UNIVERSITY OF FLORIDA
EXTENSION
Institute of Food and Agricultural Sciences

CNR-4

Biodiversity[1]

Center for Natural Resources[2]

Biodiversity or biological diversity is a relatively new term in ecology. It became popular in the 1980s and is not yet properly understood by all non-ecologists. Biodiversity refers to the variety and richness among living organisms and the ecological systems and processes of which they are a part. There are three levels of biodiversity: habitat or ecosystem diversity, genetic diversity, and species diversity.

Habitat Diversity

Habitat diversity is the variety of places where life exists -- coral reefs, freshwater springs, swamps, old-growth forests, and coastal wetlands are just a few. Each broad type of habitat is the home for numerous species (Figure 1), most of which are dependent on components of that habitat.

The Nature Conservancy's (TNC) Strategic Plan (1996-2000) has identified the following 10 priority conservation areas in Florida:

- Panhandle Longleaf Pine
- Apalachicola River Basin

Figure 1. Typical Florida swamp habitat

- Red Hills
- St. Mary's River Pinhook Swamp
- Kissimmee Valley
- Lake Wales Ridge
- Indian River Lagoon
- Southwest Rivers and Flatwoods
- Everglades
- Florida Keys

1. This publication was produced by the Center for Natural Resources at the University of Florida. CNR 4 is part of a Program Summary Series. First published: September 2000. Minor revision: March 2003. 1051 McCarty Hall D. Post Office Box 110230. Tel: (352) 392-7622 Fax: (352) 846-2856 Email: cnr_mail@mail.ifas.ufl.edu Web: **http://cnr.ifas.ufl.edu/**

2. This fact sheet was written by The Center for Natural Resources (CNR). Established in 1973, CNR, at the University of Florida, plays a major role in the conservation, preservation and restoration of our nation's natural resources by facilitating interdisciplinary collaborations between UF faculty and external stakeholders.

Nancy Peterson, Coordinator.

Genetic Diversity

Genetic diversity is the abundance and variation of genes in a species population. A population is a group of individuals belonging to the same species living in the same place. This diversity of genes causes a variety of characteristics among individuals (e.g. long-beaked vs. short-beaked birds) which will help some individuals survive and pass their genes on to future generations better than others.

Species Diversity

Species diversity is the number of different types of plants and animals, and it is what most people mean when they talk about biodiversity. This diversity is necessary to maintain stable food webs and other biological processes

There are about 1.5 million named species on earth, but the total number is probably between 5 and 15 million. The number of species in Florida (3,500 native vascular plants and 1,500 vertebrates) is higher than all but three other states. Florida also has many endemic species (410 invertebrates, 258 plants and vertebrates) which are not found anywhere else on Earth. Each level can be threatened by human impact, not limited to the following:

- habitat conversion loss
- hydrologic changes
- chemical contamination
- unregulated exploitation
- domestic pets
- certain industry land uses
- habitat fragmentation
- introduction of non-native species
- vehicular mortality

Many research studies and outreach educational efforts address these problems through their focus on land acquisition and management, regulation, and planning programs.

UF Units

Crocodile Specialist Group, Florida Museum of Natural History. Ph: (352) 846-2566; Web: http://www.flmnh.ufl.edu/natsci/herpetology/crocs.htm

Department of Botany. Ph: (352) 392-1175; Web: http://web.botany.ufl.edu/

Department of Entomology & Nematology. Ph: (352) 392-1901; Web: http://entnemdept.ifas.ufl.edu/entomolo.htm

Department of Fisheries & Aquatic Sciences. Ph: (352) 392-9617; Web: http://fishweb.ifas.ufl.edu/

Florida Biological Diversity Project. Ph: (352) 846-0630; Web: http://www.wec.ufl.edu/coop/GAP/Default.htm

Florida Cooperative Fish & Wildlife Research Unit. Ph: (352) 846-0626; Web: http://www.wec.ufl.edu/coop/

Governmental Responsibility Center: Levin College of Law. Ph: (352) 392-2237; Web: http://www.law.ufl.edu/college/CGR/

School of Forest Resources & Conservation. Ph: (352) 846-0850; Web: http://aris.sfrc.ufl.edu/

Sea Grant College. Ph: (352) 392-5870; Web: http://www.flseagrant.org/

Veterinary Medicine. Ph: (352) 392-4700; Web: http://www.vetmed.ufl.edu/path/path.htm

Center for Wetlands. Ph: (352) 392-2424; Web: http://www.cfw.ufl.edu/

Department of Wildlife Ecology & Conservation. Ph: (352) 846-0643; Web: http://www.wec.ufl.edu/

Department of Zoology. Ph: (352) 392-1107; Web: http://www.zoo.ufl.edu/

County Extension Service. (see phone book in county government section for local numbers.)

Other Agencies

Dept. of Agriculture & Consumer Services. Ph: (850) 488-3022; Web: http://doacs.state.fl.us/

Dept. of Environmental Protection. Ph: (850) 488-1554; Web: http://www.dep.state.fl.us/

Division of Forestry. Ph: (850) 414-9967; Web: http://doacs.state.fl.us/forestry.html

Florida Audubon Society. Ph: (407) 539-5700; Web: http://www.audubonofflorida.org/

Florida Fish & Wildlife Conservation Commission (FWCC). Ph: (850) 488-3831; Web: http://www.fcn.state.fl.us/

Florida Internet Center for Understanding Sustainability (FICUS). Web: http://www.ficus.usf.edu/

Florida Natural Areas Inventory (FNAI). Web: http://www.fnai.org/

Gopher Tortoise Council. Web: http://www.gophertortoisecouncil.org/

National Park Service, Everglades. Ph: (305) 242-7730; Web: http://www.nps.gov/ever

The Nature Conservancy: FL Chapter Ph: (407) 682-3664; Web: http://nature.org/wherewework/northamerica/states/florida/

USDA Forest Service. Ph: (850) 942-9300; Web: http://www.fs.fed.us/

Fish and Wildlife Service. Ph: (904) 232-2580; Web: http://www.fws.gov/