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*Use the combination of voluntary and regulatory conservation easements within (jurisdiction's name) to strengthen the integrated linkage of green infrastructure and assist efforts to sustain and enhance habitats and wildlife benefits and ecosystem services.*

**FUTURE LAND USE ELEMENT (FLUE)**

**Background Statement:** *The future land use element and the accompanying future land use map often provide the clear guidance and context for development and redevelopment in a jurisdiction. The broader themes that a community may hope to pursue should be framed in this element. In this regard, the importance of green infrastructure the supporting ecosystem services to the community should be addressed in the FLUE.*

**GOAL:** Develop a wildlife friendly community.

**OBJECTIVE:** Encourage development and management of land in a manner which sustains local wildlife, their habitat and the ecological services of the land through an integrated system of green infrastructure.

**Policy:** When planning for a larger parcel or multiple contiguous smaller parcels, emphasize a compact develop pattern over a sprawling one.

**Policy:** Preserve waterbody and riverine green edges and strive to conserve or create a combined upland buffer and in-water littoral edge that links to larger habitat patches.

**Policy:** Where possible, do not subdivide properties in a manner that creates multiple lots to the water's edge; instead, maintain a common community shoreline corridor with an upland component that links to larger habitat patches.

**Policy:** Preserve a background matrix of predominate native vegetation and habitat types. These features are adapted to local climate and soil conditions, support wildlife and likely require less maintenance and water.

**Policy:** Preserve forested areas, the understory and native soil associations. Minimize disturbance of such areas.

**Policy:** Avoid activities that dehydrate landscape features or alter the seasonal water flows or duration of inundation to wetlands, hammocks or waterbodies (e.g., diversions,

drawdown, damming effects from roads, berms, ditches and canals, etc.).

**Policy:** Plan within the context of natural ecological events such as floods and fires, and plan land uses around the ecological realities of smoke sheds, "firewise" community concerns, and restricting development in flood zones.

**GOAL:** Plan development and conservation together allowing for the provision of wildlife corridors and decreased fragmentation of habitat.

**OBJECTIVE:** Further the following landscape planning principles:

- Maintain large patches of natural vegetation;
- Maintain wide vegetation corridors along major water courses; and,
- Maintain connectivity for movement of key species among the large patches, either wide continuous corridors or clusters of small patches.

**OBJECTIVE:** Work with large acreage landowners (alone or in combination) to preserve wildlife habitat, water resources and working rural landscapes by using land planning tools such as Conservation Subdivisions, the Rural Lands Stewardship Areas, Sector Plans and DRI's when considering development of their property.

**Policy:** Ensure that local governmental review and approval processes for land use changes, development proposals and infrastructure projects further the above outlined objectives.

**TOOLS (DISCUSSED IN CHAPTERS 5 TO 7)**

**CONSERVATION EASEMENTS**

**GOAL:** Use the combination of voluntary and regulatory conservation easements within (jurisdiction's name) to strengthen the integrated linkage of green infrastructure and assist efforts to

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sustain and enhance habitats and wildlife benefits and ecosystem services.

**OBJECTIVE:** Strive to use conservation easements (regulatory and voluntary) following a logical pattern of habitat linkages that connect habitat areas (existing or restorable) and/or support water quality and quantity protection functions of the land. Discrete, isolated small easements not part of a larger landscape logic should be discouraged.

**Policy:** (Local government name) will identify and map (GIS) the lands within the city/county that are already subject to conservation easements developed for conservation, mitigation, water management or right-of-way and public facility deployment purposes. Mapping effort will be directed at:

- DEP, COE and WMDS held regulatory-based conservation easements because they are often directed at preserving the land for its natural characteristics, particularly its wetland values;
- FDOT, WMDs and local government facility management and access and stormwater management facility easements; and.
- Private landowner-initiated conservation easements.

**Policy:** Identify and prioritize existing conservation easements relative to their value to a larger landscape level conservation effort and value toward sustaining and enhancing an area's natural resources benefits and ecosystem services.

**Policy:** Provide the county tax appraiser's office with GIS-mapped conservation easement data for inclusion in their data sets.

**Policy:** Incorporate the use of the conservation easement GIS data layer into the (City/County) comprehensive plan and development review processes to assist in logical incremental linkages and green infrastructure development

opportunities.

**Policy:** All areas set aside must be covered by a legal document and/or plat filed with the appropriate government entity, and a legally incorporated business, organization or government shall be designated through a binding management agreement to provide perpetual habitat maintenance. The agreement shall specify who or what other entity would take over management if the original organization defaults.

### UPLAND HABITAT PROTECTION ORDINANCE

**GOAL:** Protect native upland habitats and their linkages to contiguous or related lowland and wetland habitats in order to retain and benefit from the community's wildlife and habitat diversity.

**OBJECTIVE:** Promote ecological stability and integrity by preventing the loss of native upland habitat. Ensure that native upland habitats are identified as a part of the community's comprehensive planning process and then integrated into the overall wildlife and habitat conservation design actions of the community development review and approval processes.

**Policy:** Develop an Upland Habitat Protection Ordinance as a tool available to provide protection of upland natural plant communities, wildlife habitat and remaining large contiguous environmentally sensitive areas within and linking to adjacent properties and jurisdictions.

**Policy:** In the development review process, strive to maintain an undeveloped habitat around the waterways, lakes and wetlands (aquatic, adjacent littoral edge and upland components) that link native upland habitat areas to water.

**Policy:** In the upland habitat protection ordinance, strive to include protection of ephemeral wetlands and ponds (small temporary landscape features that provide important wildlife rearing, feeding and life cycle opportunities for amphibians and other wildlife species).

*Protect native upland habitats and their linkages to contiguous or related lowland and wetland habitats in order to retain and benefit from the community's wildlife and habitat diversity.*

*Enable land to be developed while simultaneously preserving community character, reducing environmental impacts and linking habitat features in a sustainable fashion, protecting the rights of property owners, and enabling development of high-quality projects.*

**Policy:** The upland habitat protection ordinance will function to sustain and enhance native wildlife and habitats by: protecting identified ecological corridors;

- Linking patches of habitat and minimize habitat loss and fragmentation;
- Maintaining rural character and preserving agriculture and working rural landscapes;
- Preserving a background matrix of the predominate vegetation/habitat types;
- Preserving forested areas, understory and soils; and,
- Linking and adding value to waterbody and riverine green edges.

**Policy:** When reviewing proposed subdivision of land, planned unit developments, DRIs or other large developments, identify opportunities for linking open space, stormwater facilities and buffers to create planned separation of human and wildlife communities.

**HABITAT CONSERVATION PLANS**

**GOAL:** Work with landowners, developers and the public to develop habitat conservation plans for listed, endangered or threatened species.

**OBJECTIVE:** Provide a means for private landowners, corporations, state or local governments, or other non-Federal landowners who wish to conduct activities on their land that might incidentally harm (or "take") wildlife that is listed as endangered or threatened by first obtaining an incidental take permit from the U.S. Fish and Wildlife Service.

**OBJECTIVE:** Require private landowners, corporations, state or local governments, or other non-Federal landowners to develop a Habitat Conservation Plan (HCP) designed to offset any harmful effects the proposed activity might have on the affected species

when proposed activities on their land might incidentally harm (or "take") wildlife that is listed as endangered or threatened.

**Policy:** Strive to ensure that planning and development reviews within the jurisdiction as well as cooperative funding arrangements encourage the development of habitat conservation plans that protect listed, endangered or threatened as well as common plant and animal species.

**Policy:** Public lands within the jurisdiction with identified listed species will be managed under the guidance of a Habitat conservation plan (HCP) developed in coordination with the USFWS and the FFWCC to manage endangered, threatened and related species on the property.

**Policy:** Encourage that private lands within the jurisdiction that have identified occurrences of listed species develop habitat conservation plans in coordination with the USFWS, the FFWCC and the local government.

**LARGE PARCEL PLANNING TOOLS**

**Background Statement:** *Issue of concerns about the RLSA, sector plans, DRIs and conservation subdivisions are that they may contribute to urban sprawl if applied indiscriminately by the fact of their requiring infrastructure such as roads, power lines, water and sewer facilities, etc., that may perforate, dissect, fragment and shrink habitats between the existing urban core boundary and the new development.*

**CONSERVATION SUBDIVISIONS**

**GOAL:** Enable land to be developed while simultaneously preserving community character, reducing environmental impacts and linking habitat features in a sustainable fashion, protecting the rights of property owners, and enabling development of high-quality projects.

**OBJECTIVE:** Provide a process for the subdivision of land that:

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- Clusters homes or development away from environmentally sensitive areas and permanently sets aside common open space areas;
- Coordinates development so that the natural ecosystem services of the land such as wildlife habitat connectivity and water quantity and quality protection issues are consistently addressed; and,
- Furthers un-fragmented greenway linkages and wildlife corridors (within the particular subdivision and then outward)–using riparian areas, vegetation and other natural topographic habitat features.

**Policy:** Encourage the use of Conservation Subdivisions wherever parent tracts have been demonstrated to contain habitat linkages, bona fide agriculture and silviculture, environmentally significant features, historically or archaeologically significant resources, or direct connections with existing or planned greenway corridors.

**Policy:** Conservation subdivisions may be used within residential or mixed use land use categories and should find their highest applicability at the urban fringe areas as a transition between urban and rural landscapes.

**Policy:** Conservation subdivisions are not to be used as a means to promote leapfrog development patterns and infrastructure development into rural areas.

**Policy:** Besides requiring the protection of a minimum percentage of open space, ensure that the conservation subdivision ordinances also identify a minimum percentage of developable land to be conserved. (Note: Some ordinances require that 50 percent or more of the protected open space consist of land that is suitable for building.)

**Policy:** Make use of low-impact development and stormwater management techniques in conservation communities. Such techniques might include bio-retention areas, vegetated swales,

permeable pavement materials, and flexible design standards for roads, parking lots, driveways, and sidewalks to minimize site or habitat impacts.

**Policy:** Conservation Subdivisions will provide flexibility with respect to setbacks, minimum lot sizes, street widths, and parking requirements etc., to increase the functionality of this site design option and foster the long-term viability and usefulness of the open space subject to the required conservation easement.

**Policy:** In the implementation of Conservation Subdivisions, ensure that all critical on-site resources that are to be preserved are of adequate size and are appropriately linked and buffered to ensure long-term protection of the resource.

**Policy:** In the implementation of Conservation Subdivisions, require that open space and related resources be placed under a permanent easement that runs with the land. Said easement may be assigned to (1) local government or (2) a local or national land trust that is a 501(c) (3) organization for which conservation of resources is a principal goal and which can provide reasonable assurance it has financial and staff resources to monitor and manage the easement.

**Policy:** Require all applications for Conservation Subdivisions to include a management plan for protected open space and habitat areas and identify a dedicated source of revenue to ensure that all appropriate management activities are undertaken on a regular basis and that all terms of the conservation easement are monitored and enforced.

### RURAL LAND STEWARDSHIP AREAS

**GOAL:** The (local government) hereby establishes the (name) Rural Lands Stewardship Area Overlay (Overlay) to promote a dynamic balance of land uses in the delineated Rural Lands Stewardship Area (RLSA) that collectively contribute to a viable agricultural industry, protect natural resources, further desired

*The (local government) hereby establishes the (name) Rural Lands Stewardship Area Overlay (Overlay) to promote a dynamic balance of land uses in the delineated Rural Lands Stewardship Area (RLSA) that collectively contribute to a viable agricultural industry, protect natural resources, further desired patterns of development, and enhance economic prosperity and diversification.*

*A RLSA will set up a limited trading program within the designated stewardship overlay area(s) that provides landowners within Stewardship Sending Areas (SSAs) valuable credits available to others to be used within the associated designated Stewardship Receiving Area (SRA).*

patterns of development, and enhance economic prosperity and diversification.

**OBJECTIVE:** The name RLSA is intended to protect natural or cultural resources and to retain viable agriculture by promoting compact mixed-use development as an alternative to sprawl, and provides a system of compensation to affected property owners for the elimination of certain land uses in order to protect these resources for transferable credits that can be used to entitle such compact development.

**Policy:** The name RLSA will be used in careful combination with an urban development boundary (UDB), combining sizable permanent areas of separation between the UDB and the developing RLSA to control urban sprawl.

**Policy:** There may be instances where “leap frogging” of RLSA development may be necessary to avoid environmentally sensitive areas. To avoid impacts to intervening rural lands and natural areas, connecting transportation corridors and infrastructure will be managed to avoid intervening strip development or fragmenting of natural or rural areas.

**Policy:** Strive to keep rural areas remaining rural and to guide development toward suitable areas closer to urban areas.

**Policy:** A RLSA will set up a limited trading program within the designated stewardship overlay area(s) that provides landowners within Stewardship Sending Areas (SSAs) valuable credits available to others to be used within the associated designated Stewardship Receiving Area (SRA). Credits arise for defined resources in exchange for giving up specific uses of the land and placing a conservation easement on the land to protect the land/resources in perpetuity.

**OBJECTIVE:** Identified lands within a SSA will be protected from conversion to other uses by creating incentives that encourage the voluntary elimination of the property owner’s right to convert agriculture land to non-agricultural uses in exchange for compensation and by the establishment of SRAs.

**Policy:** Baseline standards in effect prior to the adoption of the area are the permitted uses, density, intensity and other land development regulations assigned to land in the RLSA.

**Policy:** Stewardship credits will be exchanged for additional residential or nonresidential entitlements in a SRA on a per acre basis. Stewardship density and intensity will thereafter differ from the baseline standards.

**Policy:** Stewardship credits are created from any lands within the RLSA that are to be kept in permanent agriculture, open space or conservation uses. These lands will be identified as Stewardship Sending Areas or SSAs. Land becomes designated as a SSA upon petition by the property owner seeking such designation and the adoption of a resolution by the Commission/Council.

**Policy:** A stewardship agreement shall be developed that identifies allowable residential densities and other land uses which remain. Once land is designated as a SSA and credits or other compensation is granted to the owner, no increase in density or additional uses unspecified in the Stewardship Agreement shall be allowed on such property.

**Policy:** The natural resource value of land within the RLSA is measured by the Stewardship Natural Resource Index (Index) set forth on the Worksheet. The Index establishes the relative natural resource value by measuring different characteristics of land and assigning an index factor based on each characteristic. The sum of these factors is the index value for the land. (The characteristics minimally include: Stewardship Overlay Designation, Sending Area Proximity, habitat value(s), soils/surface water value, wildlife habitat restoration/enhancement potential, and land use/land cover.)

**Policy:** A natural resource index map series indicates the natural resource stewardship index value for all land within the RLSA. Credits from any lands designated as SSAs, will be based upon the natural resource index values in effect

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at the time of designation. The index and the index map series are adopted as a part of the RLSA overlay as a part of the local government comprehensive plan.

**Policy:** The land use matrix lists uses and activities allowed under the zoning district within the Overlay. These uses are grouped together in one of (X) separate layers in the matrix. Each layer is discrete and shall be removed sequentially and cumulatively in the order presented in the matrix, starting with the residential layer (layer one) and ending with the conservation layer (layer X). If a layer is removed, all uses and activities in that layer are eliminated and are no longer available.

**Policy:** Credits can be transferred only to lands within the RLSA that meet the defined suitability criteria and standards (SRAs).

**Policy:** Identified habitat and wildlife and listed animal and plant species and their habitats shall be protected through the establishment of Habitat Stewardship Areas (HSAs), as SSAs within the RLSA overlay. HSAs are delineated on the overlay map(s). HSAs are privately owned agricultural areas, which include both areas with natural characteristics that make them suitable habitat for species and areas without these characteristics. These latter areas are included because they are located contiguous to habitat to help form a continuum of landscape that can augment habitat values and separation from developable areas.

**Policy:** Further protection for surface water quality and quantity shall be through the establishment of Water Retention Areas (WRAs), as SSAs within the RLSA Overlay. WRAs are delineated on the Overlay Map. WRAs are privately owned lands that have been permitted by the Water Management District to function as water retention areas. In many instances, these WRAs consist of native wetland or upland vegetation; in other cases they are excavated water bodies or may contain exotic vegetation.

**Policy:** Priority shall be given to restoration and enhancement. In certain locations there may be the opportunity for flow-way or habitat restoration. Examples include, but are not limited to, locations where flow-ways have been constricted or otherwise impeded by past activities, or where additional land is needed to enhance wildlife corridors.

### SMOKE MANAGEMENT

**Background Statement:** Prescribed fire is a critically important and cost effective land management tool. This tool is necessary to maintain the ecologic health and biological integrity of natural ecosystems that comprise the (local government's) public and private conservation lands network. Prescribed fire is also an effective strategy to mitigate the harmful impacts of wildfire that result from the buildup of heavy wild land fuel loads. The importance of prescribed fire has been identified through Florida Statute 590 and is considered a land owner right. The ability to effectively manage smoke resulting from the use of prescribed fire is critically important for the continued use of this irreplaceable management tool. Increasing intrusion of growth into historic smoke dispersal areas is the most significant threat to the ability of land managers to manage smoke effectively and safely. Critical Smoke Dispersal Areas (CSDAs) are those that are historically used to disperse smoke resulting from prescribed fire activity. They are down wind one mile from the burn area at a 70 degree spread radius of the burn unit width.

**GOAL:** Preserve as a land management tool and a land owner right the continued use of prescribed fire on public and private conservation lands within the jurisdiction.

**OBJECTIVE:** Plan for Critical Smoke Dispersal Areas with Compatible Land Uses. Keep incompatible land uses (schools, roads, hospitals, nursing homes, etc.) out of critical smoke disposal areas (CSDAs); if unavoidable, cluster sensitive land uses rather than spread them across the CSDA.

*Prescribed fire is a critically important and cost effective land management tool. This tool is necessary to maintain the ecologic health and biological integrity of natural ecosystems that comprise the (local government's) public and private conservation lands network.*

*Educate the Public About the Use of Fire. The (local government) in coordination with The Nature Conservancy at Disney Wilderness Preserve (this example from Central Florida) and the developers within the CSDAs will seek ways to educate the public about the use of fire and their participation in the fire management program.*

**Policy:** The (local government) will require all new development in the CSDAs to plan in consideration of this objective and show evidence of using it as a design tool during the early planning stages for staff review.

**OBJECTIVE:** Inform the public within smoke zones. Require owners of all new development to inform new owners of property within smoke sensitive planning zones that they will be exposed to smoke.

**Policy:** Require all new developments within the CSDAs to provide disclosure forms informing new residents that they will be exposed to smoke during burn periods. These may be presented to new residents to sign and record upon purchasing a dwelling unit and included as a part of home owner association disclosure documents.

**OBJECTIVE:** Educate the Public About the Use of Fire. The (local government) in coordination with The Nature Conservancy at Disney Wilderness Preserve (this example from Central Florida) and the developers within the CSDAs will seek ways to educate the public about the use of fire and their participation in the fire management program.

**Policy:** Require all new development in CSDAs or burn areas to be responsible for seasonal notices being sent out to all affected citizens at the beginning of the burn season. At a minimum, these notices will state that the citizens are within a burn area and that smoke may be seen in their area; if a citizen has a respiratory illness or sensitivity, that resident shall be advised to close all windows and doors and leave the area.

**Policy:** Study the effectiveness and implementation of the Reverse 911 system for alerting citizens of controlled burns in their area.

**Policy:** Meet with all affected agencies on an ongoing basis to ensure that all reasonable steps are being under-

taken to further public awareness of the fire management program.

**OBJECTIVE:** Design for Fire Management. Seek to implement design practices that consider the long-term use of fire as a management tool, as well as require all those that develop within the jurisdiction to give consideration to designing for fire management programs.

**Policy:** For all development implement planning and design tools that consider fire management programs when improving the transportation network in the burn areas and the CSDAs. Design considerations should include road placement and design, lighted signage, drop-down gates, buffers and emergency access points.

**Policy:** Encourage all development within the CSDAs and burn areas to follow the guidelines in the 2004 Wildfire Mitigation in Florida manual for fire wise homes and property to reduce the risk of spreading fires.

**Policy:** In fire dependent ecosystems, save sensitive habitat plus a minimum 30 foot buffer for a fire line to prevent the loss of saved habitat due to the construction of fire lines.

**Policy:** Incorporate Firewise Practices in any subdivision built within fire dependent ecosystems ([www.firewise.org](http://www.firewise.org) [http://www.fldof.com/wildfire/firewise\\_your\\_home.html](http://www.fldof.com/wildfire/firewise_your_home.html)).

### DARK SKY ORDINANCES – MANAGING LIGHT AND ITS EFFECTS ON WILDLIFE

**Background Statement:** Ecological light pollution has demonstrable effects on the behavioral and population ecology of wildlife derive from changes in orientation, disorientation, and attraction or repulsion from the altered light environment, which in turn may affect foraging, reproduction, migration, and communication.

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**GOAL:** Manage outdoor lighting to limit impacts to wildlife.

**OBJECTIVE:** Work with residents, businesses and local government operations to limit outdoor lighting impacts to wildlife and human enjoyment of the nighttime dark skies.

**Policy:** Adopt a “Dark Sky” ordinance that follows Wildlife Friendly Lighting recommendations:

- Keep lights low (close to the ground);
- Keep lights shielded (minimize light trespass into the night sky or adjacent areas); and,
- Keep light long-wavelength (longer wavelengths are less likely to impact sea turtles and other wildlife).

**Policy:** Include a review of lighting and its impacts to wildlife and community dark skies objectives in development and comprehensive plan amendment reviews.

**Policy:** Work with city, county, state and other natural managed lands and parks officials to limit light pollution and its effect to wildlife.

### TRANSPORTATION ELEMENT

**Background Statement:** A road’s environmental footprint extends far beyond the edge of its pavement and creates a “road-effect zone”. Transportation facilities by their nature allow or improve access to land that they pass through as well as to points of origin and destination. In addition, the linear nature of transportation facilities dissect and fragment natural systems and impede wildlife movement. During their planning and design, wildlife crossing points such as streams, rivers, wetlands and large habitat patches need to be properly addressed.

**GOAL:** Develop transportation and associated infrastructure in a manner cognizant of potential direct and indirect impacts to habitats and wildlife and plan, design and construct this infrastructure to avoid, minimize and, where necessary, mitigate impacts.

**OBJECTIVE:** Ensure that wildlife and habitat considerations are addressed during the planning, design and development of transportation and related facilities.

**OBJECTIVE:** Incorporate and support the integrated conservation of the natural landscape features, wildlife habitats, and ecological functions and services into transportation facility planning, design, development, and maintenance.

**Policy:** Establish local and MPO priorities that do not increase sprawl and habitat fragmentation.

**Policy:** To minimize and reduce wildlife and habitat impacts, transportation facility development should address the following Does the facility:

- Strive to support or promote additional development of existing approved development areas?
- Relieve or remove traffic demands from existing facilities?
- Minimize any impacts to natural habitat and species and maintain habitat connectivity?
- Minimize impacts on springshed and ground water recharge areas?
- Minimize impacts to wetlands and waterbodies?
- Avoid, or mitigate, impacts on conservation lands and their proper long-term healthy management?
- Follow, where feasible, existing road alignments through environmentally sensitive areas?

**Policy:** Identify and prioritize highway wildlife ecopassage retrofit opportunities (in particular, bridges and culverts).

**Policy:** Utilize current data and landscape ecology principles for ecopassage and site designs.

**Policy:** Base wildlife accommodations in planning transportation infrastructure on careful consideration of relevant

*Work with residents, businesses and local government operations to limit outdoor lighting impacts to wildlife and increase human enjoyment of the nighttime dark skies.*

*When designing new or redeveloped transportation facilities passing over or through natural wildlife corridors, strive to design for adequate passage, habitat linkage enhancements and general habitat clearance and disturbance limitations so that wildlife will continue to traverse unimpeded.*

ecological, safety, engineering, financial, and regulatory concerns associated with an area and project. Guiding information and criteria may include, but not be limited to:

- Identified chronic road-kill area, carcass data and FDOT or local wildlife-vehicle crash data and law enforcement reports;
- Known wildlife migration/movement routes;
- Predictive modeling results and identified hot spots of focal species;
- Presence of listed, rare, endemic or species population of interest;
- Identified strategic habitat conservation areas;
- Riparian corridors (new or with potential for retrofitting existing structures);
- Landscape linkages (designated greenways) and presence of core conservation areas adjacent or near the project;
- Presence of separated life cycle ecological resources for a species, or set of species (e.g., a forest patch and ephemeral wetland breeding area for amphibians that is separated by a highway);
- Dedication (or permanency) of land on both sides of the transportation facility to remain undeveloped and useful as a linkage feature. Existing and future land-use on both sides of the facility; and,
- Financial feasibility and potential to be included in proposed road improvement project.

**Policy:** Employ the following transportation facilities and wildlife design criteria:

- Require that wildlife habitat linkage analysis be used as a standard procedure for transportation facilities planning;
- Design crossing structures for multiple species and sustained

habitat connectivity;

- Provide an adequate number of wildlife and fish crossing structures. Every culvert and bridge within wildlife habitat should be viewed as an opportunity for multiple species crossings; and,
- Integrate transportation, stormwater and area greenway facilities design planning. Protect natural hydrologic and watershed integrity.

**Policy:** When designing new or redeveloped transportation facilities passing over or through natural wildlife corridors, strive to design for adequate passage, habitat linkage enhancements and general habitat clearance and disturbance limitations so that wildlife will continue to traverse unimpeded.

**Policy:** When designing intersections of transportation facilities with identified wildlife corridors or ecopassages, strive to accommodate continued wildlife movements cognizant of the following general guidelines when appropriate:

- Design for the species or group of species of interest;
- Use larger passages, except when being used by certain amphibians, reptiles, and small mammals which benefit from multiple smaller diameter crossings;
- Include cover at both ends of the crossing, and incorporate cover within the crossing for those species that require it;
- In long crossings, incorporate natural lighting via a skylight unless the crossing is to be used by certain reptiles or amphibians which are repelled by light;
- To the maximum extent possible, utilize crossing bottoms which mimic the substrate of the surrounding landscape;
- Use fencing or barrier walls directing wildlife to the crossing entrance; and,
- Include conservation lands on both sides of the crossing.

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### DRAINAGE/STORMWATER MANAGEMENT ELEMENT

**Background Statement:** Stormwater management facilities are ubiquitous throughout any community and comprise both small (a swale for instance) and large (a created pond, lake and stream system) facilities that are often linked in a treatment train approach to maximize water quality and quantity functions. Associated wildlife and habitat potential within these infrastructure systems may be relatively substantial and should not be overlooked. Further, public money can be saved and safety and efficiencies gained when stormwater management facilities are planned and integrated with community design and other public infrastructures (e.g., transportation and recreation facilities) to capture, conserve or enhance green infrastructure and ecosystem services benefits.

**GOAL:** Strive to incorporate existing or restored natural habitats and wildlife enhancement features and linkage opportunities within the (local government name) stormwater management facility planning, design and maintenance functions.

**OBJECTIVE:** Examine and strive to integrate stormwater, transportation and recreational infrastructure networks and proposed projects for wildlife integration/enhancement opportunities.

**Policy:** Identify opportunities to use backbone local watershed features (streams, bayous, wetlands, rivers, and sinkholes) to link community and regional parks, mitigation areas, greenways and forests against, etc.

**Policy:** Work to identify and develop cross-connections and multi-use opportunities when planning transportation, stormwater management and community recreation facilities.

**Policy:** Preserve waterbody and riverine green edges (a combined upland buffer and in-water littoral edge).

**Policy:** Work with landowners and developers to maintain a common community shoreline corridor with wildlife habitat

features instead of subdividing lots/properties to the waters edge.

**Policy:** When reviewing proposed subdivision, planned unit development, DRIs or other large developments, identify opportunities for linking open spaces, stormwater facilities and buffers to create planned separation of human and wildlife communities

**Policy:** Develop and implement reoccurring events to cross-train the jurisdiction's professional planning, engineering and related development review staff and administrators regarding linkage and integration of green infrastructure with other necessary infrastructures.

**Policy:** Work with landowners/developers to encourage conservation-oriented low impact development design:

- Direct more dense clustering of development on the more developable environmentally suitable areas and set-asides wildlife habitats and environmentally sensitive portions;
- Link density bonuses for tightly clustered development when environmentally logical;
- Provide for logical environmental links to adjacent parcels to extend the habitat, wildlife and natural functionality benefits;
- Integrate stormwater management early in site planning activities;
- Use natural hydrologic functions as the integrating framework;
- Emphasize simple, nonstructural, low-tech, and low cost methods that incorporate natural landscape features and functions;
- Create a multifunctional landscape; and,
- Provide for permanent set-aside of undeveloped areas via conservation easements.

*Examine and strive to integrate stormwater, transportation and recreational infrastructure networks and proposed projects for wildlife integration/enhancement opportunities.*

*Protect natural habitats and wildlife through non-regulatory and regulatory efforts combined with incentives and education including density transfers, easements, purchase, designation as park or recreation area, development restrictions through overlay zoning or other planning mechanisms.*

**CONSERVATION ELEMENT**

*Nutrient inputs are of great concern (sources, fertilizer, septic tank drain fields, leaking sewage lines, animal waste). Excess nutrients into surface and ground waters and cause significant alteration to the natural flora and fauna. Natural chemical and biological processes within buffers alter or uptake nutrients and other pollutants before they enter a water body providing cost-effective treatment.*

**GOAL:** Develop a wildlife-friendly community.

**OBJECTIVE:** Plan and maintain an overall habitat framework with identified ecological corridors, linked to larger patches of habitat around a systematic effort to minimize habitat loss and its fragmentation, which strives to:

- Link community and regional parks, mitigation areas, greenways and forests against the backbone of local watershed features (streams, bayous, wetlands, rivers, sinkholes, etc.);
- Integrate transportation and stormwater infrastructure development to capture wildlife integration/enhancement opportunities;
- Incorporate private green areas into the larger green infrastructure network (golf courses, botanical gardens, large parcel easements and set-asides).
- Strive to link community open spaces, stormwater facilities and buffers to create planned separation of human and wildlife communities; and,
- Educate the public and staff regarding conservation and enhancement themes of local green infrastructure, including cross-departmental training, integrated development and project reviews, and inter-departmental joint planning opportunities.

**OBJECTIVE:** Provide a logical administrative framework whereby the discreet green infrastructure elements can be managed, sustained and enhanced through use of the jurisdiction’s

local comprehensive plan, development review processes and inter-departmental and inter-jurisdictional interactions.

**Policy:** Protect natural habitats and wildlife through non-regulatory and regulatory efforts combined with incentives and education including density transfers, easements, purchase, designation as park or recreation area, development restrictions through overlay zoning or other planning mechanisms.

**Policy:** Perform a green infrastructure inventory and assessment including identification of ecological services and benefits received.

**Policy:** Identify environmentally sensitive areas to be protected as part of the jurisdiction’s green infrastructure and map the identified, inventoried and assessed resources.

**Policy:** Develop and provide for city/county departmental responsibilities to support green infrastructure design and management.

**Policy:** The jurisdiction shall coordinate local transportation, stormwater, and recreation and greenspace planning to assist in maintaining and developing a wildlife-friendly community.

**GOAL:** Develop and adopt a waterbody/waterways/wetlands buffering strategy.

**OBJECTIVE:** Provide buffer areas of native vegetation along lakes, streams and wetlands.

**OBJECTIVE:** Maintain or restore waterbody and wetland buffers to preserve habitat for wildlife and enhance aquatic habitat viability.

**Policy:** Develop mechanisms to acquire and physically link natural areas into a contiguous system

**Policy:** Coordinate local government resources with existing State programs such as Florida Forever, Florida Community

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## Sample Comprehensive Plan Goals, Objectives and Policies

Trust and with groups such as the Nature Conservancy and the Trust for Public Lands to conserve wildlife and habitat.

**Policy:** Give priority to acquiring and otherwise protecting properties which are adjacent to or in close proximity to existing preservation areas, with emphasis on maintaining opportunities for greenways that may include a mix of flow ways, areas subject to flooding, native habitats, recreational trails and wildlife corridors.

**Policy:** Establish incentives for landowners to protect wildlife habitat and other natural benefits of their land rather than relying entirely regulatory actions. Such incentive can include, but are not limited to, tax incentives and provision for variable lot sizes and density adjustments for clustering.

**GOAL:** Develop and adopt a local xeriscape and native plant ordinance.

**OBJECTIVE:** Provide that new and redeveloped areas use xeriscape and native plant landscaping practices, resourceful landscape planning and installation, water-efficient irrigation, and appropriate maintenance measures to promote conservation of water resources and use of local plant species well suited to the natural weather and landscape conditions.

**Policy:** Follow xeriscape and native plant landscaping practices in new development and redeveloping areas.

**Policy:** Where practicable, provide vegetation that supplies food sources and habitat features for native wildlife.

**Policy:** Prohibit the use of landscape plants known to be invasive or noxious weeds in landscape ordinances for subdivisions that buffer preserved habitat.

**Policy:** Only plant native plants in parcels adjacent to preserved habitat.

### COASTAL MANAGEMENT ELEMENT

**GOAL:** Appropriately restrict development in areas where such development would damage coastal resources, including wildlife habitat.

**OBJECTIVE:** Protect, conserve, or enhance remaining coastal wetlands, marine resources, coastal barriers and wildlife habitat from development.

**Policy:** Prohibit the discharge of polluted (including heat pollution) wastewater (above accepted standards) into oceans, rivers and bays.

**Policy:** Encourage the restoration of coastal wetlands ecosystems and habitats including submerged aquatic vegetation through re-vegetation projects and shoreline softening.

### INTERGOVERNMENTAL COORDINATION ELEMENT

**GOAL:** Improve coordination of policies across jurisdictions that will ultimately improve the conservation of wildlife habitat.

**OBJECTIVE:** Identify and resolve goals, objectives and policies that are inconsistent across jurisdictions with regard to the management of natural resources.

**Policy:** Develop management plans for resource protection that are contributed to and administered by more than one jurisdiction and agency.

**Policy:** To encourage regional corridors, coordinate conservation strategies among local land conservation programs.

**Policy:** Coordinate with adjacent jurisdictions to ensure compatible land uses of natural resources that cross jurisdictional boundaries.

*Provide that new and redeveloped areas use xeriscape and native plant landscaping practices, resourceful landscape planning and installation, water-efficient irrigation, and appropriate maintenance measures to promote conservation of water resources and use of local plant species well suited to the natural weather and landscape conditions.*