level rise rate and expected level of sea level rise using a moderate projection or higher throughout the design life of the project. Use the following data sources, listed by preference: 1) peer-reviewed local/regional sources;192 2) NOAA Sea Level Rise View or other federal datasets.193 Depending on whether a particular structure must maintain uninterrupted operations throughout a storm (e.g., a hospital), has high-value components, or includes storage of hazardous or potentially polluting substances design teams may consider using the "high" (rather than moderate) sea level rise scenario. This should be especially considered for projects not yet within, but close to, the current limit of Moderate Wave Action (LiMWA), due to potential changes in wave height and inland shifts in the LiMWA.
- Map future high tide water level extent: mapping sea level rise provides a useful reference for planning, though it should be noted that high resolution topographic data are primarily critical to determining a detailed design approach.194 Use the following data sources, in order of preference, for geographic data: 1) peer-reviewed local/regional sources;195 or 2) NOAA/federal resources.

- **Storm surge and waves (coastal and Great Lakes):** Event-based extreme or intense inundation, high water velocity and wave attack can severely damage structures, natural resources, and both green and grey infrastructure; put people's lives and safety at risk; and put many land uses out of regular operation or access for extended periods of time. Note that mapping storm extent provides a useful reference for spatial planning and the potential likelihood, intensity, and extent of flooding. However, high-resolution topographic data combined with base flood, freeboard, and regionally adjusted sea level rise (Credit 1.1) provide the most accurate means to determining a detailed design approach for elevation and other protective measures if needed.
  - Map the current 100-year and 500-year floodplains, V Zone, associated base flood elevation, and LIMWA, available

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from FEMA via the National Flood Hazard layer.196, 197 While the 100-year floodplain will include waves, the 500-year floodplain will not. Depending on site topography, setbacks, and other analyses, projects should conduct analyses to estimate the wave reach in a 500-year storm event.

- Map the future 100-year and 500-year floodplain, using high-resolution peer-reviewed local/ regional sources as the preferred data source if available.198 In areas where future floodplain maps are unavailable, approximate the future floodplain by mapping the existing floodplain over site topography. Using a regionally adjusted sea level rise projection consistent with the moderate sea level rise scenario or higher and based on the target design life, identify future flood-prone areas. For example, if the current 100-year floodplain most closely follows NAVD +10' and the sea level rise adjustment for the region and time frame is 24", use NAVD +12' contour lines as an approximation for areas on site that are likely to experience future flooding. It is important to note that these maps are based primarily on still water "bathtub" modeling, and most do not consider waves, an important consideration for risk, structural integrity, and overall flood elevation. While there is much less certainty surrounding future wave height (and the movement of the LiMWA along a horizontal landward plane), it is recommended that design teams consider some increased risk/height in areas near the existing LiMWA when reviewing site risk and vulnerability.

- **Riverine:** Use FEMA FIRMs to identify the Special Flood Hazard Area (SFHA), which identifies the floodplain boundary for the 1% annual chance flood event (or 100-year flood) and the 0.2% annual chance flood event (or 500-year flood). FEMA maps will designate high risk flood zones, those in the SFHA beginning with the letters A or V. Moderate and low risk flooding areas will begin with X, B, or C. Projects should map the stream channel, floodway, and floodplain on the site.199, 200 First Street Foundation's Precipitation Model

will provide supplementary data to the FEMA FIRMs. FEMA FIRMs rely on historic data while First Street Foundation and others make projections that include climate change. First Street Foundation data or other peer-reviewed local future estimates may be used in WEDG; however, local, state, and federal regulations and insurers typically require the use of FIRMs to determine a project's BFE. When different sources provide different threat levels, build to the higher threat.

Projects should utilize NOAA Atlas 14, which uses historical rainfall records, to determine the frequency of various precipitation events at the site. Where local, peer-reviewed datasets or climate projections exist that provide precipitation frequency, these may be substituted or consulted alongside Atlas 14.

Input maximum flow and water layer thickness into a hydrologic model. Use U.S. Army Corps of Engineers' Hydrologic Engineering Center's (HEC) River Analysis System (RAS) software to perform steady flow water surface profile calculations, one and two dimensional unsteady flow computations, sediment transport and movable boundary computations, water Quality analysis, and other hydraulic design computations.201 In addition to HEC-RAS, MIKE 21 or FLO 2D models may be utilized. HEC-RAS analysis will help projects identify the impacts upstream, downstream, and on site for changes to site elevation, and flood storage.

- **Flood Hazards of Special Concern:** FEMA identifies Flood Hazards of Special Concern where significant flood risk exists outside of normal coastal, riverine, or pluvial flooding. Determine if the project falls into any of these categories and design accordingly.
    - Coastal Erosion (See: STABILITY, SOILS, PROPWASH, SEDIMENT TRANSPORT, AND MARINE ASSET CONDITION)
    - Closed Basin Lakes
    - Uncertain Flow Paths

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- Dam Breaks
- Ice Jams
- Mudflows (In areas where wildfires have recently occurred, FEMA FIRMs may not properly show mudflow risk).
- Tsunamis (For tsunami zones, use the tsunami flood inundation level as the Base Flood Elevation (BFE), where feasible).
- Ice Jams (See: ICE)

Several proprietary tools are available that provide additional climate risk information, like the First Street Foundation's Precipitation Model. These may provide additional information or validation on flood risk assessment but are typically insufficient to significantly inform design. These products include, but are not limited to, Jupiter Climate Score Intelligence,202 First Street Foundation Risk Factor,203 and ClimateCheck.204

Soil Contamination

Identify any pre-design contaminants and levels relevant to exceedance of defined state or federal standards for the intended use based on a Phase I Environmental Site Assessment as described in ASTM E1527-21 (or local equivalent).168 An assessment is required if there is any evidence of contamination on site or history of contamination on adjacent sites. If contamination is suspected, conduct a Phase II Environmental Site Assessment as described in ASTM E1903-19 (or local equivalent).169 Additionally, assess whether the site is entered into a local, state, or federal brownfield voluntary cleanup program or is part of an EPA Superfund listing or ongoing investigation.

In sites with primarily urban soil designations, soil may need to be built up or remediated to accommodate vegetation.

Stormwater Infrastructure

Map existing stormwater infrastructure and capacity, including locations of stormwater conveyance channels, pipes, catch basins, outlets, and all stormwater facilities.213 Map Combined Sewer Overflow (CSO) locations, including information about volume, rates, and frequency of discharge.

Stormwater Quality

Calculate pre-design total suspended solids, nitrogen, phosphorus, or other pollutants of concern of any stormwater not retained on site.

Transportation Access

Conduct a transportation proximity analysis to determine if any public transportation options exist within one half mile (appropriate walking distance) of the site. Research any local or regional greenway initiatives and assess how greenway or pathway designs on site would achieve broader regional/local goals. If no existing public transportation options are within range, assess for creating or renovating waterborne transit modes.

Vegetation Density/Cover

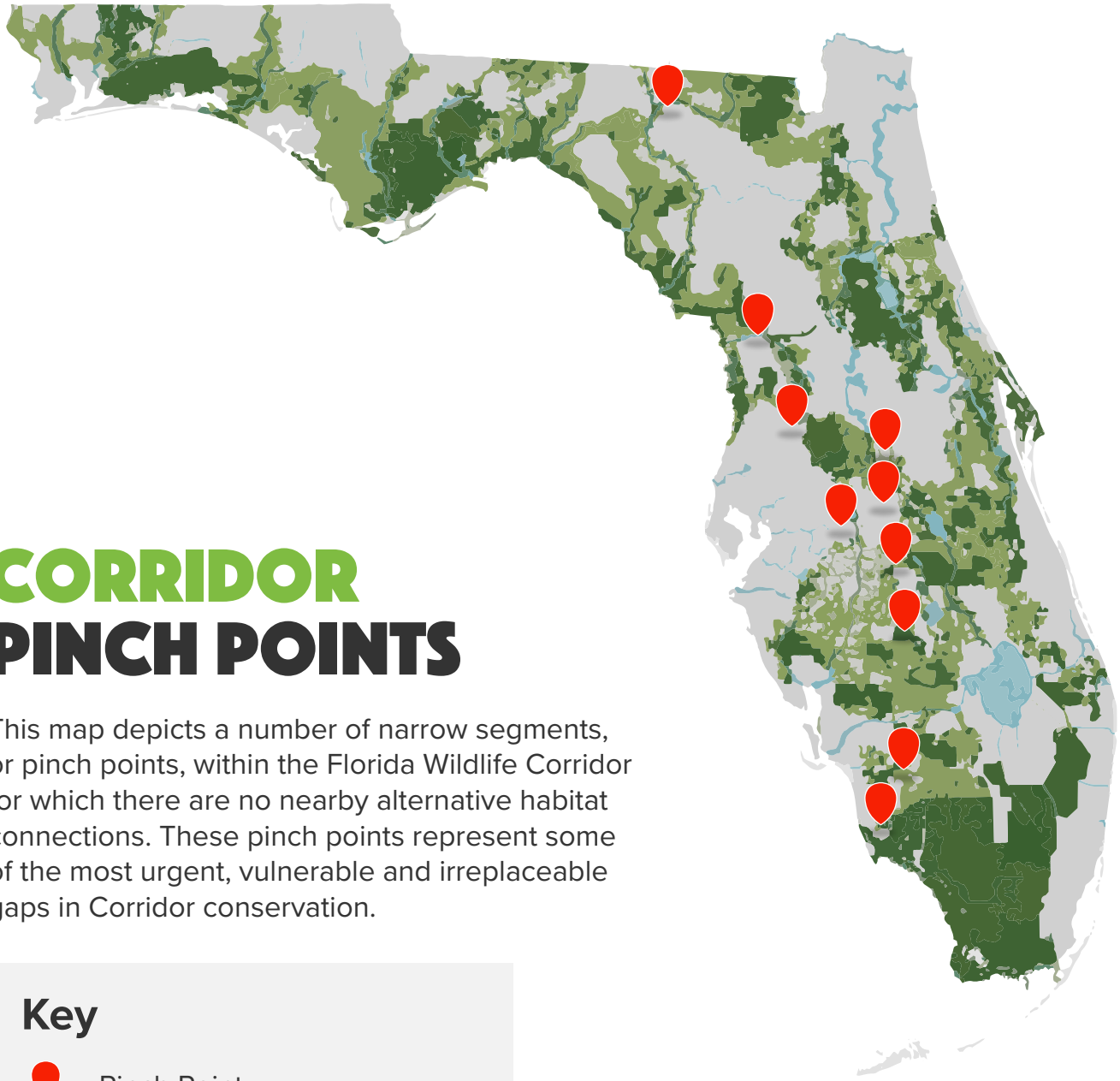
Pre-design and post-implementation vegetative cover should be calculated, noting more “naturalized” areas or areas of denser vegetation.

Water Use and Wastewater Management

For retrofits, note volume of current water use (number of gallons), estimating irrigation frequency and volume of wastewater produced. For all other projects, the baseline design case will be developed in Credit 4.11.

APPENDIX B

CORRIDOR PINCH POINTS



CORRIDOR PINCH POINTS

This map depicts a number of narrow segments, or pinch points, within the Florida Wildlife Corridor for which there are no nearby alternative habitat connections. These pinch points represent some of the most urgent, vulnerable and irreplaceable gaps in Corridor conservation.

Key

- Pinch Point
- Conserved Lands
- Opportunity Areas

Florida WILDLIFE CORRIDOR Foundation

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RIGHT LOCATION CONSIDERATIONS

The Right Location Subteam was established to address the complexity of how to ensure Corridor connectivity in a rapidly growing state. Subteam discussions evolved into three categories: identification of high priority areas, resources and tools, and planning and policy approaches. The Subteam's work is ongoing so this appendix will be updated and finalized later this year.

High Priority Areas

This section provides guidance for identifying features and habitats of particular ecological importance or sensitivity that should be considered when siting a project. Certain habitat connections and ecological features play critical roles in the function of the Corridor and must be retained to avoid significant impacts to the Florida Wildlife Corridor.

Pending:
Rare/Vulnerable Habitats
Headwaters, Springs and Rivers
Wetlands
Uplands
Estuarine/Coastal/Marine
Threatened and Endangered Species
Important Connections, including Priority Restoration Areas
Ecosystem Processes/Ecosystem Services

Landscape/Ecological Hubs including Coastal Migration

Landscape Context

Neighboring properties that may not necessarily be within the boundaries of the Florida Wildlife Corridor should be considered for Corridor Compatible Communities design guidelines based on the connection potential of the subject property and nearby conservation lands (Ex., opportunity areas identified by estuary

(TBEP Habitat Master Plan) and county programs (Hillsborough County Environmental Land Acquisition Program) and proposed national designations (Little Manatee River wild and scenic river designation)). Conservation activities that influence adjacent lands such as (smoke sheds, prescribed burning, and other land management activities should also be taken into consideration. In addition, coastal to inland connections provide connectivity to coastal habitats and estuaries of national significance. In particular, these connections can be provided by undammed major rivers, such as the Econfina and Choctawhatchee Rivers in the panhandle, the Little Manatee and Alafia Rivers that flow into Tampa Bay, and the Suwannee River which flows into the Gulf at the Big Bend of Florida.

Resources and Tools

This section provides an overview of tools that can inform siting decisions relevant to the Corridor. Many of these tools are hosted on the Corridor Connect Ecosystem Platform (Platform). The Platform is a way for Corridor partners to access resources and planning tools, such as data layers and GIS information, all in one place.

Florida Ecological Greenways Network (FEGN)

The University of Florida's Center for Landscape Conservation Planning's (CLCP) FEGN Dashboard contains several data layers that can be used to explore the location of the Florida Wildlife Corridor (Priorities 1, 2, 3), and the Priority 4 and 5 layers of the FEGN model capturing other important regional to local conservation corridors. Link: ufl.maps.arcgis.com/apps/dashboards/0caf1487f546449899e2ceda01484a9b. The FEGN viewer also has layers associated with anticipated future land use, development trends and Florida Forever (BOT) projects that have not yet been protected. Link: experience.arcgis.com/experience/27b8d8cd961c4f5091655c52c74d3ada

EcoCon Viewer – CLCP Tool

EcoCon Viewer – The Florida Ecological Connectivity Viewer,

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"EcoCon", developed by the University of Florida's Center for Landscape Conservation Planning (CLCP) and GeoPlan Center, is a user-friendly, open-access, and flexible GIS-based online resource. It is intended to serve as a planning and protection tool to guide decision making within the Florida Wildlife Corridor, the Florida Ecological Greenway Network, and other conservation priority areas across Florida. With roughly 150 data layers, this tool offers the most up-to-date and best available conservation planning data, as well as options to perform basic analyses, import or export data, and create custom maps to print. The EcoCon Viewer debuts in June 2025 and can be found on the CLCP's Hub, along with additional tools and supportive resources: clcp-ufl.hub.arcgis.com

Pending:
Critical Lands and Water Identification Project (CLIP)
Central Florida Regional Planning Council Tool
Florida Circuit Model
Center for Landscape Conservation Planning (CLCP)
Bottlenecks and Urgency Areas
Efficient Transportation Decision Making (ETDM) Model
MarkSan Model

Planning and Policy Approaches

This section covers approaches that can serve as inspiration for us when developing guidance for where and where not to develop in the Florida Wildlife Corridor.

Tampa Bay Estuary Program (TBEP) Habitat Master Plan

A Habitat Master Plan was updated in 2020 for the Tampa Bay watershed relying on a three-decade habitat change analysis and the pace of restoration projects completed in the region over the past 40 years. This plan identifies existing opportunities and sets short-term (2030) targets and long-term (2050) goals for specific habitat types. This target setting approach, termed "Maximizing the Potential", is primarily focused on what is

possible today rather than replicating past ecological conditions and accommodates future stressors – especially sea level rise, climate change, and development. Furthermore, this update maps habitat protection and restoration opportunity areas where these targets and goals can be attained. However, the identified habitat protection and restoration areas will change over time, and it is appropriate that they be revised on a 10-year recurring cycle. A habitat report card was developed to provide an accessible summary of habitat restoration, protection, and enhancement projects completed in each year, the historical context for these projects, and current status in achieving the short-term targets and long-term goals. Based on progress made each year, key priority habitats on which to focus restoration efforts are identified.

https://tbep.org/habitat-master-plan-update/

Coastal and Heartland National Estuary Partnership (CHNEP) Habitat Restoration Needs Plan

The Coastal & Heartland National Estuary Partnership (CHNEP) has produced a Habitat Restoration Needs (HRN) plan for their ten-county, 5,416 square mile program area. The HRN plan was prepared in two reports together encompassing the watersheds of the Peace, Myakka, Caloosahatchee and Estero rivers and the coastal waters from Dona Bay in Sarasota County to Estero Bay in Lee County. Significant portions of the plan cover land protection and habitat restoration opportunities within the Florida Wildlife Corridor.

The overarching goal of the HRN is to increase the acreage of native habitats in the CHNEP area, both strategically and opportunistically. In support of this goal, several alternative approaches to developing quantitative habitat targets were assessed and evaluated. Several types of information were considered including: habitat status and trends analysis, existing preservation and conservation lands, proposed land acquisition priorities, listed species critical habitats and

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migratory corridors, river floodplain functions, long-term trends in freshwater flows, historical soils distributions, projected sea level rise, and modeled coastal habitat migration in response to sea level rise. Through this "weight of evidence" process the project team developed an additive hybrid approach. This approach utilizes geospatial tools to identify habitat opportunity areas and develop quantitative habitat management/ enhancement and restoration targets that are "place-based" – that is, they can be mapped. In addition, the additive hybrid approach is both retrospective and prospective in that while it is informed by past changes, it is focused on what is possible today rather than replicating historical ecological conditions. Finally, the additive hybrid approach incorporates future stressors – including climate change, sea level rise and urban development – into target development. The HRN plan provides a guide for practitioners within the watershed to allocate and prioritize their resources (time, staff, funding, etc.) and create policies that will be of regional importance. The TBEP used the same methodology for their watershed habitat needs assessment described above.

An added benefit of the HRN plan's data and recommendations is that information can be viewed by county, watershed, and electoral districts enabling elected officials, policy makers, agency staff, conservation partners and engaged citizens to work more effectively in their area of concern. Utilizing the same methodology, the CHNEP and TBEP have strengthened regional consistency and provide a framework that can be implemented statewide. For more information see https://www.chnep.org/publications and https://chnep.wateratlas.usf.edu/habitat-restoration-needs/#hrn-plan-home.

Green Swamp Area of Critical State Concern

The Florida Legislature designated the Green Swamp, known as the Liquid Heart of Central Florida, as an Area of Critical State Concern (ACSC) in 1979. While the Southwest Florida Water Management District identifies the Green Swamp as 560,000 acres that includes portions of five counties, the Area

of Critical State Concern within the Green Swamp is more narrowly defined by the Florida Department of Commerce as 322,690 acres split between northern Polk and southern Lake counties. The headwaters for four major rivers in Central Florida originate in the Green Swamp: the Withlacoochee, Ocklawaha, Peace and Hillsborough rivers. Wetlands in the Green Swamp provide regional flood control and aquifer recharge, and flatwoods and sandhill uplands also provide aquifer recharge. The ACSC designation acknowledges the Green Swamp's critical hydrologic functions, considered second only to the Everglades' in importance for Florida, and the need to regulate any development to prevent degradation of those functions.

State rules adopted as a result of the ACSC designation for the Green Swamp list 11 objectives, starting with "minimize the adverse impacts of development on resources of the Floridan Aquifer, wetlands and flood-detention areas." Additional objectives relate to protecting ground and surface water quantity, Quality and flow to maintain aquifer recharge, biological-filtering and flood control, and preventing salt-water intrusion into the Floridan Aquifer. Notably, there are no objectives that refer explicitly to wildlife protection, even though healthy ground and surface water is undoubtedly critical to wildlife protection.

State rules relating to development in the Green Swamp — including for platting, site alteration and structure placement — appear to be advisory rather than mandatory. Development should only be permitted when it will not adversely affect the surface water flow or recharge capabilities of the development site, or cause siltation of wetlands or reduce their natural retention and filtering capabilities. Soil exposed by site alteration or development should be stabilized to prevent alteration of surface water flow and restored with "suitable vegetation". Groundwater withdrawal should not exceed the "safe yield" as determined by the Southwest Florida Water Management District. Stormwater runoff should approximate the natural surface water flow when released into wetlands. These state rules specify that they should be administered by local governments.

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Both Lake County and Polk County, through their comprehensive plans and land development regulations, have established controls on development intended to protect the Green Swamp that appear to reflect the objectives of the state rules. This layered state and local approach could be a model for protecting other critical environmental resources in Florida — especially those with significant hydrological values — provided that local leaders are committed to implementing and enforcing the state objectives.

Lake County

Through a local ordinance, Lake County has committed to "preserve the integrity of the Green Swamp as an intact ecosystem of statewide significance by protecting its natural resources." The ordinance declares, among many provisions, that development within the Green Swamp ACSC will require concurrency for roads, fire, police and schools; conserve water; cluster development away from environmentally sensitive lands; retain stormwater on site in effective recharge areas; provide a habitat management plan for any endangered or threatened species; minimize site disturbance; protect common open spaces and wetlands through conservation easements; limit roads to two lanes; and enhance the rural character of the project and surrounding areas by reducing urban sprawl, providing conservation areas and encouraging property owners to keep large areas in a natural or open state. Most industrial uses are prohibited, with an exception for sand mining. Spreading of biosolids is also prohibited. There are special protections for the Floridan Aquifer, ground and surface waters, wetlands and other groundwater recharge areas. Any development impacting two or more acres is required to submit a detailed environmental assessment. CHAPTER VIII GREEN SWAMP | Code of Ordinances | Lake County, FL | Municode Library

The ordinance also states that Lake County shall pursue a land use strategy within the Green Swamp ACSC that emphasizes passive parks, agriculture, and very low density rural residential development protective of the natural environment. Lake

County generally limits development in the Green Swamp to between one home on five acres and 20 acres. It has declared that "passive parks, agriculture and very low density residential rural development protective of the natural environment" are priorities for land use within the Green Swamp. The county's comprehensive plan calls for leaving 90% open space in any development within the Green Swamp. Because of the ACSC designation, there is a 45-day review period after Lake County's development approval during which the application is reviewed by the Department of Economic Opportunity (DEO) for compliance with state statutes and rules relating to the Green Swamp. Lake County Comprehensive Planning

Polk County

Polk County's comprehensive plan declares that any development within its portion of the Green Swamp "shall be reviewed for consistency" with a set of objectives. Those objectives include minimizing the adverse impacts of the development on the Florida Aquifer and wetlands, protecting or improving ground and surface water flow, protecting or improving aquifer recharge, and protecting or improving the design capacity of flood detention areas. Polk County Land Development | Planning & Development

A Polk County ordinance allows "environmentally responsible development to occur provided that the integrity of the Green Swamp is preserved and the recharge nature of the land is protected." It bars septic tanks in new developments and requires a minimum 50-foot buffer from wetlands and floodplains. It requires environmental impact statements with development applications. It prohibits phosphate and peat mining. CHAPTER 5 - GREEN SWAMP AREA OF CRITICAL STATE CONCERN | Land Development Code | Polk County, FL | Municode Library

Basin Management Action Plans (BMAPs)

Florida contains the highest number of freshwater springs in the United States and groundwater is the source of drinking

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water for 90% of Floridians. Recognizing the need to address impacts to Florida's water Quality, the Florida Legislature through the 2016 Florida Springs and Aquifer Protection Act directed the Florida Department of Environmental Protection (FDEP) to develop water Quality restoration plans called basin management action plans (BMAPs). A BMAP is a comprehensive set of site-specific strategies designed to reduce or eliminate pollutant loading to a specific waterbody to restore the waterbody to health. FDEP develops BMAPs with local stakeholder input through public meetings and formal workshops, and, once adopted by FDEP Secretarial Order, BMAPs are legally enforceable.

Each BMAP is designed to achieve one or more total maximum daily loads (TMDLs) for specific pollutants within a specific impaired waterbody. TMDLs establish targets for the maximum amount of a specific pollutant that may be present while ensuring the health and functionality of the affected waterbody. Common examples of strategies found within BMAPs for improving water Quality and achieving TMDLs include more stringent permit limits on wastewater facilities, land acquisition and conservation, wastewater and stormwater infrastructure improvements, and requiring agricultural producers within the BMAP area to follow state-adopted best management practices.

The 2016 Florida Springs and Aquifer Act also affords special status and protection for designated "Outstanding Florida Springs", springs that require additional protections to ensure their conservation and restoration. The act requires FDEP to adopt BMAPs for impaired springs and establish delineated springs priority focus areas (PFAs) where certain activities are limited or prohibited. PFAs are priority areas for BMAP project identification and funding based on assumed or modeled ground water travel time to target springs and a high likelihood of land use activities significantly influencing water Quality within the delineated PFA area. Springs-focused water Quality protections outlined within the individual BMAPs are tailored to the conditions within the specific spring PFA. Common examples of strategies found within BMAPs for improving water Quality and achieving enhanced protections

to address impairments to Outstanding Florida Springs include enhanced fertilizer regulations, more stringent agricultural best management practice requirements, and changes to new and existing septic system permitting requirements.

As Florida's population grows and pressures on water Quality and drinking water supply increase, it is critical that all new communities be developed with a sharp focus toward reducing water Quality impacts wherever possible. Regulatory water Quality strategies such as those outlined within Florida's BMAPs, including more stringent wastewater, storm water, and septic permitting requirements, increased agricultural best management practice requirements, and enhanced fertilizer regulations, could offer a blueprint for science-based regulatory factors that should be considered when considering impacts to water Quality from future corridor compatible communities. Smart growth strategies such as compact development, preservation of ecologically critical open spaces, and green infrastructure techniques such as permeable surfaces, green roofs, and rain capture, would also help decrease impacts to water Quality from new development. In addition, all new communities should be developed with great consideration given to avoiding negative impacts to historically underserved communities, who are more likely to live in areas with poor Quality drinking water and to face intense development pressure pushing them out of their historical communities toward even less desirable areas. Given the importance of water Quality in Florida for maintaining both a healthy population and a healthy wildlife corridor, all new development should consider implementing a suite of regulatory, smart growth, and social water Quality reduction strategies such as those outlined above to be truly compatible with the wildlife corridor.

Wekiva Basin Area Protection Summary

The Wekiva River Basin spans over 200 square miles of a diverse freshwater ecosystem consisting of springs, streams, rivers, seepage areas, lakes, sinkholes, wetlands and wet prairies, hardwood hammock, pine flatwoods, sand pine scrub and other natural communities. With such an expansive range,

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multiple cities, counties, organizations and the state of Florida have collaborated to protect the integrity of the basin. The protection of the Wekiva Basin offers many lessons in "dynamic protections," meaning a wide range of political will and work from stakeholders and organizations at the city, county, state and national level have created the layers of protection present today.

The Wekiva River Protection Act of 1988 provided a comprehensive strategy for the 3 counties and St. Johns River Water Management District within the Wekiva River Protection area. The act provides that, regardless of land use designation or zoning, no development may be approved unless it is compatible with all act provisions, ultimately meaning the development protects the viability of natural resources in the ecosystem and rural character is preserved. Rural character within the Wekiva River area is defined as characteristics which convey a sense of rural lifestyle, including agricultural practices, limited residential density (at one unit per net buildable acre or less), large lots, and ample views of wooded areas, open space, wildlife corridors and greenways. Some special strategies enacted included Wekiva-specific floodplain protections, a prohibition on airboats, and limited density or clustering ordinances specific to different regions of the protection area.

Acts such as these are critical, as they often lay the foundation for subsequent actions and protections that further protect environmentally significant, rural regions. For example, over 114,000 acres have since been protected within the Wekiva to Ocala Greenway through Florida Forever land acquisitions, which not only protects resources within the river system but also protects critical regional corridor connections for species such as the Florida black bear. Counties within the region continue to encourage acquisition of environmentally sensitive areas. The act influenced the creation of citizen oversight groups like the Friends of the Wekiva River as well as the Wekiva River Basin Commission, which monitors and ensures the implementation of the recommendations of the Wekiva River Basin Coordinating Committee. Two other important protections implemented since include the National Wild

and Scenic River designation and the Wekiva Parkway and Protection Act of 2004.

The Wekiva River and Scenic River System, which includes the Wekiva River, Rock Springs Run, Wekiwa Springs Run, and Black Water Creek, was designated a National Wild and Scenic River System in October 2000. Under the Wild and Scenic Rivers Act of 1968, this designation seeks to preserve rivers in their natural, unaltered condition with outstanding scenic, natural and cultural recreation values and is overseen by the National Park Service. Fortunately, the majority of the Wekiva Basin Area; the floodplains, waterways and other upland to aquatic habitats, are contained within state-managed lands that aid in protecting the ecological integrity of the region. The Wekiva River System Advisory Management Committee is composed of over 45 partners, non-profit organizations and stakeholder groups at the city, county and state level with expertise in watershed and natural resource protection, water Quality, education, exotic species management, local to state policy, transportation, and outreach. This group works to implement the Wekiva Wild and Scenic River System Comprehensive Management Plan, a plan necessary for the designation. Management Plan – Wekiva Wild and Scenic River System

The Wekiva Parkway and Protection Act of 2004 offers additional regulations to improve and assure the protection of surface and groundwater resources as well as habitat in the Wekiva Study Area. It requires local comprehensive plans to enforce that development on parcels adjacent to the Wekiva River System be concentrated on portions of parcels which are farthest from surface waters and wetlands on top of requirements for low density development of rural character. In addition, parcels adjacent to these waters and wetlands cannot be subdivided so as to interfere with the implementation of the protection zone and rules regarding development at maximum distance from these water resources. Another important element of the act includes restrictions on the location of septic tanks and drainfields in the 100-year floodplain and discharges of stormwater to the Wekiva River System. This is especially important given that water Quality issues from septic tank

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installation and use from un-checked development was one of the first alarms sounded for the river system before the 1988 protection act went into effect. Ch_2004-384.pdf

County Protection Strategies

The three counties within the Wekiva River Basin must follow the instructions set forth by the Wekiva River Protection Act. Each county has also installed county-specific techniques for further protection of the resource.

Lake County Florida contains the majority of the Wekiva River Basin area. The county has two designated Wekiva River Protection Area Overlay Districts to provide an area where low density rural development can occur while preserving environmentally sensitive areas, allowing continued use of traditional agricultural practices consistent with identified best management practices, and ultimately prevent future urban encroachment. In 2009, Lake County adopted a Transfer of Development Rights program (TDR) in an effort to protect the Wekiva Basin Area. This program encourages the transfer of sites for development from the two overlay districts to receiving areas outside the Wekiva River Protection Area. This program has reduced the impact of development within the basin as well as allowed the state to acquire land that further protects the basin. It is a key component of Lake County's 2030 Comprehensive Plan. Lake County Comprehensive Planning.

The A-1-40 Sending Area Future Land Use Category applies to land within the protection area and also within the Wekiva River Hydrologic Basin Zone. A maximum base density of 1 dwelling unit per 40 acres is allowed. A residential subdivision may be increased to 1 dwelling unit per 10 buildable acres if the development is clustered as a rural conservation subdivision or rezoned to a planned unit development, and 50% of the buildable area must be preserved as common open space. The A-1-20 Sending Area is land outside of the Wekiva River Hydrologic Basin Zone still within the overall protection area. A slightly higher density is allowed: 1 dwelling unit per 20 acres, with 1

dwelling unit per 5 acres allowed if rural conservation subdivision design or planned unit development zoning is applied.

The county also prohibits new industrial development in the protection area, limits the intensity of school facilities, and offers extensive policies for the protection of floodplains, swamps and marsh flood zones under policy I-3.3.10. Agriculture, being an important economic and cultural activity in the county, is also protected as long as best management practices are followed within the protection area.

An additional unique strategy outlined in Lake County's Comprehensive Plan is the prioritization of preservation in the Wekiva Study Area beyond land important for water resources. Sensitive upland habitat, such as longleaf pine, sandhill, xeric oak scrub, and sand pine scrub vegetative communities are identified as priority lands dedicated for preservation (Policy I-3.4.3.). Karst features also require minimum setbacks for impervious development.

Seminole County has designated the Seminole Estates Overlay Zoning classification as a protection strategy for the Wekiva Basin. This was a reaction to the development plans for Seminole Estates approved by the Board of County Commissioners in the 1970s-80s. The purpose of the zoning classification is to discourage replatting of lots within Seminole Estates in order to increase the number of lots on the property, which could strain the environmental integrity of the Wekiva Basin. This overlay zoning provides an example of reactionary measures in order to transition land planning, once development focused, to a more conservation minded approach. Sec. 30.10.5. - Wekiva River Protection—Seminole Estates Overlay Zoning. | Land Development Code | Seminole County, FL | Municode Library

Orange County amended its comprehensive plan in accordance with the Wekiva River Protection Act of 1988. The rural settlement of North Apopka/Wekiva falls in the Wekiva River Protection Area, and development must follow "Wekiva Open Space Standards." Residential uses in the rural service area are required to have 40%-70% open space and low density around

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RIGHT LOCATION CONSIDERATIONS

1 dwelling unit per acre or less depending on the development location. CITATION?

City of Orlando? 2AH. - W Wekiva Overlay District | Code of Ordinances | Orlando, FL | Municode Library

Rural Land Stewardship Program

Florida's Rural Land Stewardship Area (RSLA) program was adopted by the Legislature in 2001 along with the Rural and Family Lands Protection Program, based upon recommendations of the Governor's Growth Management Study Commission. Found in Section 163.3248 of the Florida Statutes, the program provides an incentive-based system that encourages the voluntary preservation and private stewardship of natural resources, retention of rural land uses and agriculture, and accommodates economic growth and diversification in a sustainable manner. Stated another way, it provides a mechanism to recognize values of key resources such as the environment, listed species and their habitat, agriculture, Florida culture, open space, etc., and create a "currency" where those values can be exchanged for increased mixed-use development in a sustainable fashion on lands not having the same values. Through stewardship, development should be directed away from important natural and other resources and to areas having lower natural and other resource values.

Designated by a local government comprehensive plan amendment, an RLSA must be at least 10,000 acres, located outside of municipalities and urban service areas, and include criteria for suitability, compatibility, transitions, innovative planning and development strategies including a functional mix of land uses, transferable stewardship credits that are created from sending areas that can be used for development in receiving areas and other incentives as provided in the statute. Collier County and St. Lucie County have each adopted an RLSA, which are the only two currently established. https://www.flsenate.gov/laws/statutes/2022/163.3248

Collier County RLSA

The Collier County RLSA was originally adopted in 2002 in accordance with a final order of the Governor and Cabinet following an administrative hearing and extensive public process, later recognized in statute, and amended in 2021. The RLSA covers approximately 195,000 acres in the eastern portion of Collier County surrounding Immokalee and is an incentive-based voluntary program for the protection of natural and agricultural resources, along with sustainable mixed-use development. Since its adoption, approximately 51,000 acres of Stewardship Sending Areas have been created from natural and agricultural resources, with 18,000 acres of recorded stewardship easements and another 32,000 acres of stewardship easements in escrow. On the development side, approximately 18,000 acres of Stewardship Sending Areas (SSAs) have been created for 6,600 acres of development established for the communities of Ave Maria and Hyde Park and 10,000 acres in escrow for Brightshore Village and the Town of Big Cypress, including Rivergrass, Longwater and Bellmar.

The Collier County RLSA goals, objectives and policies provide for the general purpose and structure of the program, a detailed system for the creation of stewardship credits based upon natural resources and other values, and a cap of 45,000 acres in total of Stewardship Receiving Areas out of 195,000 acres. Policies for the retention of agriculture and the protection of water Quality and quantity and listed animal and plant species and their habitats are included. Detailed policies describe how stewardship credits are created from SSAs and how in turn these credits are used to entitle the required forms of development in stewardship receiving areas along with specific standards for any RLSA development.

Programs like the Collier County RLSA provide incentives to landowners to protect the areas that are most important to natural and agricultural resources and direct development into areas that are more compatible with such intensification. In contrast to state acquisition and easement programs, the RLSA enables the protection of natural and agricultural resources at no cost to the taxpayer.

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Detailed information can be found at https://www.colliercountyfl.gov/government/growth-management/divisions/planning-and-zoning-division/comprehensive-planning-section/rural-lands-stewardship-area?locale=en

St. Lucie County RLSA

The St. Lucie County RLSA was adopted in 2006 and covers approximately 22,000 acres in the western portion of the county, consisting of approximately 16,000 acres of the Adams Ranch and approximately 6,000 acres of Cloud Grove. Adams Ranch is the largest remaining cattle ranch in the county with significant improved and semi-improved pasture, native ranch, grasslands, wetlands, hammocks, swamps, providing excellent habitat for cattle, wildlife, and birds. Cloud Grove had been heavily impacted by citrus canker and citrus greening disease with most trees dead or dying, and virtually no natural resources other than a large above-ground impoundment for irrigation. The intent was to protect and enhance Adams Ranch and develop a sustainable community on Cloud Grove.

Generally modeled after the Collier County RLSA and adapted to meet the needs of that county and the resources within the proposed boundaries, the goal of the St. Lucie RLSA "is to protect and conserve agricultural lands and to promote agricultural viability within SSAs, to direct incompatible uses away from wetlands and upland habitat, to discourage urban sprawl through the RLSA program, and to ensure development within the RLSA that includes a functional mix of land uses and promotes economic diversification."

Established as an overlay in the comprehensive plan within specified boundaries on the future land use map, the policies establish the purpose and structure, methodology for the creation of stewardship credits, natural resource protection goals and requirements for any development taking place within the RLSA. Generally, the RLSA provides the highest value of stewardship credits for the highest value resources, with incentives to protect those areas, and then transfer the stewardship credits to the areas having the least resource values. The RLSA also includes a maximum number of residential units and required non-residential uses to support

those residential uses as a mixed-use community. Important resources to St. Lucie County include environmental restoration, connecting wildlife corridors, protecting cultural resources and economic development in accordance with regional plans, and accordingly these provisions were included in the RLSA. Detailed information including goals, objectives and policies can be found at https://www.stlucieco.gov/home/showpublisheddocument/2028/638085265273730000.

Following adoption of the St. Lucie County RLSA, a stewardship sending area was established on approximately 12,000 acres of the most valuable habitat on the Adams Ranch, including most of the highest scoring ecological and cultural resources based upon detailed scientific data. These stewardship credits were to be transferred to a proposed stewardship receiving area on Cloud Grove, but before the transfer could be completed the major recession of the late 2000s took place. As a result, the stewardship receiving area stewardship easement was never recorded and the stewardship receiving area application was withdrawn. Cloud Grove has been purchased by Florida Power & Light, where it may be used for solar energy development, and Adams Ranch has been working on potential sales of conservation easements. The RLSA is still in place and could be used for its original purposes but at this time no such effort is underway. Regardless, the comprehensive plan policies and land development code provisions provide guidance on how the RLSA program could be used and adapted to other areas of Florida to conserve and enhance natural, agricultural, and cultural resources along with appropriate sustainable development.

Pending:
Local Comprehensive Planning: Overlays
Pick out a few Counties that have made good use of the good examples of having good/useful overlay. Upland Resources Overlay - Alachua? Should we highlight the Lee County DRGR - and how it has not been well used?
Springs Protection Zones
Orange County Comp Plan and Code amendments (transects)
Agricultural Protection Zones (Marion County Ag Overlay)

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Brevard Barrier Island ACSC
SBEP (Habitat Restoration Plan)
Listed Species Recovery Plan
Lake County strategy document/plan
Incentives/Military REPI/ACUB
Private: Covenants & Restrictions
Private: Third Party Easements
Other Initiatives
Governor's Growth Management Study Commission
FWC – Guidelines for T&E species
High Priority Areas Summary

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This glossary provides clear, concise definitions of key terms related to conservation, land development and ecological design, offering insights into the concepts that guide the approach to bio-diverse and resilient environments.

Ancestral Knowledge

Knowledge (wisdom), practices, and values passed down through generations, rooted in lived experiences, cultural traditions, and spiritual beliefs of indigenous and local communities. This knowledge or wisdom encompasses sustainable approaches to living in harmony with nature, land stewardship, and resource management, often offering time-tested solutions to contemporary environmental and social challenges. Ancestral knowledge emphasizes the importance of respecting ecosystems, biodiversity, and the interconnectedness of all life forms.

Bio-Regions

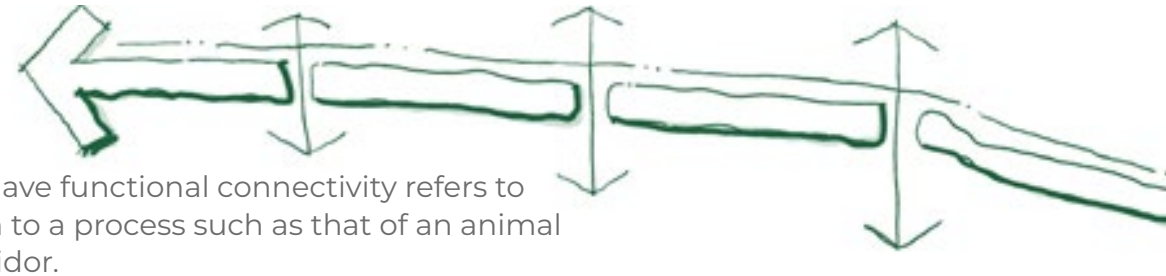
A geographical area defined by characteristics of the natural environment rather than by man-made divisions.

Bio-volume

A measure of the total volume of living organisms within a defined space, typically used in aquatic or terrestrial ecosystems to quantify the biomass present. Bio-volume can help assess the health and productivity of an ecosystem by examining the size and abundance of organisms within a specific area.

Connectivity

As directly related to wildlife connectivity. A measure of how spatially continuous a corridor, network or matrix is and the ability of individual animals to freely move though the terrestrial and aquatic habitats within. An area that animals can freely transverse with adequate foraging and resting habitat would be considered to have functional connectivity, where an area that is connected yet does not contain these necessary habitat



components would not have functional connectivity refers to that continuity in relation to a process such as that of an animal migration through a corridor.

Conservation Areas

Lands managed for conservation typically include areas that are undeveloped and retain their natural attributes, such as forests, wetlands, or watersheds. These areas are protected under planning legislation, and any development or changes within them are subject to stricter planning controls to maintain their unique Qualities.

Conservation Corridors

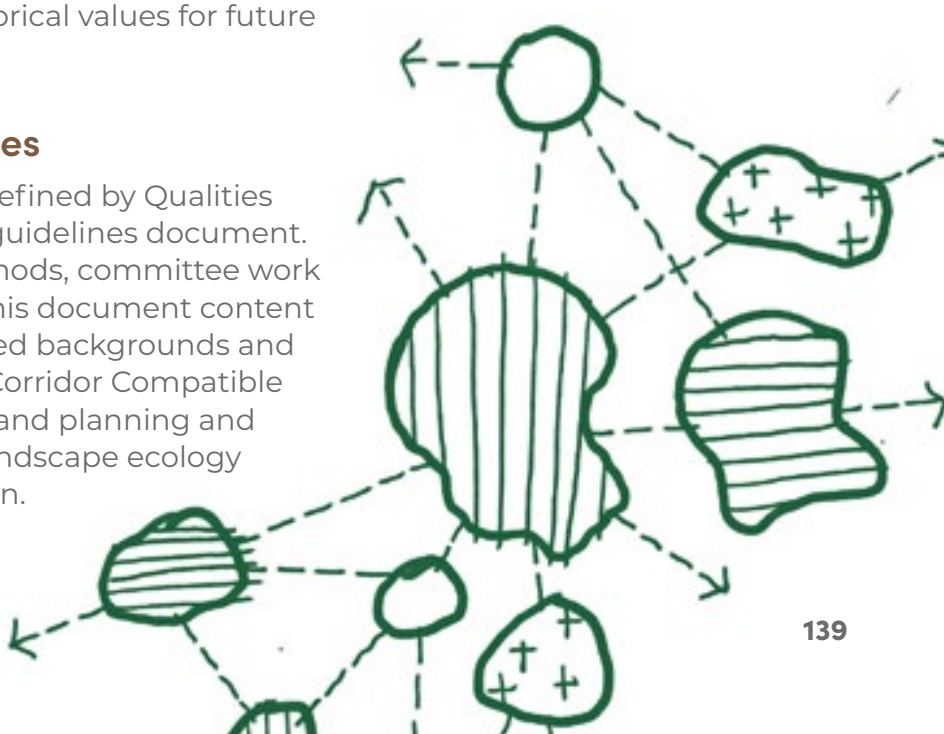
Alternatively referred to as wildlife corridors, habitat corridors, or green/blue corridors. Areas of habitat that connect wildlife populations that are separated by human developments such as roads, buildings, or logging.

Conserved Land

Land that has been legally protected through conservation easements, designations, or other means to maintain its natural state and prevent development or degradation. Conserved land is often safeguarded for purposes such as habitat preservation, water Quality protection, or maintaining open space for public enjoyment. Management practices for conserved land focus on sustaining its ecological, cultural, or historical values for future generations.

Corridor Compatible Communities

Corridor Compatible Communities are defined by Qualities and requirements set for in this design guidelines document. Through collaborative open-source methods, committee work and curated technical advisory review, this document content was prepared by professionals from varied backgrounds and diverse locations throughout the state. Corridor Compatible Communities seek higher standards in land planning and design by leading with science-based landscape ecology methods to inform the development plan.



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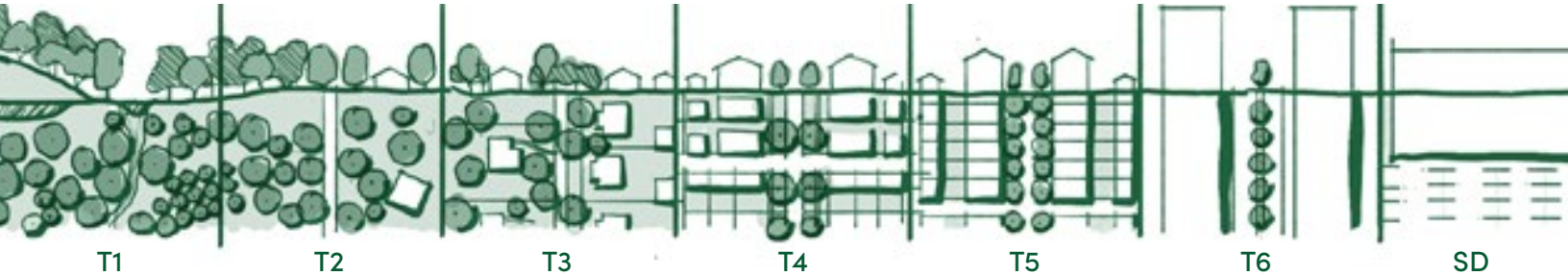
Corridors and Connectivity

Like a dedicated path in a natural space, corridors provide movement efficiency while protecting the adjacent matrix. The five primary functions are:

1. **Habitat** The natural home of a plant or animal.
2. **Conduit** A physical feature that helps wildlife connect to habitat.
3. **Filter** A barrier to certain species or materials.
4. **Source** A high-Quality habitat that produces healthy plant or animal species.

Critical Habitat

The term “critical habitat” refers to those areas which has been designated by the U.S. Fish & Wildlife Service (USFWS) or National Marine Fisheries Service (NMFS) under the Endangered Species Act (16 U.S.C. 1533 et seq.). The term refers to the specific areas within the geographical area occupied by a threatened or endangered species, at the time it is listed, on which are found those physical or biological features 1) essential to the conservation of the species and 2) which may require special management considerations or protection. Critical habitat also includes those specific areas outside the geographical area occupied by the species at the time it is listed where it has been determined by the USFWS or NMFS that such areas are essential for the conservation of the species. Critical habitat may also be established for those species currently listed for which no critical habitat has been established. Designation of critical habitat helps prioritize protection and management efforts to support biodiversity and ecological sustainability..



Development Site / Project Site

For the purposes of this document the word development refers to Land development projects. Developments or Projects alter the existing landscape and ecological systems to create places for residential, commercial, industrial or mixed use projects to be created. Development or projects involve, planning, purchasing, designing, engineering and constructing a parcel or several parcel of lands into a space utilized by humans to live, work and recreate outdoors. In most cases the developments discussed in this document are “greenfield” or “raw land development” projects. In some cases a development project can take place on a previously developed piece of land - this is know as a “brownfield site”

Edges/Boundaries

The layer of forest that borders one habitat type to another, composes the most biodiversity or biomass of any other part of the habitat. These edges and boundaries serve multiple important roles in the natural zone: they serve as habitat, multi-form filter, conduit, source, and sink.

Green Storm Infrastructure (GSI)

A network of natural and engineered systems that manage rainwater where it falls by using vegetation, soils, and other natural processes. GSI reduces runoff, improves water Quality, and provides additional environmental benefits such as urban cooling, habitat creation, and enhanced public spaces. Examples include green roofs, rain gardens, bioswales, and permeable pavements.

Landscape Matrix

The background ecosystem or land-use type in a mosaic, characterized by extensive cover, high connectivity, and/or major control over dynamics.

Low Impact Development (LID)

A sustainable land planning and engineering approach that

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manages stormwater and reduces environmental impact through design strategies that mimic natural hydrological processes. LID techniques include green roofs, rain gardens, permeable pavements, and bioswales to minimize runoff, improve water Quality, and support ecosystem health.

Management and Management Plan (s)

Throughout the document the term landscape management and management plan is utilized to replace the traditionally used term of maintenance. Corridor Compatible Communities are living, evolving projects that require space for adaptation and understanding the managing the living environment is the priority, to work hand in hand with it. Maintenance is the process of maintaining something as is. In efforts to raise the standard of care, all instances that speaking to caring for the natural habitats created within the project - the more active and collaborative term of management has been used.

Mosaics

The combination of all these components (patches, edges/boundaries, and corridors) form the mosaic, which exists at all scales. Its contents are important to understand within the corridor and alongside its context as well as everything in geography is interrelated. The context can be considered by its adjacencies, neighborhood, and location.

Patches

A wide and relatively homogeneous area with distinct conditions from its surroundings. The size, shape, and density of a patch can have many implications on the ecological productivity, biodiversity, soil, and water. There are five basic forms: the disturbance patch, remnant patch, environmental patch, regenerated patch, and introduced patch. The mixture of these various types of patches creates a strong ecology as they transform at different rates.

Passive Recreation

Refers to outdoor activities that require minimal environmental impact, with no significant infrastructure or facilities. These low-impact, unstructured activities focus on relaxation, nature appreciation, and personal well-being.

Planting Ecotone (Transitional Planting)

A transitional zone between two distinct ecosystems, where different plant communities overlap and interact. This area often hosts a diverse range of species from both adjoining ecosystems and can serve as a buffer, promoting ecological balance and enhancing biodiversity.

Public Conservation Lands

Among the most essential natural, cultural, and archaeological places in the country which are managed by the Bureau of Land Management. Of the 248 million acres of public lands managed, only 15% are protected as National Conservation Lands.

Sensitive Ecological Sites

Areas within the landscape that support rare, threatened, or endangered species; unique or fragile ecosystems; or essential ecological functions such as wildlife corridors, water filtration, and pollinator support. These sites are particularly vulnerable to disturbance and play a critical role in maintaining the ecological integrity of the Florida Wildlife Corridor and surrounding communities. Identifying, protecting, and integrating these areas into community planning and design is central to the CCC approach.

Target Corridor Species

Species that migrate or move, that either existing in the area or would reasonably be expected to be within or adjacent to the project area if not for lack of connectivity.

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Transects

By organizing developments through the transect shown below, human habitat can be analyzed as a continuum of the natural world as opposed to viewing them as separate habitats. Through this lens, the landscape can be designed as an immersive environment with varying degrees of natural zones and urban zones: the T1 zone being the most natural zone and the T6/SD zone being the most urban zones. Within the wildlife corridor there may be developments within any of these transects which can contribute to the continued connection of the corridor through the green and open spaces.

Taxonomic Richness

The diversity of species or taxa within a given ecological community, ecosystem, or geographic area. It reflects the number of different species present and is used as an indicator of biodiversity. Higher taxonomic richness suggests a more diverse and resilient ecosystem.

Wildlife Crossings

Structures such as overpasses, underpasses, or tunnels designed to allow animals to safely cross human-made barriers like roads or railways. These crossings help reduce wildlife-vehicle collisions and maintain habitat connectivity for the safe movement and migration of species.

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- 1000 Friends of Florida Citizen Planning Bill of Rights: 1000fof.org/citizens/bill
- Applying landscape ecological concepts and metrics in sustainable landscape planning - ScienceDirect: sciencedirect.com/science/article/abs/pii/S0169204602000051
- Archbold Open Data: archbold-open-data-archbold.hub.arcgis.com
- BioBlitz Florida: edis.ifas.ufl.edu/publication/UW449
- Book - Crossings, How Road Ecology is Shaping the Future of our Planet, by Ben Goldfarb: bengoldfarb.com/crossings
- Book - Facilitators Guide to Participatory Decision-Making. Jossey-Bass, Kaner, Sam et al. 2014: goodreads.com/book/show/927064.Facilitator_s_Guide_to_Participatory_Decision_Making
- Book - Handbook of Road Ecology by Rodney van der Ree, Daniel J. Smith, Clara Grilo: onlinelibrary.wiley.com/doi/book/10.1002/9781118568170
- Book - Road Ecology Science and Solutions, by Richard Forman, Daniel Sperling, et al: islandpress.org/books/road-ecology#desc
- BMP Trains Model: stars.library.ucf.edu/bmptrains
- Conservation Buffers—Design guidelines for buffers, corridors, and greenways | US Forest Service Research and Development. USDA Forest Service: research.fs.usda.gov/treesearch/33522
- City-Nature challenge: citynaturechallenge.org
- DarkSky International | Protecting the night skies for present and future generations: darksky.org

- Design with Nature, by Ian L.McHarg: mcharg.upenn.edu/conversations/what-does-it-mean-design-nature-now
- Enabling Low Impact Development and Green Stormwater Infrastructure – A Code Audit Tool For Florida Counties and Municipalities. Prepared by University of Florida and The Nature Conservancy (UF & TNC 2024): floridawildlifecorridor.canto.com/v/O370TTIPIG/album/NQD26
- Example Impact Fee Calculations for Panther Crossings Document, FDOT Information: floridawildlifecorridor.canto.com/v/O370TTIPIG/album/NQD26
- EPA. Soak Up the Rain: epa.gov/soakuptherain
- FDOT Curb and Gutter Standard Plans: fdotwww.blob.core.windows.net/sitefinity/docs/default-source/design/standardplans/2025/idx/520-001.pdf?sfvrsn=d9639d08_1
- FDOT Landscape Architecture Program (Beautification Grant, Wildflower Program and other resources): fdot.gov/roadway/landscape-architecture/landscape-architecture-programs
- Florida Wildlife Conservation Guide - Conservation Planning: myfwc.com/conservation/value/fwcg/conservation/planning
- Florida Wildlife Conservation and Buffers: A Practicable Tool for Protecting Streams and Wetlands: myfwc.com/media/18252/wetland-buffers-usfws.pdf
- Florida Wildlife Extension: Green Communities Florida Wildlife Extension at UF/IFAS: wec.ifas.ufl.edu/extension/gc
- Florida Fish and Wildlife Conservation Commission Wildlife friendly designs - Bears: myfwc.com
- Florida Black Bear Crossings - Reduce Human Impacts on Bears | FWC: myfwc.com/wildlifehabitats/wildlife/bear/crossings

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- Florida Wildlife Corridor Act: Section 259.1055, Florida Statutes: leg.state.fl.us/statutes/index.cfm?App_mode=Display_Statute&Search_String=&URL=0200-0299/0259/Sections/0259.1055.html
- Florida Cooperative Land Cover Map: fnai.org/services/coop-land-cover
- Florida Natural Areas Inventory Data Resources: fnai.org/publications/data-requests
- Florida-Friendly Landscaping™ Program - University of Florida, Institute of Food and Agricultural Sciences - UF/IFAS: ffl.ifas.ufl.edu
- Florida Invasive Species Council Invasive Plan: floridainvasives.org/plant-list
- Florida Greenbook Resources: fdot.gov/roadway/FloridaGreenbook/FGB.shtm
- Florida Department of Transportation Wildlife Crossing Guidelines (2023): fdotwww.blob.core.windows.net/sitefinity/docs/default-source/environment/pubs/protected-species/wildlifecrossingguidelines_2023_final.pdf?sfvrsn=24352ec3_4
- Florida Department of Transportation's Environmental Screening Tool Map Viewer: etdmpub.fla-etat.org/es
- Florida Ecological Greenways Network (FEGN): conservation.dcp.ufl.edu/fegn/#:~:text=The%20Florida%20Ecological%20Greenways%20Network%20(FEGN)%20is%20a%20statewide%20database,public%20and%20private%20conservation%20lands
- FWC Florida Panther Mortality Map and Data: geodata.myfwc.com/datasets/myfwc::florida-panther-mortality/about
- FWC Florida Black Bear Mortality Map and Data geodata: myfwc.com/datasets/myfwc::fl-black-bear-mortality-locations/about
- FDEP – Environmental Resource Permits (Stormwater): floridadep.gov/water/submerged-lands-environmental-resources-coordination/content/erp-stormwater
- Florida's Outstanding Florida Waters: Outstanding Florida Waters (OFWs): arcgis.com

- Florida Friendly Landscaping:
  ffl.ifas.ufl.edu
- Florida's Outstanding Florida Waters: Outstanding Florida Waters (OFWs):
  arcgis.com
- Florida Friendly Landscaping:
  ffl.ifas.ufl.edu
- Florida Headwaters Foundation:
  flheadwatersfoundation.org
- Florida Native Plant Society Good Citizen Guide (All Regional Documents) Regional Key Map:
  fnps.org/assets/pdf/pubs/Regions%20Map%20REV.pdf
  - Western Panhandle Region: fnps.org/assets/pdf/pubs/A_Western%20Panhandle%20Handout.pdf
  - Eastern Panhandle Region: fnps.org/assets/pdf/pubs/B_Eastern%20Panhandle%20Handout.pdf
  - North Central Region: fnps.org/assets/pdf/pubs/C_N%20Central%20Florida%20Handout.pdf
  - Northeast Region: fnps.org/assets/pdf/pubs/D_NE%20Handout.pdf
  - Central Region: fnps.org/assets/pdf/pubs/E_Central%20Handout.pdf
  - Central East Coast Region: fnps.org/assets/pdf/pubs/F_Central%20E%20Coast%20Handout.pdf
  - Central Ridge Region: fnps.org/assets/pdf/pubs/G_Central%20Ridge%20Handout.pdf
  - West Central Region: fnps.org/assets/pdf/pubs/H_West%20Central%20Handout.pdf
  - Southwest Central Coast Region: fnps.org/assets/pdf/pubs/I_SW%20Central%20Coast%20Handout.pdf
  - Southeast Central Coast Region: fnps.org/assets/pdf/pubs/J_South%20Central%20East%20Coast%20Handout.pdf
  - Southwest Region: fnps.org/assets/pdf/pubs/K_Southwest%20Handout.pdf

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  - South Florida Region: fnps.org/assets/pdf/pubs/L_South%20Florida%20Handout.pdf
- Grey to Green, City of Winter Have: floridawildlifecorridor.canto.com/v/O370TTIPIG/album/NQD26
- Greening Development Site Location, Review and Design | NC Wildlife: ncwildlife.gov/wildlife-habitat/conservation-restoration-programs/green-growth-toolbox/greening-development-site-location-review-and-design#WildlifeFriendlyDevelopmentCertification-977
- Green Stormwater Infrastructure, Florida Department of Protection: gsi.floridadep.gov
- Green Infrastructure Toolkit. Georgetown Law, Climate Center: georgetownclimate.org/adaptation/toolkits/green-infrastructure-toolkit/how-to-pay-for-green-infrastructure-funding-and-financing.html?chapter
- How to Engage Your Community in Wildlife Conservation Efforts | Cultivating Flora: cultivatingflora.com/how-to-engage-your-community-in-wildlife-conservation-efforts/#google_vignette
- Is project in FEGN Priority 1-4 or FL Forever: experience.arcgis.com experience/27b8d8cd961c4f5091655c52c74d3ada
- IFAS native plant material landscape guide: floridawildlifecorridor.canto.com/v/O370TTIPIG/album/NQD26
- iNaturalist: inaturalist.org
- iNaturalist bio-blitzes Bioblitz Guide: inaturalist.freshdesk.com/en/support/solutions/articles/151000194866
- iNaturalist bio-blitzes Bioblitz Guide: inaturalist.freshdesk.com/en/support/solutions/articles/151000194866
- Level III and IV Ecoregions of Florida, U.S Environmental Protection Agency: gaftp.epa.gov/EPADataCommons/ORD/Ecoregions/fl/fl_eco_pg.pdf

- National Ocean and Atmospheric Administration's Coastal & Waterfront Smart growth - Low Impact Development Applications:
  coastalsmartgrowth.noaa.gov/gettingstarted/lid_apps.html
- National Pollutant Discharge Elimination System (NPDES) Stormwater program:
  epa.gov/npdes/npdes-stormwater-program
- Principles of Landscape Ecology | Learn Science at Scitable:
  nature.com/scitable/knowledge/library/principles-of-landscape-ecology-13260702
- Sustainable Floridians | Creating Thriving Florida Communities:
  floridawildlifecorridor.canto.com/v/O370TTIPIG/album/NQD26
- Species of Greatest Conservation Need - Florida Natural Areas Inventory:
  fnai.org
- The Florida Ecological Greenways Network (FEGN): conservation.dcp.ufl.edu/fegn
- The Sustainable Sites Initiative SITES | Developing Sustainable Landscapes:
  sustainablesites.org
- The McHarg Center, Richard Weller, Frederick Steiner, and Billy Fleming:
  mcharg.upenn.edu
- The Florida Wildlife Corridor, Mapping Resources:
  floridawildlifecorridor.org/maps
- The New Yard Pattern Book for Florida's Sustainable Single Family Homes, OUTSIDE, Sustainable Landscape Collaborative:
  outsidecollab.com/the-new-yard-pattern-book
- The FEGN Viewer: FEGN Online Map Viewer:
  arcgis.com
- UF IFAS Mulch Guidance:
  ffl.ifas.ufl.edu/about-ffl/9-principles/principle-4-mulch

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- UF/IFAS Extension Florida-Friendly Landscaping Natural Landscape Recognition Checklist: ffl.ifas.ufl.edu/media/fflifasufledu/docs/checklists/CLUE_FFL_Natural_Landscape_Recognition_Checklist_2024.pdf
- UF Program for Resource Efficiency 2022. Healthy Soils: floridawildlifecorridor.canto.com/v/O370TTIPIG/album/NQD26
- UF Program for Resource Efficiency 2022. Sustainable Landscapes Groundcovers: floridawildlifecorridor.canto.com/v/O370TTIPIG/album/NQD26
- U.S. Fish and Wildlife Service's Roadway Design Guidelines: highways.dot.gov/sites/fhwa.dot.gov/files/docs/federal-lands/programs/federal-lands-planning-program/8266/fws-rdg.pdf
- UF IFAS EDIS document. The Impacts of Roads on Florida's Threatened and Endangered Wildlife: An Overview: edis.ifas.ufl.edu/publication/FR462
- US Fish and Wildlife Service. 2001. Buffers: A Practicable Tool for Protecting Streams and Wetlands: myfwc.com/media/18252/wetland-buffers-usfws.pdf
- Volusia County Low Impact Development Guidebook: volusia.org/core/fileparse.php/6149/urlt/Request-3-LID-Guidebook-attachment.pdf