



City of Dania Beach

Chapter 6 Conservation Element

Revised December 2014

CONSERVATION ELEMENT

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I. INTRODUCTION

A. Purpose

The Conservation Element of the City of Dania Beach is prepared to provide a guide for the conservation, use, and protection of natural resources within the City and immediately adjacent property. The Element first identifies the significant resources occurring within the community and the impacts occurring on those resources. The element then provides goals, objectives, and policies which will help to insure commitment to long term programs. This will help conserve the natural resources of the community and hereby provide a high quality of life for current and future residents of the City of Dania Beach.

B. Physiography

The City of Dania Beach is situated in southeastern Broward County which is the second largest county based upon population within the State of Florida. The County consists of approximately 1,200 square miles; however, only the eastern third (414 square miles) is considered within the planning or development area. Of the 414 square miles, the City of Dania Beach comprises approximately 7 square miles. The eastern part of the county where Dania Beach is situated is made up of low, sandy ridges, which are commonly referred to as flat woods. The vegetation where remaining is mostly Pine, Palmetto and native grasses. These flat wood areas were made up of deep poorly drained nearly level sandy soils. Many of these soils were original used for truck crops, but most of the areas have been developed into urban uses. Agriculture is virtually non-existent within the City of Dania Beach. Some eastern portions of Dania Beach consist of mangrove vegetation.

II. DATA AND ANALYSIS REQUIREMENTS

A. Water Resources

1. Surface Water

The Dania Beach area is generally drained by the Dania Cut-Off (C-11) canal which divides the City north and south. This canal also serves the western parts of Broward County. In addition, the C-10 Canal provides the major drainage

conveyance primarily serving the southern and western portions of the community. C-10 ultimately discharges into the Dania Cut-Off Canal which in turn discharges into the Intracoastal and ultimately through Port Everglades inlet into the Atlantic Ocean. Existing drainage in the City is adequate and as development occurs each development is to meet drainage improvement requirements in accordance with the standards of the South Florida Water Management District, Broward County Water Resources Management Division, as well as the City requirements. The New River Sound and estuarine system is located in the most easterly portion of the City of Dania Beach as noted on the Estuarine Map. Because of its proximity to the Port Everglades Inlet (approximately 2 miles to the North), this system receives a high level of flushing activity which enhances the quality of water within the estuary. All water bodies are designated as a Class III water body by the Florida Department of Environmental Regulation.

As noted earlier, Dania Beach lies within the jurisdiction of the South Florida Water Management District as does most of Southern Florida. The District is responsible for water conservation, flood control and drainage requirements for all developments within its jurisdiction. Additionally, the Broward County Water Resources Management Division reviews plats as they are processed through Broward County to insure that the drainage meets the immediate guidelines and requirements of the county-wide concern. This will insure that during wet periods there will be adequate drainage not to over burden the master drainage system of the county wide system and still protect public and private property.

2. Flood Plains

The Flood Plains Map for Dania Beach, which is prepared pursuant to the National Flood Insurance Program, identifies areas within the City that are subject to flooding for the 100 year period. There are two types of flood zones within the City of Dania Beach these being AE; two types of X and V zones. AE zones are areas expected to flood in a 100 year storm event. These areas represent approximately 2/3 of the City of Dania Beach. The V zone is restricted to the immediate ocean front portion of Dania Beach. There are no structures within this public beach area accept for the existing Dania

Pier.

The Broward County Water Management Division has County wide review of permit authority as it relates to water management activities. That agency requires flood elevations to meet a 3-day, 100 year design storm criteria. That agency also requires all road crown elevations to meet 1-day storm, 10 year event design criteria for local roads. The City of Dania Beach has managed flooding in a successful manner through development and maintenance of the existing network of canals and water bodies designed to handle drainage within the City.

Dania Beach participates in the National Flood Insurance Program of the U.S. Department of Housing Urban Development. Also, Dania Beach's emergency preparedness plan establishes a procedure for evacuation and rescue in the event of an emergency such as a hurricane. Also, it is required that all new development meet the guidelines of the National Flood Insurance Program to insure that both they are able to gain insurance for the residents of the development plus protect property from potential hazardous flooding conditions.

3. Ground Water

The sub-surface strata below the City can be grouped into three general categories (1) Biscayne Aquifer, (2) The Floridian Aquiclude, and (3) The Floridian Aquifer. The Biscayne Aquifer is the unit closest to the surface and is composed Primarily of Pahnico Sands, Miami Oolite, Anastasia Formation and Fort Thompson Formation. The Floridian Aquiclude primarily consists of impermeable strata which prohibits the intermingling of water between the Biscayne Aquifer and the Floridian Aquifer which is beneath the aquiclude. The upper zone of the Floridian Aquifer extends about 900 ft. to 1,900 ft. below sea level and consists of a series of limestone strata including Tampa (Miocene), Suwanne (Oligocene), Ocala (Eocene), Avon Park and Lake City Limestones. The lower zone of the Floridian Aquifer extends for 1,900 ft. to what is known as the "Boulder Zone". The Biscayne Aquifer is one of the most productive water producing aquifers in the world. It has been designated the only reliable source of drinking water for all of Broward

County and since 1979 has been designated as the sole source of drinking water by the U.S. Environmental Protection Agency. Despite its high productivity and continuous ability to supply water for drinking, growth in the water use areas has placed the aquifer under stress in recent years. The aquifers are highly permeable and recharge depends on local rainfall and water released from Lake Okeechobee through the network of canals. When water demands are increased so is the threat from saltwater intrusion from the Atlantic Ocean during drought conditions. The City has been impacted by saltwater intrusion as the City's wells have decreased from 3 MGD to 1.1 MGD, and why the City is getting water from Broward County and looking at more innovative options to acquire added waters (see Infrastructure element, Potable Water Element – Section F).

Broward County has embarked upon a program to develop future wellfield sites to ensure an adequate supply of quality drinking water for the current and future residents of Broward County. A study has been completed and is now in the implementation phase. The County Commission has authorized development of well sites throughout the County. This effort, modeling of the Brian Piccolo wellfield to secure more water, and the saltwater intrusion model being developed but the County are ongoing.

B. Flora and Fauna

As noted earlier, the City of Dania Beach has an extremely flat topography with very little native flora occurring within the community. If mangroves are involved the SFWMD, the Florida Department of Environmental Protection as well as the United States Army Corps of Engineers would have review responsibilities for this type of plant community. Also, as part of the site design, native plants are encouraged to the greatest extent possible to help develop a canopy as the City grows and matures.

Table I will provide a generalized list of the flora and fauna which generally occurs within Dania Beach. Table II will provide a generalized list of the wildlife; however, there are no endangered animals or plants within the community.

C. Wetland Communities

The remaining wetland communities within the City of Dania Beach consist of mangrove communities in the eastern fringes of the City. While many of these mangrove areas are highly stressed they are still protected through the permitting process of the Florida Department of Environmental Protection and the United States Army Corps of Engineers. In addition, the Broward County Department of Planning and Environmental Protection issues dredge and fill permits for wetland communities within Broward County.

Since 1989, the Dania Saltmarsh has been acquired by the public. This represents the majority of the vacant land east of Southeast Fifth Avenue between Sheridan Street and Dania Beach Boulevard. The area consists of approximately 130 acres. This is an area that was previously designated for residential utilization at a maximum density of one (1) unit per acre.

D. Air Quality

Due to the prevailing breezes occurring in southeastern Florida, the air quality is generally good for the Delia Beach area. The major impact to the community would be ozone emission from automobiles as very little industry is presently occurring within the community. While the Comprehensive Plan provides for expansion of industrial opportunities for the community, these will be light industrial/office park type developments which will have minimal impacts on the air quality. Additionally, the Department of Planning and Environmental Protection, which is an agency of Broward County government, is responsible to insure to the United States Environmental Protection Agency that air quality standards are maintained. Broward County has received certification from the E.P.A. that the air quality is at an adequate standard for the residents of the community.

E. Lakes and Mine

All of the lakes occurring within the City are man made and have been developed for providing fill for development or for providing commercially valuable minerals. Adequate areas have been reserved and secured to provide for provision of sand and rock material for the future growth and development of the City.

F. Soil Erosion

At the present time the City of Dania Beach is not experiencing any soil erosion problems. However, an office of the United States Soil Conservation Service is located in the Town of Davie, Florida which is approximately 5 miles from City Hall. Whenever soil erosion problems occur or a situation arises which may indicate that soil erosion could potentially occur, the Soil Conservation Service office is contacted to provide proper planning to minimize any negative impact. Also, the City in its review of site plans particularly for new lake excavations insures that all sites are properly sloped and vegetated as soon as possible after construction. This applies to the slopes of all lakes both residential and non-residential developments.

G. Fisheries, Wildlife, Marine Habitat, and Vegetated Communities

The existing mangrove communities East of S. E. 5th Avenue and East of the airport do contain wildlife habitat.

Through proper site planning controls and mitigation of any impacts to wetlands areas these habitats can be enhanced and provide for a more suitable habitat for the propagation of a greater variety of flora and fauna.

Manatees are generally found in the New River Sound estuary and to a limited extent along Dania Cut-off Canal. The principal threats to manatees are encounters with boats or other marine navigational activities as they have no natural predators. Manatees are protected under the Endangered Species Act and the Marine Mammal Protection Act but because of these impacts by navigational uses a general decrease in the population is expected. The authority of posting of navigational aids which will help prevent accidents with manatees is administered by the Florida Marine Patrol.

It is felt that through the existing controls that the wildlife habitats can be enhanced and protected through mitigation and site design practices.

H. Pollution Problems

There are no known pollution problems affecting existing natural resources within the City of Dania Beach. Hazardous waste are

controlled through the Broward Department of Planning and Environmental Protection adopted hazardous material regulations and storage tank regulations. These regulations are applicable County wide and they are also designed to help safeguard the overall Broward County water supply. Urban storm runoff is regulated by the criteria of the South Florida Water Management District, Broward County Water Resources Management Division and the City of Dania Beach before discharge into the major drainage conveyances serving the City. The existing habitats outlined will be protected from any discharges by these sources.

The South Florida Water Management District also encourages the discharge of storm water runoff through mangrove systems as a form of cleansing the runoff prior to discharge into the drainage system. While this is an approved program of the Water Management District to date no developments have incorporated this type of water management plan into any existing activities.

I. Current and Projected Water Needs Water Conservation

As noted in the Potable Water Element, there exists adequate capacity of both present and projected water needs for the build-out of the community. These projections incorporate the anticipated land uses within the City. The City of Dania Beach also complies and endorses all programs of the South Florida Water Management District as it regards Water Conservation and Protection. Additionally, the City endorses and complies with the Broward County Wellfield Protection Ordinance which further ensures continuance of the existing quality of water. Please refer to Section I of the Potable Water Section of the Sanitary Sewer, Solid Waste, Drainage, Potable Water, Groundwater Recharge element of the City’s comprehensive plan as amended. The current and projected water needs and sources for the ten-year period based upon residential, commercial, industrial, and other uses is outlined below.

Table 1	
Dania Beach Water Demand v. Supply	
City Service Area Demand vs Supply	County Service Area Demand vs Supply

Year	Population	Avg Flow MGD	Total Water Supply Available	Population	Avg Flow MGD	Total Water Supply Available from Hollywood
2015	17615	2.33	2.47	16,384,298	3.231	4.49
2020	18775	2.63	2.79	16,960,170,14	3.345	4.569
2025	20114	2.93	3.10	17,451,42	3.443	4.781
2030	22022	3.17	3.36	17,962,3	3.543	4.895
2015	17615	2.33	2.47	16992	4.4	4.4
2020	18775	2.63	2.79	18173	4.7	4.7
2025	20114	2.93	3.10	18959	5	5.0
2030	22022	3.17	3.36	19403	5.2	5.2

*Note County service area flow projections per capita are substantially higher than the City service area as a result of the County providing service estimated to exceed 1.5 MGD to the Fort Lauderdale-Hollywood International Airport and ancillary commercial and industrial complexes associated with the airport.

The City of Dania Beach approved a formal water conservation program in August, 2010. The water conservation plan included requirements for Florida Friendly plants, rain sensors on irrigation systems, exclusions to irrigation systems where Florida Friendly plants are used, WaterSense Plumbing fixtures, and evaluation of water conservation solutions.

The City has data on residential use – divided into single family residential use, multi-family residential use and other metered users – includes all uses (commercial, industrial) other than residential accounted for by meter as shown below (from 2010).

User Group	accounts	Units	Usage/ERC	Usage/mo
Single Family	3539	3539	158	4787
Multi-Family	322	4166	134	134
Other (commercial, industrial)	596	unk	979	2270
Sprinklers	70	70	200	6000

The above shows that the average single family home uses under 4800 g/mo in 2010. With approximately 2.24 people per household for single family and 2 per multi-family, this means the

average resident is using 70 gpcd of water, which is the minimum water user per person that can be achieved without changes to indoor plumbing according to Vickers, (2001)..

The City used the EZ Guide v 1 to evaluate water savings ideas. As with Broward County, the EZ Guide information indicates only two significant areas to achieve water saving – irrigation and toilets – because water use is within expectations of a mixed residential/commercial community. Toilet retrofits become the next alternative. Given new construction and revisions to plumbing standards, it is expected that many toilets will have been replaced by 2030.

The EZ Guide was prepared for Dania Beach. There were no options that were cost effective. No residential units are candidates for significant improvements without indoor toilet changes. The City is well below other users on per capita use. SF and MF homes are particularly good. Cost is a major concern to the City. Invasive retrofits have long payoffs and little public support. This is the same issue as the County. To address this, the City adopted ULF toilet ordinances for all new and retrofit toilets. Hence without actually going in from an active perspective, the City will achieve this goal voluntarily. The City anticipates looking at this in 2030 when water supply issue may become more critical. The irrigation uses are being addressed with the ordinance changes noted above.

1. Maintain an accurate database of water consumption to reduce municipal water waste – all services in the City are metered, including all irrigation services. The City also recalibrates large meters every two years and plant meters annually. The City changes out a number of older meters each year, depending on the age – prior change-outs were not recorded).
2. A retrofit program – is not pursued in the City at this time since unaccounted-for water is below 15%. However, remodeling of buildings requires that new fixtures meet the Florida Building Code – Plumbing requirements which require low flow fixtures. Therefore, while the City does not have an active retrofit program (or the funds and personnel to implement same), the building code is accomplishing this purpose.
3. Adopted WaterSense plumbing fixture ordinance requiring low flow plumbing fixtures. As the majority of homeowners in Dania

Beach use wells for irrigation, not potable water the benefits to the utility from a water savings potential from xeriscaping, rain sensors and landscaping is minimal and the City has limited capability to impose restrictions on well use. A water conservation policy is in the process of being developed at this time for landscaping and the promotion of xeriscaping. The policies may help with these issues.

4. Public information and education programs – the City has District brochures on water conservation and xeriscaping available for the public (on display).
5. Water conservation rate structure – The City has long had in place, a water conservation rate structure that penalized residents using in excess of 10,000 gallons per month. The typical single family use in Dania Beach is less than 8,000 gallons per month, or 150 gpd/ERU.

In addition the City has looked at two other issues associated with water conservation – reclaimed water and ASR. Both were rejected as discussed in the following paragraphs.

The City's unaccounted for water varies from 4 to 9 percent depending on meter replacement. The City regularly tracks water use. Leak detection does not meet the leakage threshold. All leaks come to the surface readily so they are easily found. Slow meters are another issue that the City watches continually (See water conservation plan for more details).

Effluent reuse is of substantial benefit to the area for a number of reasons, the most important of which is the reduction of competing water withdrawals from the surficial aquifer system by the application of the reclaimed water. The drainage system has lowered the water table, causing saltwater intrusion to occur. Carefully designed applications of effluent to critical areas of the surficial aquifer could protect and maintain freshwater sources. However, the City must rely on the City of Hollywood for reclaimed water, as the City has no treatment plant of its own. To date, the City of Hollywood has not had facilities or water quantity to extend reclaimed water to the City of Dania Beach. This situation could change if the City of Hollywood extends reclaimed water to Port Everglades.

ASR Wells are a water supply management option some utilities

have pursued in south Florida. Unfortunately there is only one successfully operated ASR well in Southeast Florida – Boynton Beach. The water required to supply and ASR well would be a minimum of 1-2 MGD, which is a sizeable portion of the City’s demands. Investment in additional water treatment plant capacity and a well for this purpose does not seem reasonable.

Table 2 outlines the Status of the City’s conservation efforts.

Table 2 – Status of City’s Conservation Efforts.

Requirements	Completed (Yes/No)	If Yes, Compl date	If no, antic start date	Antic Compl date	Annual budget allocation (if applicable)
Adoption of irrigation hours ordinance	yes	2005			
Adoption of Florida Friendly-based landscape ordinance	yes	2010			
Adoption of ultralow volume fixtures ordinance	yes	2010			
Adoption of automatic landscape irrigation systems interrupter (rain or soil moisture sensor) ordinance	yes	2010			
Adoption of Water conservation based rate structure	yes	Many years ago			
Implementation of a Water conservation education program	yes	Many years ago			
Implementation of leak detection and repair program (if >10% unaccounted-for water loss)	No	not applicable			
An analysis of reclaimed water feasibility.	No	not applicable			not applicable

III. REQUIREMENTS FOR CONSERVATION GOALS, OBJECTIVES AND POLICIES

The goal of the conservation element is to establish a long term program for the development of conservation programs and activities that will protect and ensure the highest environmental quality possible for the City of Dania Beach.

Objective I

Maintain or improve present air quality within the City.

- Policy 1.1 Continue to cooperate with the State and Federal Government in monitoring the existing air pollution standards within the community.
- Policy 1.2 Promote the efficient operation of motor vehicles which is a major contributor to air pollution within the City.
- Policy 1.3 Ensure that all industrial uses within the community minimize the impact on air quality to the greatest extent possible.
- Policy 1.4 Encourage the development of heavy vegetative cover which aids in the cleansing of the air.
- Policy 1.5 Promote alternative transportation modes such as pedestrian walkways, bikeways, mass transit and other means of travel.
- Policy 1.6 Continue to coordinate with the Broward County Traffic Engineering Division to synchronize traffic signals on highways.

Objective II

Maintain or improve the quantity/quality of water resources.

- Policy 2.1 Restrict activity which could have an effect on the sole source Biscayne Aquifer which provides all drinking water for the City. Coordinate with the Broward County Department of Planning and Environmental Protection to ensure adequate protection of water resources. Where necessary restrict uses which may have an effect on water

resources.

Policy 2.2 Comply with emergency conservation program of SFWMD in the event a drought affects the amount of available potable water.

Policy 2.3 Comply with the Broward County Wellfield Protection Program.

Objective III

Continue to maintain present mineral areas.

Policy 3.1 Ensure land has been set aside for the excavation of required materials for development within the area.

Policy 3.2 Ensure the development and protection of these mining areas does not preclude the future development of an attractive plan once mining operations have been completed.

Policy 3.3 Ensure a proper balance of mineral extraction versus aesthetic future development.

Objective IV

Conserve native vegetative communities, wildlife habitats and marine habitats at their present levels.

Policy 4.1 Protect unique Vegetative communities through site design and enhancement.

Policy 4.2 Require all development in sensitive vegetative areas to obtain permits from FDER and the Corps of Engineers.

Policy 4.3 Require the continued functioning of all natural systems within the City.

Policy 4.4 Utilize natural reservations as a means of protecting natural resources.

Policy 4.5 The City shall require that wetlands be preserved within any new development or mitigated in accordance with the Broward County Department of

Planning and Environmental regulations by coordinating with the Broward County Department of Planning and Environmental Protection during review of proposed site plans for new development involving potential impacts to existing natural resource areas.

Policy 4.6 The City shall continue to require the identification of potential impacts on flora, fauna, air quality and water quality and quantity with all applications for new development which may potentially impact existing natural resources identified within this Comprehensive Plan.

Policy 4.7 The City shall review and revise land development regulations by August 2000 to protect and conserve the natural functions of existing soils, wildlife habitats, canals, lakes rivers and marine habitats during the review of applications for new development and/or redevelopment to address the following:

- a. Site plan for new development identify the location and extent of wetlands located on the property;
- b. Site plans provide measures to assure that normal flows and quality of water will be provided to maintain wetlands after development;
- c. Where alteration of wetlands is necessary in order to allow reasonable use of property, either the restoration of disturbed wetlands will be provided or additional wetlands will be created to mitigate any wetlands destruction;
- d. Proposed developments comply with Broward County's Wellfield Protection Program;
- e. All endangered and threatened plant and animal populations are protected;
- f. All habitats of significant value to existing populations of endangered and threatened

species are preserved: ,

g. All nuisance vegetation (i.e. Brazilian Pepper, Australian Pine, and Melaleuca) is removed by the developer at the time of development or redevelopment of a site;

h. All native woody vegetation of a significant size is preserved or replaced.

Policy 4.8 Encourage the provision and maintenance of a buffer zone of native upland (i.e. transitional) vegetation and littoral zones in and around wetland and retention areas which are constructed or preserved on new development sites.

Policy 4.9 Development orders and permits for development and redevelopment activities shall be issued only if the conservation of wildlife and natural systems is ensured consistent with goals, objectives, and policies of this Comprehensive Plan.

Policy 4.10 The City shall coordinate review of proposed wetlands mitigation activities with the Broward County Department of Planning and Environmental Protection to ensure that Broward County's "Wetlands Benefit Index" is utilized as one basis for determining the scope of need mitigation.

Policy 4.11 The City of Dania Beach shall distribute land uses in a manner that avoids or minimizes, to the greatest degree possible, the effect and impact on wetlands. Those future land uses identified in the table provided below as being incompatible with the protection and conservation of wetland functions shall be directed away from wetland, or when incompatible land uses are allowed to occur, shall be mitigated or enhanced, or both, to compensate for loss of wetlands functions.

<p>CONSERVATION ELEMENT Compatibility of Future Land Uses</p>

Relative to Wetland Class	
WETLAND CLASS	FUTURE LAND USE COMPATIBILITY
Wetlands wither Wetlands Benefit Index (WBI) value greater than or equal to 0.80	All future uses identified on the Future Land Use Element Map Series, except for Conservation, are incompatible
Wetlands with a WBI value less than 0.80.	All future land uses are compatible, provided that the wetland impact compensation requirements of Chapter 27, Article XI, Broward County Code of Ordinances are satisfied.

SOURCE: Broward County Department of Natural Resource Protection (Nov. 1996); and Broward County Code of Ordinances, Chapter 27 Article XI., Aquatic and Wetland Resource Protection.

Objective V

Continue to coordinate with adjacent local governments and regional interests to protect natural resources.

- Policy 5.1 Continue to promote a coordination system with the adjacent local governments and the Regional Planning Council.
- Policy 5.2 Continue to participate in the Broward County Technical Advisory Committee.
- Policy 5.3 Continue to coordinate with the Broward County Department of Planning and Environmental Protection, Florida Department of Natural Resources, Broward County and Port Everglades to protect endangered species particularly the West Indian Manatee.
- Policy 5.4 All Local Areas of Particular Concern and Urban Wilderness Areas shall be consistent with the County's environmentally sensitive land status.
- Policy 5.5 Hazardous waste shall be managed and disposed in accordance with the Broward County Department of Planning and Environmental Protection rules and standards.

Objective VI

Waters that flow into estuarine or ocean waters shall continue to receive pre-treatment.

Policy 6.1 Continue to adhere to the standards of the Broward County Water Resources Management Division and South Florida Water Management Division as it regards drainage.

Policy 6.2 All discharge into these waters will receive pre-treatment.

TABLE 2
DATA REQUIREMENTS
Vegetation Associations

Common Name	Scientific Name
Australian Pine	Casurina equisetifolia
Laurel Oak	Quercus laurifolia
Brazilian Pepper	Schinus terebinthifolius
Sabal Palm	Sabal palmetto
Guava	Psidium guajava
Willow	Salix caroliniana
Trema	Trema micrantha
Elderberry	S i bucus sirnpsonii
Wild Coffee	Psychotria nervosa
Groundsel Tree	Baccaris glomerulifera
Mangrove	
Pepper Vine	Ampelopsis arborea
Wild Grape	Vitus rotundifolia
Corky-stemmed Passion Vine	Pissiforia suberosa
Possum-Grape	Cissus Sicyoides
Spanish Needle	Bidens alba
Wild Poinsettia	Poinettia cyathophora
Spurge	Chamesyce hyssopifolia
Bacopa	Bacopa rotundifolia
Primrose Willow	Ludwigia sp.
Knot Weed	Polygonum sp.
Boston Fern	Nephrolepis exaltata
Marsh Fern	Thelypteris palustris
Royal Fern	Osrunda regalis
Whisk Fern	Psilotum nudum

TABLE 3
DATA REQUIREMENTS
Wildlife

Scientific Name	Common Name	Residency*
<u>Birds</u>		
<i>Agelaius phoeniceus</i>	Red Wing Blackbird	P
<i>Bubulcus ibis</i>	Cattle Egret	P
<i>Cardinalis cardinalis</i>	Cardinal	P
<i>Chardrius vociferus</i>	Killdeer	S
<i>Chordeiles minor</i>	Common Nighthawk	S
<i>Columba livia</i>	Rock Dove	P
<i>Columbina passerina</i>	Ground Dove	P
<i>Cyanocitta cristata</i>	Blue Jay	P
<i>Dendrocica coronata</i>	Yellow-rumped Warbler	S
<i>Dendroica palmarum</i>	Palm Warbler	S
<i>Dendroica striata</i>	Black Poll Warbler	S
<i>Dolichonyx oryzivorus</i>	Bobolink	S
<i>Falco sparverius</i>	American Kestrel	S
<i>Geothlypis trichas</i>	Yellowthroat	P
<i>FERundo rustica</i>	Barnswallow	P
<i>Lams delawarensis</i>	Ring Billed Gull	S
<i>Melanerpes carolinus</i>	Red-Bellied Woodpecker	P
<i>rvfumus polyglottos</i>	Mockingbird	P
<i>Progne subis</i>	Purple Martin	S
<i>Quiscalus major</i>	Boat-Tailed Grackle	P
<i>Quiscalus quiscula</i>	Common Grackle	P
<i>Turdus migatorius</i>	American Robin	S
<i>Tyto alba</i>	Barn Owl	S
<i>Zenaida rnarcroua</i>	Mourning Dove	P
<u>Mammals</u>		
<i>Didelphis marsupilais</i>	Opposum	P
<i>Mus musculus</i>	House Mouse	P
<i>Trichechus manatus</i>	West Indian Manatee	S
<u>Reptiles</u>		
<i>Anolis carolinensis</i>	Carolina Anole	P
<i>Anolis sagrei</i>	Key West Anole	P

Diadophis punctatus punctatus Southern Ringneck Snake P
Eumeces fasciatus Five-Line Skunk
Sphaerodactylus notatus Reef Gecko

Amphibians

Bufo marinas Giant Toad P
Eleutherodactylus ricordi Greenhouse Frog

*P = Penttanent
S = Seasonal

No plants or animals on this list are on the list of Rare and Endangered Species in any category.