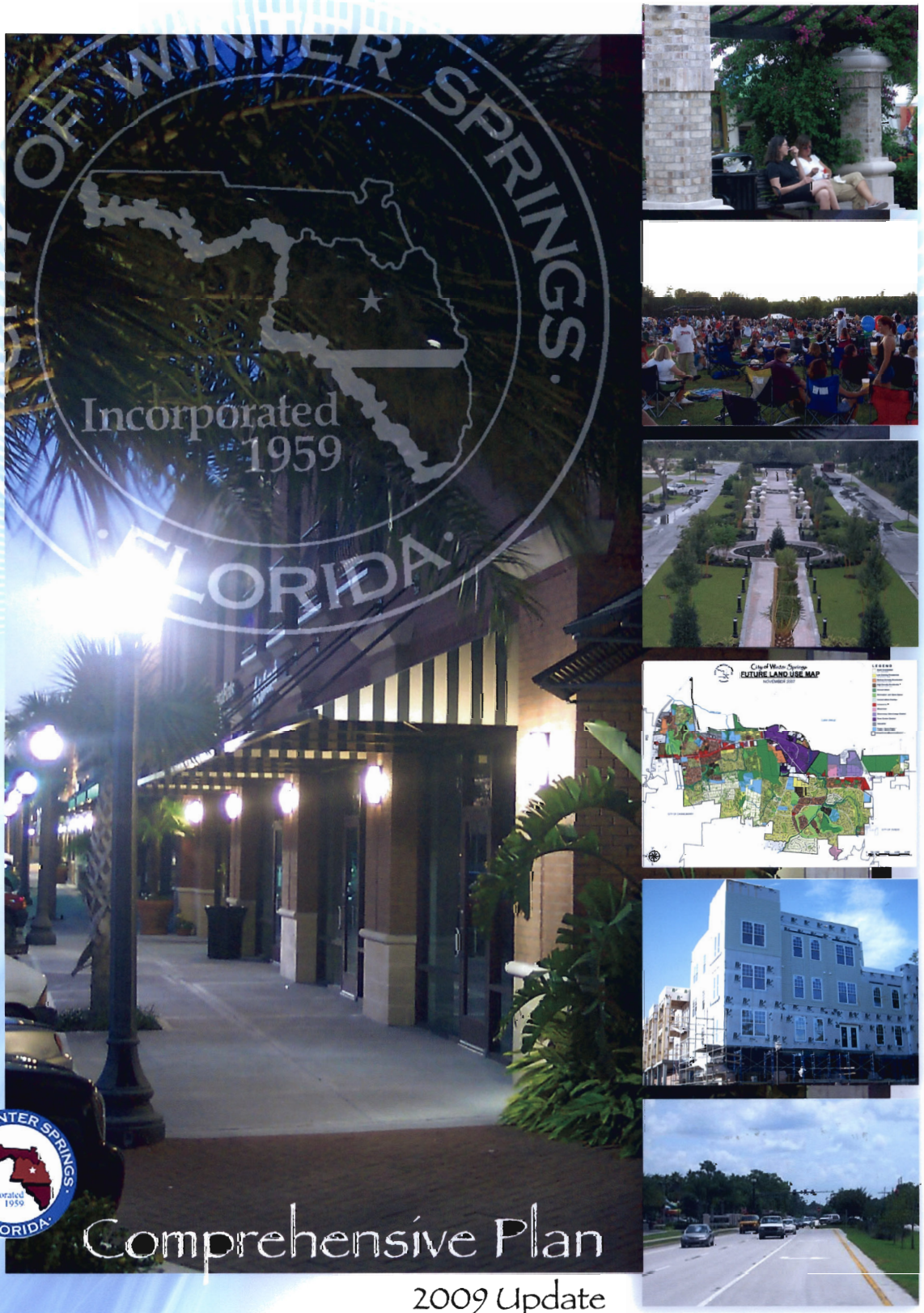
Conservation Element



EAR-Based Amendments, Sept. 2009

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CHAPTER V
CONSERVATION ELEMENT

A. GOALS, OBJECTIVES, AND POLICIES

GOAL 1: To protect, maintain, and conserve the natural resources of Winter Springs for continued environmental quality and the well being of all citizens.

Objective 1.1: ***Air Quality.*** The City shall maintain and enhance air quality.

Policy 1.1.1: Obtain a revised list of any identified air pollution generators in the City from the Department of Environmental Protection on an annual basis.

Policy 1.1.2: Develop a land use ordinance, which governs the maintenance of pollutant emissions standards based on federal, state, and local standards.

Policy 1.1.3: Continually incorporate land use and transportation strategies to reduce greenhouse gas emissions, in cooperation with the MPO, Seminole County, and the adjacent municipalities. This shall include, but not be limited to, identification of land use densities and building intensities (critical mass) and transportation programs to promote viable multimodal transportation. Where densities and intensities are sufficient to support transit, the City shall support its implementation.

Policy 1.1.4: Utilize the most fuel-efficient vehicles in their class or category, to the extent practical, as the City replaces vehicles within its fleet.

Policy 1.1.5: Continue the City's tree protection ordinance to sustain natural vegetative filters for air pollution. Maintain trees on City-controlled property according to published American National Standards Institute (ANSI) A-300 standards and Florida Institute of Food and Agricultural Sciences (IFAS) guidelines.

Policy 1.1.6: Participate in air quality public information programs and encourage alternative forms of transportation.

Policy 1.1.7: Adopt a trails network plan linking residential areas to areas of business, recreation, educational, and cultural resources, where possible.

Objective 1.2: ***Groundwater Resources.*** The City shall conserve, use best management techniques, and protect future and existing groundwater resources for potable water usage.

Policy 1.2.1: Continue to adhere to the Florida Department of Environmental Protection's wellhead protection standards.

Policy 1.2.2: Establish a wellhead protection ordinance, which regulates land use and/or business activity in the vicinity of water supply wells to minimize potential threats to the quality of the groundwater.

Policy 1.2.3: Explore the feasibility of a resource protection ordinance, which would include incentives for developers to minimize impervious surfaces. (Cross Reference: See Infrastructure Element, Policy 5.1.2; and Conservation Element, Policy 1.2.3).

Policy 1.2.4: Enforce the installation of water conserving devices in all new construction, such as water conserving commodes, showerheads, faucets, etc., as required by the Florida Building Code.

Policy 1.2.5: Continue to expand the City's water reclamation system to commercial, residential, and industrial operations, which utilize large quantities of nonpotable water.

Policy 1.2.6: Promote the use of best management techniques by adopting a Waterwise ordinance and promoting the use of Florida native plants, through educational programs and publications, the use of Waterwise practices, which include low or no water landscaping, the use of solid waste compost, efficient irrigation systems, and the prohibition of nonnative, invasive plant species, which will result in the conservation of water. Restrictions should also be implemented into the City's code of ordinances, especially regarding nonnative invasive species. No invasive exotic (nonnative) species should be planted and those which are encountered on property maintained by the City must be removed. (Cross Reference: See Infrastructure Element, Policy 5.2.1)

Policy 1.2.7: Reduce the City's dependence upon the Floridan aquifer through the implementation of the Water Supply Work Plan (Exhibit IV-C-1).

Policy 1.2.8: Update the City's Water Supply Plan, 2007 to correspond with the St. John's River Water Management District (SJRWMD)'s District Water Supply Plan updates. Review the Water Supply Work Plan (Exhibit IV-C-1) annually and update as needed, including a minimum 10-year planning period to ensure that projected potable water demands are considered. (Cross Reference: See Intergovernmental Coordination Element, Policy 1.1.6)

Policy 1.2.9: Encourage provision of such environmentally-friendly features as, "green roofs", cisterns, water gardens, porous pavement, and natural landscapes (with native plants), as appropriate. (Cross Reference: See Infrastructure Element, Policy 5.2.3; and Housing Element, Policy 1.5.5)

Objective 1.3: ***Surface Water.*** The City shall protect surface water from all known and identifiable pollution sources.

Policy 1.3.1: Require that run-off from new developments does not directly enter natural surface waters. Maintain provisions for on-site detention in the City's Code of Ordinances.

Policy 1.3.2: Identify on an annual basis, those components of the City's drainage system that may be contributing to the overall degradation of surface water quality, and develop a priority listing for the refurbishment and/or installation required and incorporate the priorities into the Capital Improvements Schedule.

Policy 1.3.3: Protect surface water bodies through implementation of the Lake Jesup Basin Management Action Plan, the City's TMDL Master Plan, and the conditions of the City's NPDES permit. TMDL is a calculation of the maximum amount of a pollutant that a water body can receive and still meet water quality standards.

Policy 1.3.4: Amend the City's Code of Ordinances to incorporate Low Impact Development (LID) practices to stormwater management that conserve and protect natural resource systems, reduce infrastructure costs, and mitigate potential environmental impacts. In general, the LID approach includes practices that:

- Encourage preservation of natural resources;
- Allow development in a manner that helps mitigate potential environmental impacts;
- Reduce cost of stormwater management systems;
- Use a host of management practices to reduce runoff; and
- Reduce pollutants into the environment.

Policy 1.3.5: Require that all projects include erosion control practices throughout the construction process in conformance with NPDES permit requirements and other state and local erosion control regulations and require areas susceptible to soil erosion after completion of the project to be protected from soil erosion by seeding, sodding, or other methods deemed effective by the City.

Objective 1.4: ***Wetland Protection.*** Wetlands and the natural functions of wetlands shall be conserved and protected from activities, which alter their physical and hydrological nature. Incompatible uses shall be directed away from wetland areas. Implementation activities to ensure the protection and preservation of these areas shall be included within the Code of Ordinances.

Policy 1.4.1: Continue to protect the natural functions of wetlands through the Conservation Overlay on the Future Land Use Map - 2030 and the Conservation Land Use category, as defined in the Future Land Use Element.

Policy 1.4.2: Review during the development review process with heightened scrutiny and as a priority for protection, environmental areas having regional significance as determined by the SJRWMD and FDEP.

Policy 1.4.3: Preserve the natural upland buffer of wetlands, consistent with the SJRWMD's restrictions which require a fifteen (15) feet minimum buffer from the edge of wetlands with an average buffer required that is no less than twenty-five (25) feet. Where a wetland is unavoidably impacted by development, the development shall be subject to the mitigation requirements of the pertinent regulatory agency.

Policy 1.4.4: Require as needed, additional upland buffers to ensure the preservation of natural systems, and their possible use for treated effluent disposal and stormwater management systems. Such standards shall be included within the Code of Ordinances.

Policy 1.4.5: Require dedication (by or on behalf of the owner of the property) to the City and/or appropriate regulatory agency, a conservation easement (pursuant to Section 704.06, F.S.) for all post-development flood prone areas, preserved habitat (with agency approved management plan incorporated, if applicable for listed species), post-development upland buffers, and wetland areas (including created mitigation areas) as a limitation to future development and disturbance. These areas shall also be shown on the Future Land Use Map – 2030 as Conservation. The easement agreement shall include management requirements which help to preserve, restore, and/or maintain native ecosystems. The easement may require the periodic removal of nonnative, invasive plant material within the conservation area by the easement dedicator, to the extent practicable.

Policy 1.4.6: Incorporate existing isolated wetlands into development projects as appropriate, provided the wetlands remain undisturbed and their natural functions are not impaired.

Policy 1.4.7: Apply the following mitigation measures if direct impact upon wetlands cannot be avoided:

- Mitigation will be allowed based upon no net loss of wetland functions.
- Comply with the wetland protection standards of federal, state, regional, and county agencies.
- Minimize impacts through innovative design layouts.
- Compensate for impact by enhancing other degraded wetlands on-site, restore natural functions of other wetlands on-site, create new wetlands on-site, preserve significant upland areas, or off-site mitigation.

Policy 1.4.8: Encourage mitigation through restoration of degraded wetlands on-site or preservation of significant upland areas on-site rather than through wetland creation.

Objective 1.5: ***Flood Plains and Floodways.*** The City shall ensure long-range protection of functions of the remaining flood plains and floodways.

Policy 1.5.1: Protect access to floodways for stream management by requiring a drainage easement.

Policy 1.5.2: Maintain regulations against development within the flood plains and floodways in the City's Code of Ordinances to prevent flooding.

Policy 1.5.3: Require that there is no new net encroachment in the flood plain or floodways without compensating storage.

Policy 1.5.4: Require that no hazardous materials or wastes be stored within the 100-year flood plain.

Policy 1.5.5: Design new and replacement sanitary sewer systems to minimize or eliminate infiltration of floodwaters into the water supply systems and discharge from the systems into floodwaters.

Policy 1.5.6: Locate on-site waste disposal systems to avoid impairment to them or contamination from them during flooding.

Policy 1.5.7: Require new septic systems to be located outside of the 100-year flood plain.

Objective 1.6: ***Wildlife and Listed Species Protection.*** The City shall appropriately use and protect wildlife and wildlife habitat.

Policy 1.6.1: Develop an ordinance containing provisions for the review of developments adjacent to lakes and wetlands and other natural areas for their impacts upon these natural systems.

Policy 1.6.2: Require as part of the development review process, that prior to development approval, proposed development must coordinate with all appropriate agencies and comply with the U. S. Fish and Wildlife Service and the Florida Fish and Wildlife Conservation Commission Rules as well as other applicable Federal and State Laws regarding protection of endangered and threatened wildlife.

Policy 1.6.3: Protect listed plant and animal species by the following procedures:

a) Prohibit development within any established or proposed conservation or wildlife habitat easement; however, allow the transfer of development rights for the easement area.

b) Regulate the following activities in areas identified as being environmentally sensitive, or as having within them endangered and/or threatened wildlife to ensure that such areas are preserved:

1) The removal, excavation, or dredging of soil, sand, gravel, minerals, organic matter, or materials of any kind;

2) The changing of existing drainage characteristics, sedimentation patterns, flow patterns, or flood retention characteristics;

3) The disturbance of the environmentally sensitive area's water level or water table by drainage, impoundment, or other means;

4) The dumping or discharging of material, or the filling of an environmentally sensitive area with material;

5) The placing of fill or the grading or removal of material that would alter topography;

6) The destruction or removal of plant life that would alter the character of an environmentally sensitive area or wildlife habitat; and

7) The conduct of an activity that results in a significant change of water temperature, a significant change of physical or chemical characteristics of environmentally sensitive area water sources, or the introduction of pollutants.

Objective 1.7: ***Biological Diversity.*** The City shall encourage the preservation of the rich biological diversity of the plant and animal life in the area.

Policy 1.7.1: Oversee the completion of an area-wide evaluation by 2012, to identify regionally environmentally significant areas that should be set aside as protected conservation lands.

Policy 1.7.2: Encourage with incentives, natural resource and open space protection, and require sound land stewardship management practices to restore, preserve, and/or maintain native ecosystems within conservation areas.

Policy 1.7.3: Encourage the use of Waterwise plant material in all parks and at City facilities. This includes any linking pathways between parks and open spaces to interconnect the ecosystems throughout the city.

Policy 1.7.4: Pursue grant funding for acquisition of properties identified as regionally ecologically significant.

Objective 1.8: ***Energy Conservation and Sustainability***. The City shall support sustainability and encourage energy conservation.

Policy 1.8.1: Provide incentives through the City's land development code and fee structure to encourage energy efficient land use patterns and other environmentally-friendly development practices (e.g. multimodal vertically integrated mixed-use development, LEED, Green Globes, Florida Green Building Coalition standards, Low Impact Development, Energy Star, WaterSense and Florida Water Star).

Policy 1.8.2: Incorporate incentives in the City's land development code and fee structure to encourage developers of subdivisions, site plans, and building plans to best use natural heating and cooling, natural light, solar energy, rainwater management, intelligent buildings/community design, as well as incorporation of the natural topography and native noninvasive vegetation.

Policy 1.8.3: Consider endorsing the U.S. Conference of Mayors Climate Protection Agreement.

Policy 1.8.4: Consider energy use, potential vehicle miles traveled (VMTs), multimodal options, existing infrastructure, as well as housing and employment options when making land use and infrastructure investment decisions.

Policy 1.8.5: Incorporate a draft "Smart Growth Concept Map" of planned or potential smart growth locations by 2011and adopt by 2012. The Map is to be dynamic and will be updated periodically to reflect changes in local land use and transportation plans that may influence the designations of the smart growth locations. To the extent reasonable, the Map will be coordinated with adjacent governments and pertinent agencies.

Policy 1.8.6: Apply for Florida Green Building Coalition Local Government status by 2011.

Policy 1.8.7: Have at least one employee obtain LEED certification by 2012, to the extent practical, and shall attempt to continue having at least one LEED certified employee.

Policy 1.8.8: Direct the City's purchases to energy efficient, recycled, or otherwise "green" products, when and where these are available and to the extent it is practical and economical. These would include, but not be limited to windows, doors, light fixtures and bulbs, HVAC mechanisms, high-efficiency motors and pumps, appliances, paper products, fertilizers, cleaning materials, non-VOC paints, carpets, adhesives, and anti-freeze.

Policy 1.8.9: Recycle office materials, to the extent practical.

Policy 1.8.10: Incorporate incentives for on-site reuse and recycling of construction and demolition materials into its land development code.

Policy 1.8.11: Retrofit the City's fleet of motor vehicles with the most efficient tires when new tires are required, to the extent that these tires are reasonably available and competitively priced.

Policy 1.8.12: Encourage community gardens on appropriate locations in existing and new residential subdivisions and encourage edible landscaping in appropriate locations.

B. INTRODUCTION

1. Purpose

As stated in Rule 9J-5.013, Florida Administrative Code (F.A.C.), the purpose of the Conservation Element is to promote the conservation, use, and protection of natural resources. This Element of the Winter Springs Comprehensive Plan identifies and analyzes sources of surface and groundwater, wetlands, flood plain, air quality, valuable minerals, soil erosion, dominant vegetative and wildlife communities, listed vegetative and wildlife species, and the potential for conservation, use, and protection of these vital resources.

2. Environmental Setting

Winter Springs is located in Seminole County, in east-central Florida. The City is bordered to the north by Lake Jesup and is situated entirely within the Middle St. Johns River Drainage basin. Winter Springs possesses an abundance of natural resources including clean air; wetland and upland forests, which provide habitat for wildlife; uncontaminated groundwater, recreational opportunities, open space, and storage of floodwaters, all of which contribute to the well being of the City and its inhabitants.

C. INVENTORY AND ANALYSIS

1. Surface Water

The City lies within three primary drainage basins served by, Gee Creek, Soldier Creek (a.k.a. Soldier's Creek), and Howell Creek, all of which extend well beyond the City's corporate limits. The Gee Creek and Soldier's Creek drainage basins are situated in the western sector of the City, while the Howell Creek drainage basin is situated in the eastern sector. Gee Creek, Howell Creek, and Soldier's Creek drain into Lake Jesup, which in turn, flows into the St. Johns River. The St. Johns River flows northward where it enters the Atlantic Ocean. These primary drainage basins are depicted in Map IV-E-2 of the Drainage Element of this Comprehensive Plan. The City's major water features are depicted in Map I-5 of the Future Land Use Element.

Stream Condition Index Reports from Florida's Department of Environmental Protection for Gee and Howell Creeks in Winter Springs in the late 1990's indicated that water quality at these locations was very good at that time. Suggestions in these reports for maintenance of the environmental health of these creeks included maintenance and addition of stormwater management improvements; restoration of riparian zones, and preservation of wetland areas.

The Department of Environmental Protection's Bureau of Water Quality, Integrated Water Quality Assessment for Florida: 2006 305 (b) Report and 303(d) List Update as well as the Lake Jesup Interagency Restoration Strategy, January 2008, was utilized to assess water quality of the City's lakes and provided information on several common pollution problems. The following are water quality characteristics identified within these reports:

1. Fecal Coliform Bacteria
2. Dissolved Oxygen
3. pH
4. Un-ionized Ammonia
5. Chlorophyll *a*
6. Trophic State Index (TSI)
7. Nitrogen
8. Phosphorus

Lake Jesup is located in the heart of Seminole County, along the middle basin of the St. Johns River. It encompasses an area of approximately 16,000 acres including open water and flood plain.

According to the Integrated Water Quality Assessment for Florida: 2006 305 (b) Report and 303(d) List Update, Lake Jesup was reported to have extremely abundant populations of blue green algae. In addition to adding to the eutrophy of the lake, these algae can potentially produce chemicals that can cause liver, brain, and skin toxicity. The Lake Jesup interagency Restoration Strategy, published in January 2008 by Florida Department of Environmental Protection, Fish & Wildlife Commission, and the St. Johns River Water Management District noted how the lake is hypereutrophic with almost constant algal blooms demonstrating the heavy phosphorous loading. The 2008 Lake Jesup Interagency Restoration Strategy notes the lake is impaired by high levels of nitrogen, phosphorous and un-ionized ammonia; the 2006 Florida assessment also identified impairment for exceeding the TSI parameter. Additionally, according to the Lake Jesup Conservation Area Land Management Plan, Middle St. Johns River Basin (2008), Jesup has been recognized as the most polluted lake directly connected to the St. Johns River. The 2008 Restoration Strategy notes that prior to 1983, Lake Jesup received marginally treated wastewater discharge via Howell Creek and various wastewater facilities. Although wastewater no longer empties into the system, various parameters did not recover sufficiently to restore the lake. A Basin Management Action Plan is currently under development to further improve water quality of the lake through nutrient load reduction and various other measures. Reducing the pollutants in the lake will result in improving its value and vitality as a natural resource and recreational area. In 2007, Seminole County and its municipalities approved an interlocal agreement to significantly streamline intergovernmental cooperation and funding opportunities to address the issue of Total Maximum Daily Load (TMDL) for impaired water bodies without creating a new entity or superseding the authority of individual jurisdictions. TMDL is a calculation of the maximum amount of a pollutant that a water body can receive and still meet water quality standards. The City is currently undertaking a TMDL study to evaluate the City's alternatives in meeting its TMDL requirements.

2. Wetlands

Wetlands are defined as transitional areas between the open waters of streams, lakes and the adjacent uplands. They are characterized by vegetation and animal life that is uniquely adapted to the natural fluctuations of wet and dry conditions. Wetlands provide many important functions such as providing vital fish and wildlife habitats, and acting as storage areas for excess surface water. They also improve water quality by performing the same function as a settling pond. Impurities enter the wetland and are filtered through the vegetation. As the water travels through the wetland, toxins and nutrients are removed, allowing the filtered clean water to exit the wetland. This protects the rivers from overloading with nutrients. In addition, the soil is stabilized which, in turn, prevents

erosion. However, much of this natural, ordered system of surface water purification is quickly disappearing due to urban encroachment.

A fair amount of wetland habitat still exists in the Winter Springs area and is scattered throughout the City. Though most of this wetland habitat is found along the shores of Lake Jesup, a significant portion extends into the center of the City. The majority of the City's wetlands are of the Palustrine nature. A Palustrine system includes any nontidal wetlands dominated by trees, shrubs, persistent emergents, emergent mosses, and all such wetlands that occur in tidal areas where salinity due to ocean derived salts is below 0.05%. In addition, diminutive areas of Lacustrine wetland can be found along Lake Jesup's southern shore. A Lacustrine wetland is, by definition, lake-associated and may include freshwater marshes, aquatic beds, and lakeshores. The Palustrine wetlands within the City consist of: hydric hammocks and hardwood swamps, with small areas of cypress, bayhead, and wet prairie, while the minute section of Lacustrine wetland consists of water and shallow marsh. Map I-6 located in the Future Land Use Element depicts wetlands within the Winter Springs area, while wetland vegetative cover is represented on Map I-7 also located in the Future Land Use Element.

3. Flood Plain

The City participates in the National Flood Insurance Program (NFIP) administered by the Federal Emergency Management Agency (FEMA).

The 100-year flood plain in Winter Springs is predominately limited to the shorelines adjacent to Lake Jesup, Little Lake Howell, Lake Talmo, and the riverine flood plain of Soldier's Creek, Gee Creek, Bear Creek, and Howell Creek. Policies are included to enable the long-range protection of the City's flood plain areas.

Encroachment on flood-prone areas can occur as a result of artificial fill associated with development activity. Encroachment takes away the floodwater holding capacity of an area, resulting in an increase in flood hazards beyond existing flood-prone areas. In order to ensure public health and safety and minimize flood hazard to public and private property, it is recommended that net encroachment within the flood plain be prohibited.

According to the City's Code of Ordinances, a development permit is required before construction or development begins. When new construction and substantial improvements do occur in areas of special flood hazards, they shall be constructed with materials and utility equipment resistant to flood damage and shall be constructed using methods and practices that minimize flood damage. Additional requirements require a minimum elevation above the flood plain for the lowest floor elevation, as well as electrical, heating, ventilation, plumbing, air conditioning equipment, and other service facilities.

Hazardous materials can be dangerous when located in flood prone areas, as floodwaters can diffuse spills to surface waters and aquatic populations. Therefore policies require that no hazardous materials or wastes be stored within the 100-year flood plain. In addition, new and replacement sanitary sewer systems are required to be designed to minimize or eliminate infiltration of floodwaters into the water supply systems and discharge from the systems into floodwaters. On-site waste disposal systems shall be located to avoid impairment to them or contamination from them during flooding. No new septic tanks can be located within the 100-year flood plain, as this can contribute to

surface water quality problems. Existing septic systems within the flood plain should be removed and connection made to the City's sanitary sewer service, when possible.

Special flood hazard identified by the Federal Emergency Management Agency (FEMA) in the Flood Insurance Study for Seminole County dated September 28, 2007 with the accompanying Flood Insurance Rate Map (FIRM) and other supporting data were adopted by the City in January 2008. The FIS and FIRM are the minimum area of applicability and may be supplemented by studies of other areas. These areas correspond with the FEMA Q3 flood plain data depicted on Map I-8 located in the Future Land Use Element. The FEMA definitions for these zones are as follows[1]:

Zone A:
Zone A is part of the special flood hazard area and the flood insurance rate zone that corresponds to the 1-percent annual chance flood plains that are determined in the Flood Insurance Study by approximate methods of analysis. Because detailed hydraulic analyses are not performed for such areas, no Base Flood Elevations or depths are shown within this zone. Mandatory flood insurance purchase requirements apply.

Zone AE and A1-A30:
Zones AE is part of the special flood hazard area and are the flood insurance rate zones that correspond to the 1-percent annual chance flood plains that are determined in the Flood Insurance Study by detailed methods of analysis. In most instances, Base Flood Elevations derived from the detailed hydraulic analyses are shown at selected intervals within this zone. Mandatory flood insurance purchase requirements apply.

Zone AH:
Zone AH is part of the special flood hazard area and the flood insurance rate zone that corresponds to the areas of 1-percent annual chance shallow flooding with a constant water-surface elevation (usually areas of ponding) where average depths are between 1 and 3 feet. The Base Flood Elevations derived from the detailed hydraulic analyses are shown at selected intervals within this zone. Mandatory flood insurance purchase requirements apply.

Zones B, C, and X:
Zones B, C, and X are the flood insurance rate zones that correspond to areas outside the 1-percent annual chance flood plain, areas of 1-percent annual chance sheet flow flooding where average depths are less than 1 foot, areas of 1-percent annual chance stream flooding where the contributing drainage area is less than 1 square mile, or areas protected from the 1-percent annual chance flood by levees. No Base Flood Elevations or depths are shown within this zone. Insurance purchase is not required in these zones.

4. Air Quality

The City has a very limited amount of air pollution. This can be attributed to the minimal existence of air pollution sources found within the City. FDEP's Air Pollution Inventory System monitors point sources of air pollution, which are stationary and usually industrial; and area sources, which are combined emissions of many small stationary sources in an area. According to the FDEP, Winter Springs has two active point sources, in proximity to Winter Springs, but not under the City's jurisdiction. These are the APAC- Southeast, Inc. located on S.R. 419 which manufactures asphalt, and Premix Marbletite, which

[1] http://www.fema.gov/plan/prevent/fhm/fq_gen13.shtm

manufactures cement products and is located in a county enclave on Old Sanford Oviedo Road. There are three active area sources, which are all dry cleaning operations. The locations of these point and area sources are identified in Map V-I. An inventory of each active point and area air pollution source is provided in Table V-1.

Table V - 1: Inventory of Permitted Point and Area Sources of Air Pollution

Facility Name	AIRS ID Number	Facility Address	Jurisdiction
Point Sources			
APAC- Southeast, Inc.	1170019	655 SR 419	Seminole County
Premix Marbletite	1170373	520 Wade Street	Seminole County
Area Sources			
Star Brite Cleaners	1170066	1301 West SR 434	City of Winter Springs
Red Bug Dry Cleaners	1170073	5275 Red Bug Lake Rd #101*	Seminole County
Classic Touch Cleaners	1170360	180 West SR 434	City of Winter Springs

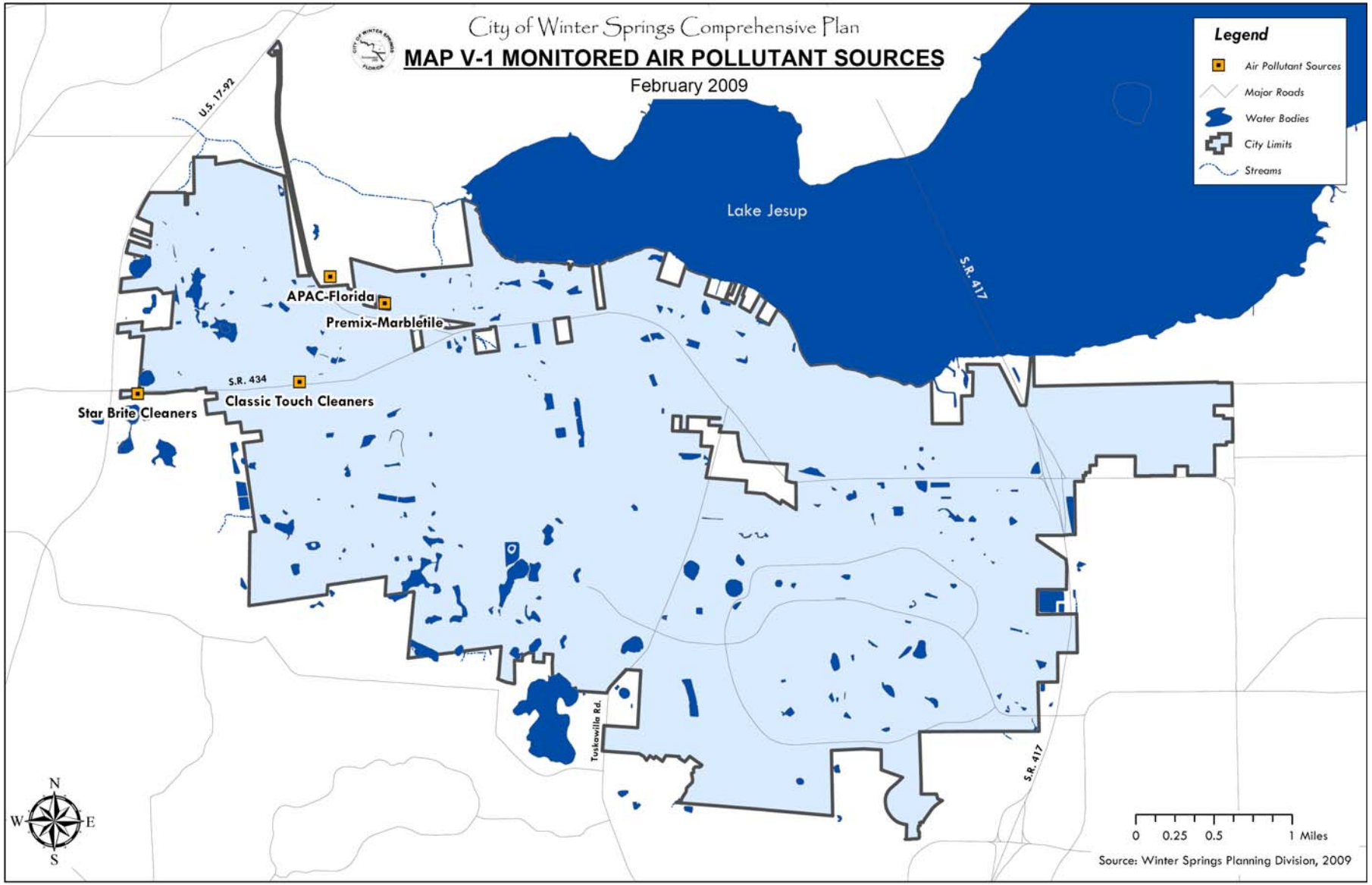
*Satellite location for pick-up and delivery in the Winter Springs Town Center
Source: FDEP Orlando Air Resources Division, October 2008

The quality of ambient air, which is the outside air we breathe, is monitored by the FDEP. Currently there are no ambient air monitoring stations in Winter Springs, but there is one in Seminole County located at Seminole Community College. This station (site) is FDEP maintained and includes one ozone, one coarse particulate, and one set of fine particulate monitors. Fine particulates or $PM_{2.5}$ are particles which are 2.5 micrometers in diameter or less. Coarse particulates or PM_{10} are particles greater than 2.5, but less than or equal to 10 micrometers in diameter. At the present, FDEP does not conduct ambient air monitoring for Carbon Monoxide, Nitrogen Dioxide, or Sulfur in Seminole County. These pollutants are likely present in Winter Springs, but well below the National Ambient Air Quality Standards, according to the FDEP. While there is no ambient monitoring for Lead, it is practically nonexistent in Florida. An assessment of these pollutants is provided below.

a. Carbon Monoxide

Carbon monoxide is emitted by motor vehicle exhaust. Exhaust emissions from automobiles pose a threat of increased carbon monoxide emissions. However, existing traffic patterns within the City are such that large concentrations of traffic seldom accumulate for long periods of time. This helps to negate the possibility of large concentrations of carbon monoxide from forming.

Map V - 1: Monitored Air Pollutant Sources



b. Lead

While lead is found naturally in the environment, it is the man made lead which is most prevalent. Legislation from the Environmental Protection Agency has reduced the amount of lead allowed in gasoline to the point that the maximum allowable level of lead in gasoline stands at 0.1 grams per gallon. According to the FDEP, lead as an air pollutant is practically nonexistent in the State of Florida except in areas that have lead smelters or process batteries. Therefore, Winter Springs should face no substantial problems with lead.

c. Nitrogen Dioxide

The threat of nitrogen dioxide forming in heavy concentrations in Winter Springs is relatively low due to the traffic patterns of the city, and also to environmental legislation. The prime contributor of nitrogen dioxide to the atmosphere is the high temperature fuel combustion engine. Under legislation from the Federal Clean Air Act, new model cars are required to be equipped with catalytic converters. These converters act as a filter of car exhaust, thereby helping to prevent the further proliferation of nitrogen dioxide. Mandates for clean fuels also contributed to reduction in nitrogen dioxide formation.

d. Ozone

On March 12, 2008, the U.S. Environmental Protection Agency (EPA) changed the National Ambient Air Quality Standard (NAAQS) for the pollutant ozone (O_3), the principal component of smog. The primary (health-protective) standard was changed from 0.08 parts per million (ppm) to 0.075 ppm. The secondary (public welfare-protective) standard was also set at 0.075 ppm. Compliance with the standards is based on the three-year average of the annual fourth highest maximum daily 8-hour concentration. With these new standards Seminole County is compliant; however, it shares the same Metropolitan Statistical Area with Orange County which currently exceeds the new 0.075 ppm standard.

Ozone is considered to be a problem for highly urbanized areas. The City, while not highly urbanized, could still be affected by ozone in the future through the growth of the Orlando area as indicated by Orange County's current ozone exceedance. Ozone is borne in the air and formed through reactions between nitrogen oxides and volatile organic compounds. The worst ozone conditions are hot, calm winded days. During this type of weather, the atmosphere becomes extremely heated causing increased reactions and levels of ozone to grow. Without wind the ozone remains in a concentrated area causing further pollution problems.

e. Sulfur Dioxide

Human made sources of sulfur dioxide represent about one third (1/3) of all measurable amounts. Most is emitted through coal fired or oil fired electric generation plants. The City's power plant, Progress Energy, though not within corporate City limits, is a fossil-fueled plant that uses oil, coal, or gas in the generation of electricity. Sulfur dioxide is also generated in small quantities by

combustible engines. However, as stated earlier, negligible levels produced by automobiles are present in Winter Springs.

f. Particulate Matter (PM_{10} and $PM_{2.5}$)

There are two manmade classifications of particulate matter. They are fine (PM_{10}) and coarse ($PM_{2.5}$). Sources of PM_{10} include motor vehicle emissions, power generation, combustible engines, and sources produced from some industrial activities. Sources of $PM_{2.5}$ include dirt from unpaved streets, dry topsoil from agricultural fields, and dust from construction or mining. Human made emissions, which contribute to the overall levels of particulate matter, are very minimal in relation to the naturally occurring matter. However, fine particles are most closely associated with health effects. Human made sources of this pollutant are now being controlled by new technologies, such as inertial separators and wet collection devices and other air pollution control devices and processes.

g. Overall Ambient Air Quality

The overall air quality within Winter Springs is expected to remain good in the future. Fortunately, more stringent standards imposed by the EPA and new technologies are such that the generation of severe pollution problems has been curbed considerably. The foremost concern for Winter Springs will be the encroachment of the Orlando Urban Area, and those pollution problems associated with highly urbanized areas.

5. Hazardous Waste

The City is fortunate to have no hazardous waste sites within corporate limits; likewise, there are no hazardous waste cleanup sites in the City. However, there are nine documented sources of hazardous waste in Seminole County, many of which are also hazardous waste cleanup sites. Monitoring and overseeing cleanup services are operated by the Seminole County Environmental Services Department with coordinated efforts by Seminole County Fire Department, the State of Florida, and various Federal agencies who monitor the process as required by law. For these services, the hazardous waste generator would be charged as required by law, or a disaster declaration would be requested and funding would be available through State and Federal agencies. The FDEP keeps a listing of all hazardous materials, their amounts, storage methods and disposal methods for small industrial operations within the County. Locally, the Seminole County Environmental Services Department conducts compliance assistance visits (CAVs) at businesses and government facilities that potentially generate hazardous waste or other regulated wastes, investigates citizen complaints related to environmental issues involving either businesses or private households, and responding to major spills and releases to ensure they are cleaned up and remediated properly. Seminole County conducts annual site visits as required by the State of Florida for those businesses that meet or exceed the threshold planning quantity of any Extremely Hazardous Substance. In addition, the owner/occupant is required to submit documentation to the State and the Local Emergency Planning Committees on the Hazardous Materials at or above the required thresholds. This information is sent to the applicable local fire departments. Any hazardous material generator that meets the hazardous material threshold as established by the State Emergency Response Commission is required by law to notify the Seminole County

Environmental Compliance, Assistance and Pollution Prevention Program (ECAP3) Team. ECAP3 exists to protect the citizens, employees, environment and County Landfill from exposure or contamination due to improper management and disposal of hazardous waste or other regulated waste. Further information on programs for disposal of hazardous waste by the Seminole County Environmental Services Department is included in the Infrastructure Element, Solid Waste Sub-Element.

6. Commercially Valuable Minerals

The City's most prevalent mineral resource is sand, which is most often used for construction purposes or as fill material in Florida. There are several sandpits in Seminole County that are currently operating or have been operating in the recent past, none of which are within the City. Included within the County are sand pits operated by Excavated Products, Cecil A. Stone, Sullivan Materials, White Construction, the Florida Department of Transportation, CDS Trucking, and Marquette Shores, Inc. Although some phosphatic sediments are known to be present in Winter Springs, their ground depth as well as their unproven quality and quantity makes them uneconomical at the present.

7. Soil Erosion

According to the USDA Soil Conservation Service, there are no major soil erosion problems in the Winter Springs area. However, it should be noted that sudden impairment to watersheds occurred as a result of the 2004 hurricane activity and 2007 tornado activity and aid for the installation of emergency watershed protection measures to relieve hazards and damages to the watershed were provided to the City by the USDA Natural Resources Conservation Service (NRCS). Erosion problems have also been found to occur in portions of Howell Creek. This may be due to the land alteration, which has resulted in unstable stream side-slopes and loss of flood plain vegetation, which may result in sedimentation and water quality problems. Erosion and sedimentation problems are predominately due to wind and stormwater runoff over sandy, uncovered soils during construction activity or other clearing activities.

In order to minimize erosion and sedimentation associated with development activities, the USDA Soil Conservation Service recommends that all developers be required to utilize best management techniques for erosion control. Landscaping plans are recommended to be required for all industrial, commercial, and multi-family residential development. It is also recommended that all new development, other than infill of existing single-family residential lots that are served by regional systems, should include methods of stormwater retention which ensure post-development water run-off rates do not exceed pre-development runoff rates.

8. Soils and Vegetative Communities

Soils provide several resource functions including drainage, stormwater filtration, water storage, aquifer recharge, and ground stabilization. Map I-9 of the Future Land Use Element depicts soil types within the City.

According to the data provided by United States Department of Agriculture, Soil Conservation Service, the dominant soils in the developed areas within the City consist of Urban Land-Astatula-Apopka and Urban Land-Tavares-Millhopper soils which are

characterized by being well-drained soils that are sandy throughout and contain a loamy sub-soil at a depth of 40 inches or more and are generally found in upland areas. Only a few areas of native vegetation exist in these soil types since they are well suited for the development of houses, large buildings, shopping centers, golf courses, and other urban uses. The dominant native vegetative communities found in these soil types consist of bluejack oak, live oak, and turkey oak. The understory includes chalky bluestem, Indian grass, panicum, pineland threeawn, and annual forbs.

Soils located in the undeveloped areas of the City including flatwoods, sloughs and depressions include the Myakka-Eau Gallie-Urban Land and St. Johns-Malabar-Wabasso soil types. In the flood plain, depressions, creeks and swamps the Nittaw-Felda-Floridana and Pompano-Nittaw-Basinger soil types are found. These soil types are all poorly drained and support vegetation such as slash pine, saw palmetto, cypress, and other water tolerant vegetation.

9. Dominant Animal Species within the Winter Springs Area

The Florida Fish and Wildlife Conservation Commission provided Map V-2 Florida Managed Areas. Map V-2 shows the strategic habitat conservation areas within the vicinity of Winter Springs. The Lake Jesup Conservation Area Land Management Plan, February 2008 notes that the site provides habitat for both fish and wildlife, including species such as wood stork, bald eagle, Florida sandhill crane and the American alligator. The Florida Natural Areas Inventory is the primary source for information on Florida's conservation lands. National parks, state forests, wildlife management areas, local and private preserves are examples of the managed areas included in the Florida Managed Areas.

10. Listed Plant and Animal Species within the Winter Springs Area

In January 2009, ecological reports by the Florida Natural Inventory were prepared to identify listed vegetative and wildlife species which are likely to exist in the Winter Springs area, due to the existence of suitable habitat. While the database is the most comprehensive source of information available on the locations of rare species and other significant ecological resources, it is not always based on site-specific surveys. The report notes that 'based on available information the area appears to be located on or very near a significant region of scrub habitat, a natural community in decline that provides important habitat for several rare species within a small area.'

The two tables below indicate threatened and endangered species in the Winter Springs area. Table V-2 shows those species with documented occurrences and notes the state and federal status. Table V-3 lists species and natural communities likely to occur in the site based on suitable habitat and/or known occurrences in the vicinity, as well as species that have the potential to occur based on the known or predicted range of the species. While a number of animal species have the potential of occurrence, these have not all been confirmed by direct observation.

Table V - 2: Listed Animal and Plant Species Documented in or Near Winter Springs.

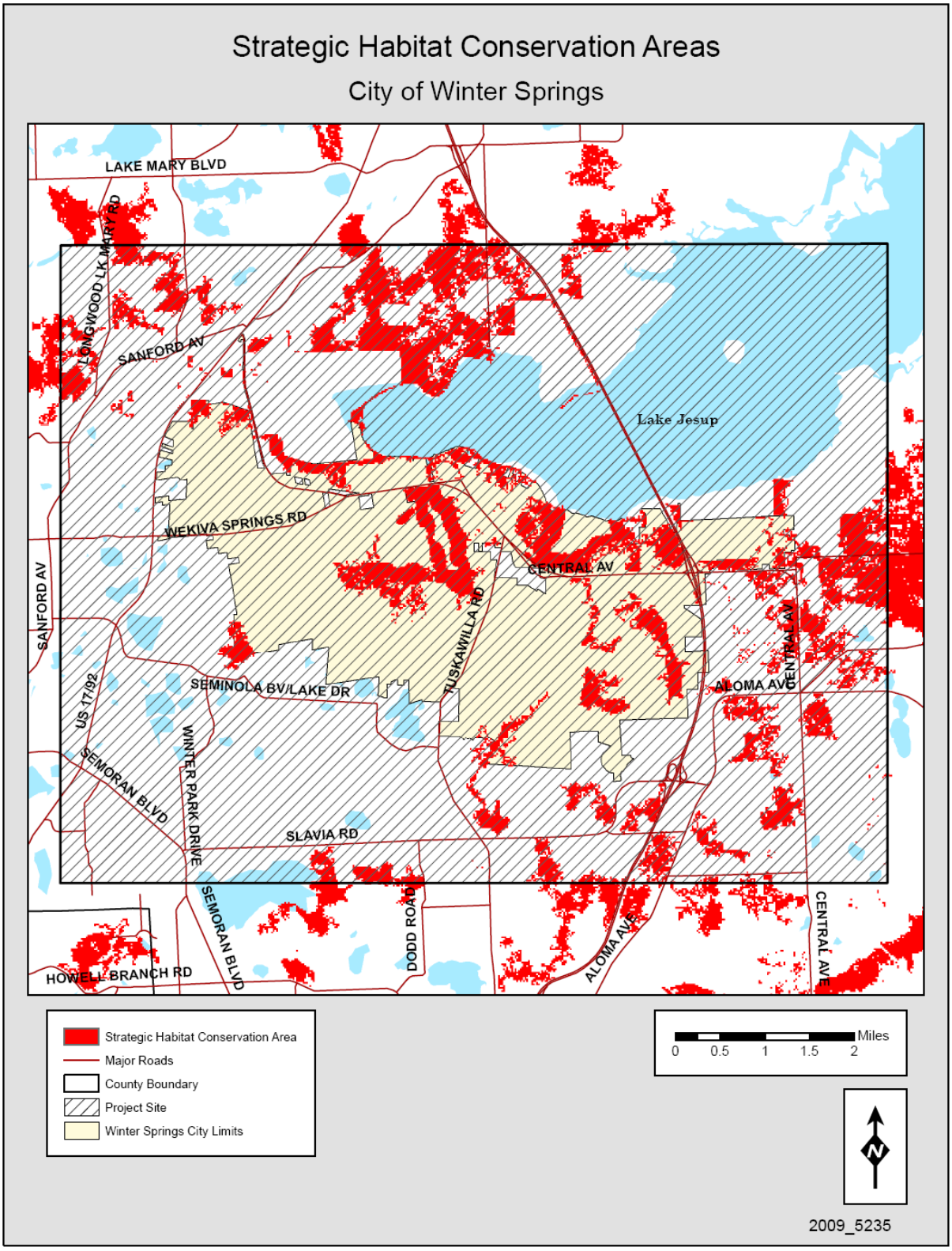
Species Type and Common Name	Florida Fish and Wildlife Conservation Commission	United States Fish and Wildlife Services
Reptiles		
Eastern Indigo Snake	Threatened	Threatened
Gopher Tortoise	Threatened	
Florida Pine Snake	Species of Special Concern	
Species Type and Common Name	**Florida Department of Agriculture**	**United States Fish and Wildlife Services**
Plants		
Hay Scented Fern	Endangered	
Florida Willow	Endangered	

Source: FNAI Element Occurrences, January 12, 2009.

Although not included in the likely or potential occurrences provided by the Florida Natural Areas Inventory as shown in Table V-3, City staff note that additional Florida threatened or endangered plants including the needle palm, royal fern, cinnamon fern and milkvine (Matelea) have been observed in the City.

Map V-3 identifies the element occurrences of animals and plants identified in the Florida Natural Areas Inventory, as well as federal, state, local and private conservation lands and rare species habitat. Map V-4 identifies species occurrences within the vicinity of Winter Springs including scrub jays, wading bird rookeries (1999), eagle nesting sites, Florida Natural Areas Inventory sites and wildlife observations of listed species (in 2002). These elements indicate the documented presence of these animals in the area. Some species are not included in site specific listings by the FWRI staff, and only those reported are entered into their database. Map V-5 is a species occurrence map for the black bear, as those data points overwhelmed the other species data points. The City has experienced several bear nuisance calls between 1980 and 2007 as indicated by the red triangles in Map V-5.

Map V - 2: Florida Managed Habitat Conservation Areas



Source: Florida Fish & Wildlife Conservation Commission – Fish and Wildlife Research Institute, December 2008.

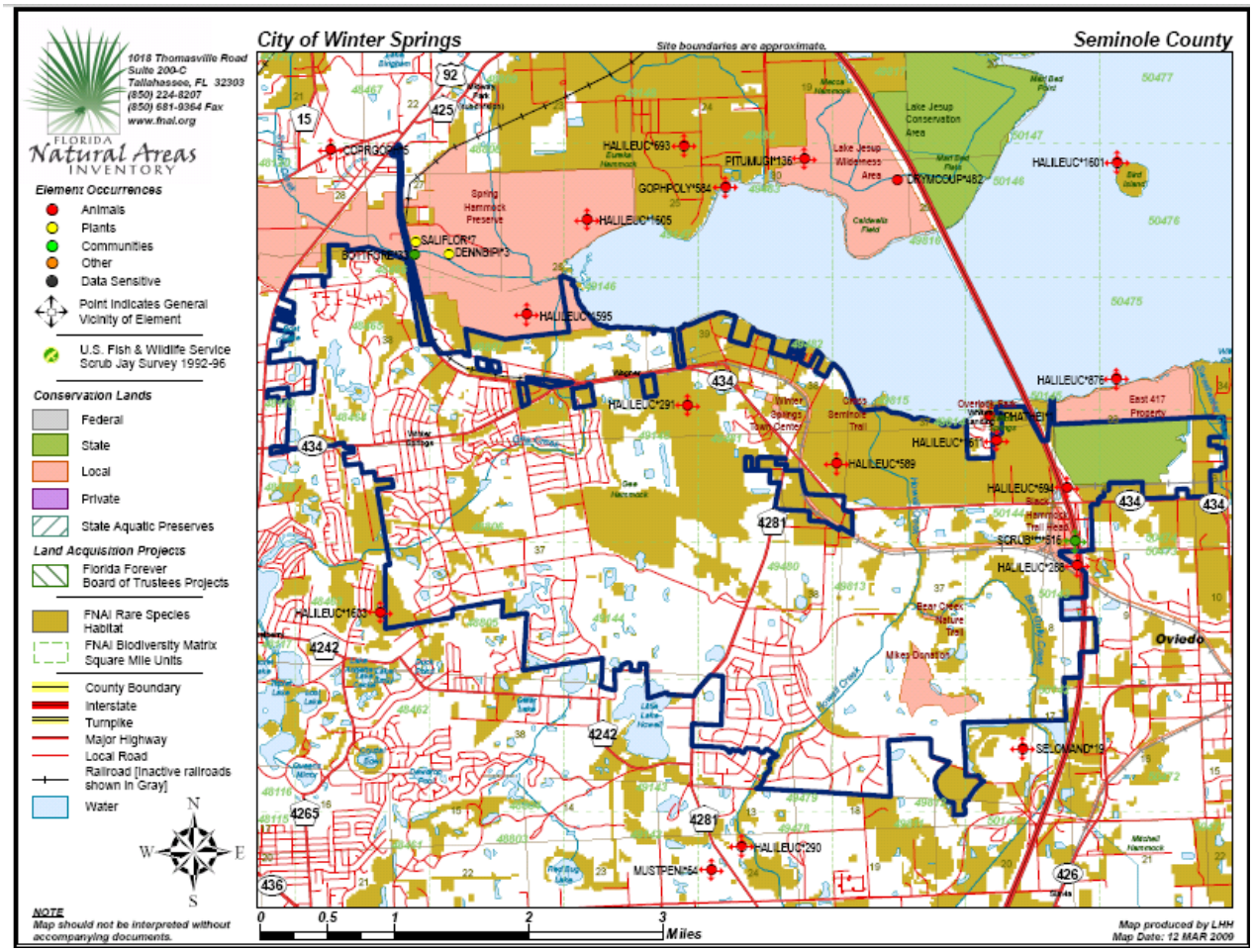
Table V - 3: Listed Plant and Animal Species Occurrence Likely or Potential in or Near Winter Springs.

Species Type and Common Name	Occurrence: Likely / Potential	Florida Fish and Wildlife Conservation Commission	United States Fish and Wildlife Services
Birds			
Wood Stork	Likely	Endangered	Endangered
Florida Scrub-jay	Potential	Threatened	Threatened
Florida Burrowing Owl	Potential	Species of Special Concern	
Florida Sandhill Crane	Potential	Threatened	
Mammals			
Florida Mouse	Potential* *Species has been observed in the City according to staff.	Species of Special Concern	
Sherman's Fox Squirrel	Potential	Species of Special Concern	
Florida Black Bear	Potential	Threatened	
Manatee	Potential	Endangered	
Fish			
Bluenose Shiner	Potential	Species of Special Concern	
Amphibians			
Gopher Frog	Potential	Species of Special Concern	
Plants			
Carter's Warea	Potential City staff notes that the range for this plant is likely not this far east.	Endangered	Endangered
Clasping Warea	Potential	Endangered	Endangered
Many-flowered Grass-pink	Potential	Endangered	
Chapman's Sedge	Potential	Endangered	
Piedmont Jointgrass	Potential	Threatened	

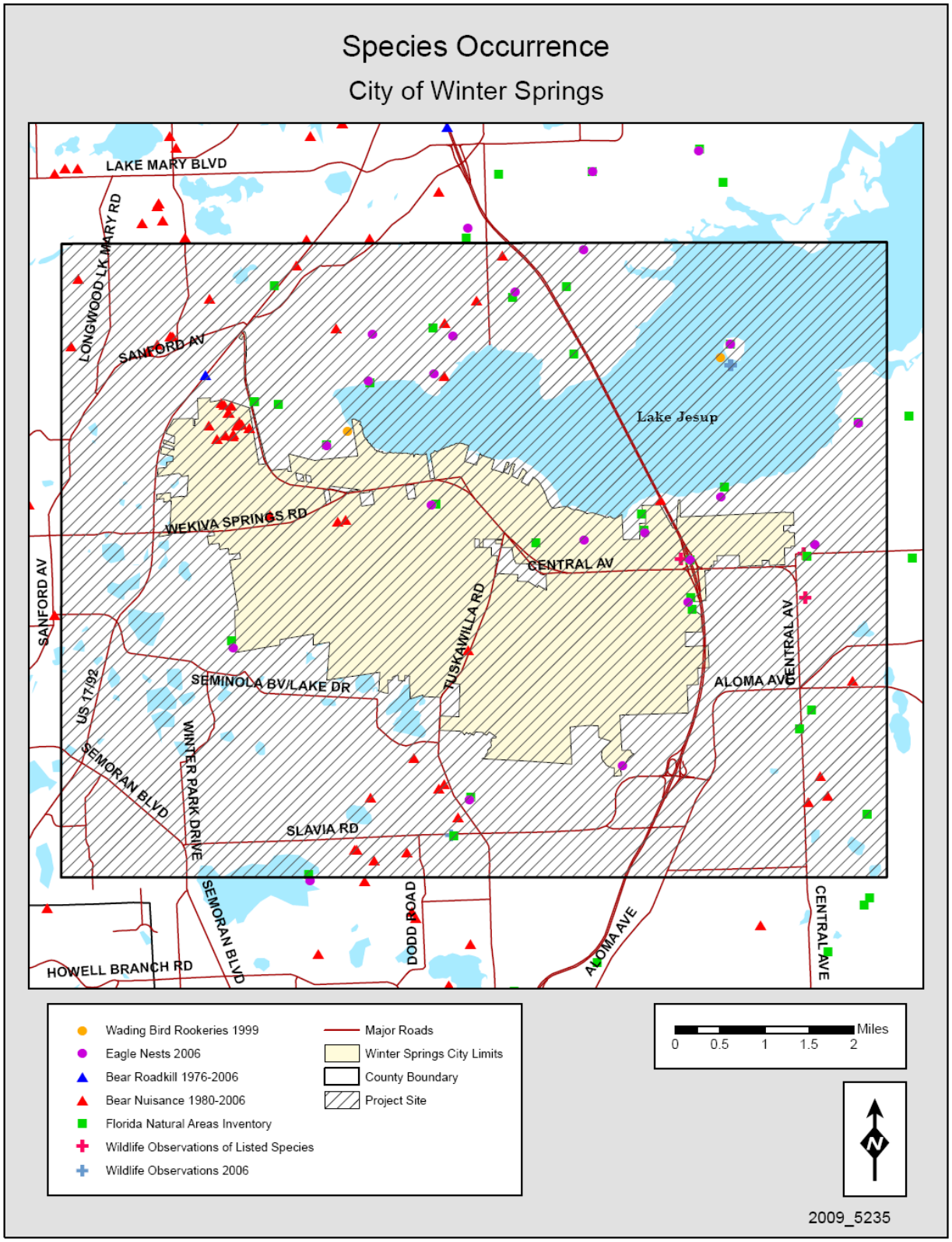
Species Type and Common Name	Occurrence: Likely / Potential	Florida Fish and Wildlife Conservation Commission	United States Fish and Wildlife Services
Hartwrightia	Potential	Threatened	
Nodding Pinweed	Potential	Threatened	
Florida Beargrass	Potential	Threatened	
Giant Orchid	Potential	Threatened	
Large-flowered Rosemary	Potential	Threatened	
Sand Butterfly Pea	Potential	Endangered	
Beautiful Pawpaw	Potential	Endangered	Endangered
Star Anise	Potential	Endangered	
Florida Spiny-pod	Potential	Endangered	
Celestial Lily	Potential	Endangered	
Cutthroat Grass	Potential	Endangered	
Okeechobee Gourd	Potential	Endangered	Endangered
Ruguel's Pawpaw	Potential	Endangered	Endangered

Source: FNAI Element Occurrences, January 12, 2009; City of Winter Springs, January 26, 2009.

Map V - 3: FNAI Species Occurrences and Conservation Lands

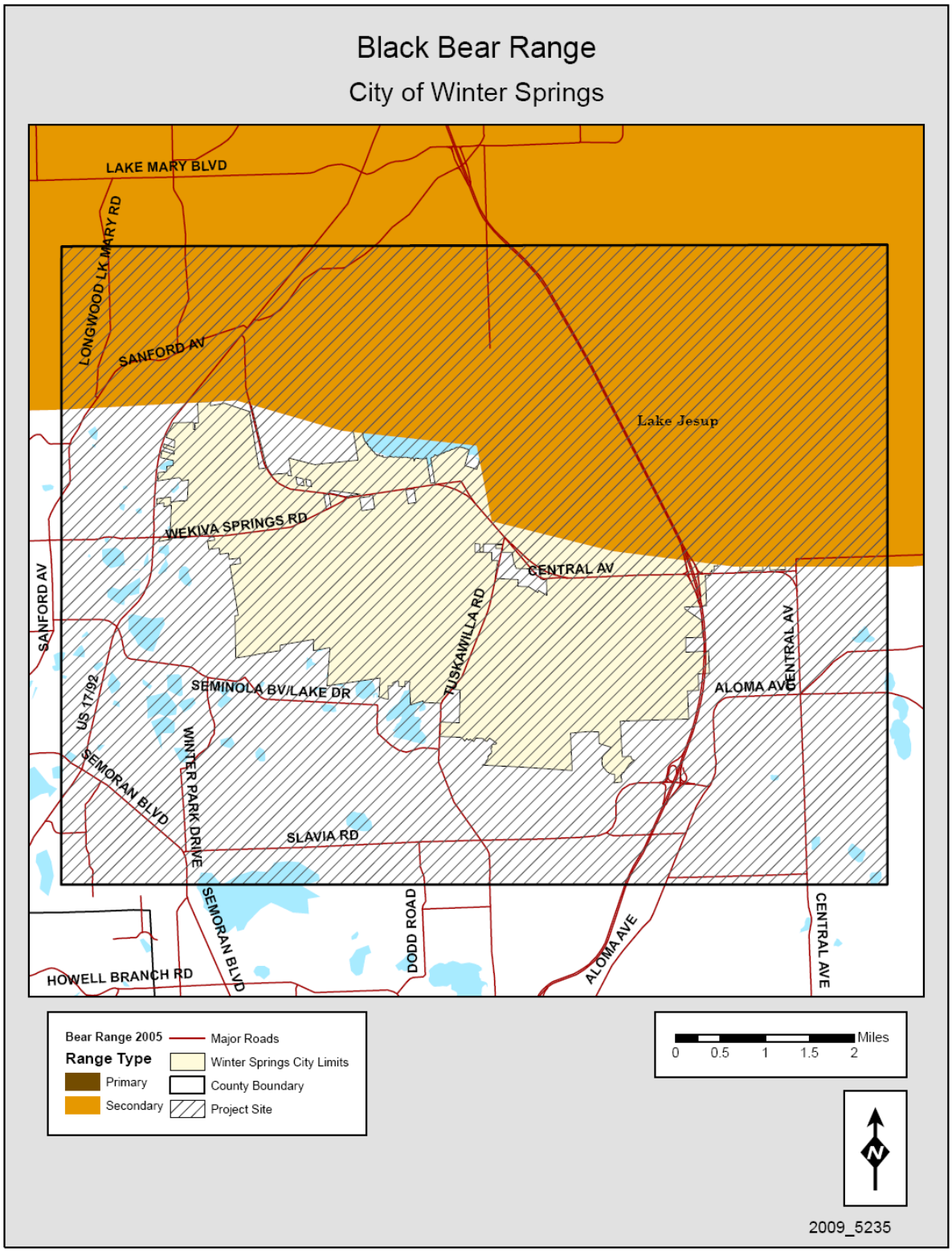


Map V - 4: Various Species Occurrences, FNAI Inventory Areas, and Wildlife Observations



Source: Florida Fish & Wildlife Conservation Commission – Fish and Wildlife Research Institute, December 2008.

Map V - 5: Black Bear Occurrences



Source: Florida Fish & Wildlife Conservation Commission – Fish and Wildlife Research Institute, December 2008.

11. Commercial, Recreation and Conservation Uses of Natural Resources

a. Commercial

No large-scale operations for the extraction of commercially valuable minerals take place within Winter Springs. The same is true for other natural resources, which are susceptible to exploitation by industries such as forestry and commercial fishing.

The primary commercial exploitation of natural resources is development. Through land clearing, vast amounts of upland vegetative communities have been destroyed or altered. However, these upland plant communities are better suited to development than wetland areas, and do not pose as many governmental regulatory problems for developers as wetland areas do.

Another minor commercial use of natural resources within the Winter Springs area is that of the numerous fishing guides located within the Seminole County area. However, sport fishing is a minor draw on natural resources of the lakes in the Winter Springs area, and it can be noted that fishing enthusiasts rely on recreational fishing methods for their catch, rather than netting or other commercial means. No large-scale commercial operations dependent upon natural resources are anticipated to locate within Winter Springs at this time.

b. Recreation

A large portion of the recreational and leisure activities of Winter Springs' residents revolves around the Lake Jesup lakefront area. Central Winds Park, the City's largest developed community park is located on Lake Jesup and provides abundant opportunities for resource-based activities. Amenities in these parks amenities include playgrounds, sand volleyball courts, a large multi-purpose field, numerous baseball and softball fields, lacrosse fields, and a fishing area. A passive area located on the west side of the park includes pavilions, picnic grills, horseshoes, and a nature trail. Currently, Central Winds Park is utilized for its fishing opportunities, and water sport enthusiasts can hope to see future development of the lakefront area for boating and canoeing as well once the quality of Lake Jesup improves from clean-up efforts. Wildlife known to inhabit the lakefront area includes American alligators and bald eagles, which can be observed from the park. In addition, Bear Creek Nature Trail, which parallels Bear Creek, provides a pleasant hiking trail which utilizes the creek and the natural vegetation for passive public recreation As well as the nature trail, this park is a popular picnicking location for Winter Springs' residents. Cross-Seminole Trail, a heavily used trail is discussed in further detail in the Recreation and Open Space Element. This 6-mile link of the regional trail network extends from Layer Elementary School to the Oviedo City Limits and connects many of the City's parks and schools with the Winter Springs Town Center and the regional trail network. The City has numerous parks and recreational areas which are detailed in the Recreation and Open Space Element.

c. Conservation

Conservation uses are defined by the Department of Community Affairs as being "activities or conditions within land areas designated for the purpose of conserving or protecting natural resources or environmental quality, including areas designated for such purposes as flood control, protection of quality or quantity of groundwater or surface water, flood plain management, commercially or recreationally valuable fish and shellfish, or protection of vegetative communities or wildlife habitats." Lake Jesup is one area, in particular, that should be preserved from the damaging effects of urbanization.

Lake Jesup is a hydrologically complex system with a large urbanized watershed. Not only does the land surrounding Lake Jesup provide public recreational opportunities, but the marshes that are a part of those lands help to maintain animal habitat, improve water quality, and also allow for the storage of large volumes of water during rainy periods, thus providing flood protection for surrounding communities. However, decades of wastewater effluent discharges directly into the lake, stormwater discharges from surrounding tributaries, the construction of berms that segregated the lake from parts of its flood plain, and a causeway that reduced the lake's connection with the St. Johns River have all taken a toll on the sensitive ecosystem. The discharges have left a legacy of algae, frequent fish kills, and a thick layer of muck more than 9 1/2 feet deep. The berm constructions further aggravated the problem by inhibiting the lake's ability to cleanse itself.

The Florida Department of Environmental Protection (FDEP), Florida Fish and Wildlife Conservation Commission (FWC), and St. John's River Water Management District (SJRWMD) have worked together and endorsed implementation of strategies to address the excessive external nutrient loading and in-lake nutrient concentration components. The 2008 Lake Jesup Interagency Restoration Strategy outlines a strategy designed to meet restoration goals, provides a timetable for implementation, specifies agency responsibilities, and identifies specific restoration milestones to be used to trigger implementation of additional work as necessary.

This seven step strategy outlined in the document is divided into two phases and includes:

Phase 1

1. Develop the Basin Management Action Plan (BMAP)

2. Reduce external nutrient loads

3. Reduce nutrients in the lake water column

Phase 2, implemented as necessary

4. Implement projects to further improve water clarity

5. Implement projects to increase native vegetation and control exotic species

6. Implement projects to establish healthy fish and wildlife habitat and populations

Throughout the Restoration Process

7. Monitor water quality

Phase 1 activities are required and will be coordinated by FDEP and SJRWMD staff. Phase 2 activities will be implemented as needed based on Phase 1 outcomes. Monitoring is planned to occur throughout the process to evaluate specific projects and the overall success of the restoration strategy. The Restoration Strategy aims to enhance Lake Jesup to meet Class III water quality standards and support healthy, fish and wildlife habitats and populations.

Source: The Lake Jesup Interagency Restoration Strategy report from January 2008

d. Protection of Ground Water

The City draws its public supply of water from the Floridan aquifer. The City's most effective aquifer recharge areas are generally high, dry uplands with permeable soils and poor surface drainage. These are areas that are typically well suited for land development. Within the Winter Springs area, the Floridan aquifer receives moderate recharge in the central portion of the City and considerably higher recharge in the southwest portion of the City. As the upper zone is recharged, some leakage occurs, replenishing the lower zone as well. A map detailing the areas of greatest recharge is included in the Aquifer Recharge Element. Great care should be taken to protect areas of groundwater recharge since development can compromise water quality. The City has three interconnected water treatment plants and eight public water wells, which supply the entire City. The potential for hazardous waste or pollutant contamination of the wells is greatly reduced by the fact that they are located within residential areas. To ensure that wellheads are exempt from contamination, the City adheres to all FDEP standards pertaining to wellhead protection. At the present, the City is not aware of any risk of contamination from hazardous waste or other groundwater pollutants.

12. Potential for Conservation, Use or Protection of Natural Resources

a. Conservation

The wetlands, surface water, ground water, and other natural resources which have been detailed within this Element are all worthy of being conserved. The future existence and integrity of these resources depends on the actions we, as citizens, take today. To assist in the conservation of natural resources, the City's Code of Ordinances should more strictly govern development. Specifically, wetlands should be protected through mitigation and transfers of density within a site from wetland areas to upland areas and, surface waters should be protected through drainage enhancements as identified within the Drainage Sub-Element of this Plan. An estimated 25 percent of the potable water supply is used for irrigation purposes. Realizing this, the City operates a reuse water reclamation system with 1,720 residential customers, one golf course, the City's parks, and public rights of way. Voluntary residential and commercial water conservation will be achieved through the City's participation in water conservation efforts of the St. Johns River Water Management District. These efforts include brochures kept in

the City's public building, notices on water bills, and expansion of the reclaimed water system. The City's Code of Ordinances will require the installation of water-saving plumbing devices including low-flow toilets, showerheads, and faucets within new developments.

b. Use

The uses of natural resources, whether for commercial or recreational purposes have been discussed previously within this Element. The Code of Ordinances should determine the extent to which natural resources may be used.

c. Protection

Protection of existing natural resources is important. Three areas or resources merit special protection. These three areas include:

- Wellhead fields,
- 100-year flood plain, and
- Wetlands.

Wellhead fields should be protected to ensure that the potable water supply for the City is protected from contamination. As mentioned previously, the City adheres to wellhead protection provisions administered by the Florida Department of Environmental Protection. Map I-11 in the Future Land Use Element depicts the location of wellhead protection areas.

The 100-year flood plain needs to be protected to help mitigate the damaging effects of flooding. Protection of these areas is assisted through the National Flood Insurance Program and The City's Code of Ordinances.

Wetlands protection has become an important issue to Florida residents. The protection of wetlands helps to ensure that Florida ground and surface waters remain environmentally intact, as well as preserving habitat for numerous species dependent on wetlands to survive. Winter Springs requires a 25' minimum upland buffer. These three natural resources are by no means the only ones to be protected. Development within areas determined to be ecologically sensitive requires additional analysis reports to be filed by the developer so that City staff can ascertain the significance of the proposed impact.

13. Water Needs

a. Potable Water Sources

The City receives its potable water supply from the Floridan aquifer, within the Middle St. Johns (MSJ) groundwater basin. The natural quality of groundwater in this basin varies greatly depending on the location and the depth from which water is obtained. A major concern in this basin is saltwater intrusion in Seminole County. Although the County is located inland from sea, there are some patches of connate saltwater in the Floridan aquifer. The potable water in the aquifer is underlain by denser saline water. The potential exists for this saline water to migrate upward within the aquifer system in response to declines in the

potentiometric surface. However, Winter Springs is located outside the areas in Seminole County that have chloride and sulfate concentrations of equal or greater than 250 mg/l. The FDEP has set a recommended limit of 250mg/l of chloride and sulfate for public water supplies. Therefore, it can be concluded that the Floridan aquifer underlying Winter Springs is of good water quality. Consequently, only aeration and chlorination treatment are required to provide the City with potable water.

The City's water system consists of three water treatment plants, which serve approximately 12,500 equivalent connections. Water is supplied to the three plants by eight potable water wells and the entire system is permitted to treat a maximum of 12 million gallons per day.

b. Potable Water Demand

Future water demand based on population projections is included within the Potable Water Sub-Element.

c. Reclaimed Water Demand

Future demand for reclaimed water and plans to expand the City's reclaimed water program is included within the Potable Water Sub-Element.

d. Agricultural Water Demand

Agricultural land uses within the City are minimal. Agricultural operations that utilize the City's potable water facilities are nonexistent, as are agricultural users that employ water from surface waters or from wells that require SJRWMD consumptive use permits. Due to the increasingly urbanized nature of Winter Springs, the City's Future Land Use Map – 2030 does not include an agricultural future land use designation.

e. Industrial Water Demand

Industrial water demand, including reclaimed uses, has been expressed within the Potable Water Sub-Element of this Comprehensive Plan.