

FIELD GUIDE
TO THE
RARE ANIMALS
OF FLORIDA



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Foreword

How sad it will be if modern society races forward leaving a legacy of extinction for many of our fellow species. Development in much of Florida has reached the point where extraordinary measures are often necessary to prevent the demise of natural habitats and associated species. Despite the protection legislated on both Federal and State levels, the chance of a sustainable future for many species in Florida looks very dim.

Over the years it has become clear that local growth management planning, of which transportation is a part, needs to put a higher priority on environmental factors in order to maintain our quality of life. Local growth planning needs not only to consider the human needs but also the environmental needs of the area. This field guide will assist in the identification of important animal species needing protection in the local and state planning processes.

This guide is dedicated to those people, inside and outside of the Florida Department of Transportation, who on a daily basis help improve our transportation system. They may have influenced small changes, or they may have caused significant changes, but added together they have benefited the State of Florida. I will not try to name individuals, for the list would fill this guide, but they know who they are, and we all owe them a great deal. Because of their efforts, the Florida Department of Transportation has become an environmental leader among the transportation departments in this country. However, we know that there will always be room for improvement.

The Florida Department of Transportation has partnered with the Florida Natural Areas Inventory for a number of years by using FNAI's databases during project planning and development. This partnership has culminated in this effort to distribute more widely the valuable information that FNAI has gathered over the years. The first part of the effort is support for the field guides to the rare plants and animals of Florida. The guides will aid in the identification of rare species in the field. The second part of the effort is the development of a website containing a Geographic Information System addressing these species. My hope is that these guides and the website will be of help to those working toward the conservation of Florida's extraordinary biological diversity.

Gary L. Evink
State Ecologist
Florida Department of Transportation



Acknowledgments

The *Field Guide to the Rare Animals of Florida* evolved through the efforts of Gary Knight, Director, Florida Natural Areas Inventory (FNAI), and Gary Evink, State Ecologist, Florida Department of Transportation (FDOT). It is a companion volume to the *Field Guide to the Rare Plants of Florida* (Chafin, 2000). The commitment of Gary Evink to these guides led to their funding by the FDOT. FNAI is deeply grateful to Gary for his interest and commitment to these guides. We also thank Pete Southall of the FDOT for his efficient administration of the project.

This *Guide* draws heavily upon the works of hundreds of authors and researchers who have spent countless hours collecting and compiling information about Florida's fauna. One group merits special attention. The dozens of scientists who comprise the Florida Committee on Rare and Endangered Plants and Animals have published unrivaled compendia on the statuses of Florida's rare animals (see reference section for volumes edited by Deyrup and Franz 1994, Gilbert 1992, Humphrey 1992, Moler 1992, and Rodgers et al. 1996). Without these incredibly detailed accounts, our work would have been far more difficult. We hope that the public will use our guide as a companion to these volumes.

For greatly enhancing the guide through their input and careful reviews, we are grateful to Kurt Auffenberg, Gray Bass, Pam Bowen, Jayne Brim Box, Steven P. Christman, Jim Cox, Mark Deyrup, Terry Doonan, Michael Ewert, Laura S. Finn, R. Wills Flowers, Dick Franz, Carter Gilbert, Jeff Gore, Ted Hoehn, C. Barry Knisley, D. Bruce Means, Anne Meylan, Paul Moler, Bill Pranty, Gary Sprandel, James D. Williams, and Blair Witherington.

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Introduction

Florida supports an extraordinary diversity of animals. With roughly 900 species of freshwater and land vertebrates, and an even larger number of invertebrates and marine species, Florida is among the most biologically rich states in the U.S. Centuries of changes wrought upon the Florida landscape by humans, however, have placed many of these animals, including some that occur nowhere else, in dire jeopardy. Consequently, 111 species of corals, mollusks, crustaceans, insects, fishes, amphibians, reptiles, birds, and mammals have been formally recognized by the state and federal governments as of critical conservation concern (Endangered, Threatened, or Species of Special Concern). Still other species face equal or greater threats to their survival but remain unrepresented on legal lists.

The Florida Natural Areas Inventory (FNAI), collects, interprets, and disseminates ecological information critical to the conservation of Florida's biological diversity. As part of this effort, FNAI maintains detailed geographic and literature databases documenting the status of hundreds of species of rare animals. This field guide assimilates these data and other sources to make available to the public a simple means of identifying Florida's rare species and understanding their conservation needs.

Although field guides exist for several taxonomic groups (e.g., reptiles, birds, mammals) of Florida's fauna, no single volume addresses all major groups. The *Field Guide to the Rare Animals of Florida* provides identifying characteristics, distribution, habitat, and conservation information for Florida's rare animals in a single, field-oriented volume. We hope that the *Guide* will be useful to field biologists, land managers, environmental decision-makers, educators, land owners, and others concerned with Florida's imperiled natural resources.

We request that those using this *Guide* contact FNAI with corrections and new occurrences so that such information can be incorporated into future editions as well as FNAI's statewide database.

Using the Field Guide

The *Field Guide to the Rare Animals of Florida* is designed to be used in the field and can be customized by each user. The three-ring binder and unnumbered pages allow users to arrange the species accounts in any way that is convenient — e.g., by common or scientific name or by county, water management district, or any other regional unit. This format will also facilitate future updates and additions. The *Guide* features more than 150 rare animals, including 47 federally listed taxa, 102 state-listed taxa, and more than 40 additional rare species, subspecies, or populations.

Explanation of Species Accounts

Common and scientific names are provided at the top of each page. They are derived from various sources but generally represent the current consensus of the scientific community. Alternative scientific names are given for animals for which a different name is used by state or federal agencies, or where pertinent literature uses a different name.

Order and family represent two commonly used higher categories of classification for grouping similar species.

A **Florida distribution map** accompanying each account allows the user to determine whether a species potentially occurs in a particular area. The **habitat** description, coupled with further information in the selected references, should help the reader to decide whether a specific site might support a given species. We have not attempted to depict known localities or exact ranges for species, but instead opted to use counties as the basic unit of occurrence. To clarify the distribution of species inhabiting the Florida Keys, Monroe County was subdivided into mainland, Upper/Middle Keys, Lower Keys, islands west of Key West including the Marquesas Keys, and Dry Tortugas. Most counties indicated on maps are supported by confirmed specimens and observations. Some, however, are included based on probability of occurrence given the known range and habitat preferences of the animal. For sea turtles and birds, maps also highlight those counties where nesting may occur.

FNAI ranks indicate the global (G) and state (S) rarity of a species:

- 1: critically imperiled, or less than six occurrences
- 2: imperiled, or six to 20 occurrences
- 3: rare, restricted, or otherwise vulnerable to extinction
- 4: apparently secure
- 5: demonstrably secure

For example, a species with a rank of G5/S1 is globally secure but critically imperiled within Florida. A global rank with a “T” followed by a number indicates a subspecies or special population. Ranks are periodically updated as new information becomes available. For more information about the ranking system, contact the Florida Natural Areas Inventory at (850) 224-8207 or visit our website (www.fnai.org/ranks.htm).

Federal (U.S.) and state (FL) statuses indicate a species’ formal legal listing as Endangered, Threatened, or Species of Special Concern. Any given status is subject to change. For definitions of the categories and their regulatory implications, contact the following agencies:

U.S. Fish and Wildlife Service, 6620 Southpoint Drive South, Suite
310, Jacksonville, FL 32216; (904) 232-2580

National Marine Fisheries Service, 3500 Delwood Beach Road,
Panama City, FL 32408; (850) 234-5061

Florida Fish and Wildlife Conservation Commission, 620 South
Meridian Street, Tallahassee, FL 32399-1600; (850) 488-6661

Color photographs (or drawings) are provided for each rare animal. In most cases, the photographs are of Florida specimens. Drawings were used to augment the photographs for some of the accounts and were used as a substitute when no photographs were available.

Descriptions are written with a minimum of technical language to make them easy to use by people from a wide range of backgrounds. A series of diagnostic characteristics is listed in order of their importance. Measurements are provided in English and metric units. A **glossary** of technical terms is provided at the end of the *Guide*.

Similar species are listed along with characteristics that distinguish each from the featured rare species. In most cases, these are limited to species that inhabit the same geographic area.

Habitat describes the vegetative or natural community types in which a species is likely to be observed. Simplified community names are used for ease of understanding by a wide audience. Scientific names are given for those plants that are key elements of the rare animal's habitat. Readers interested in technical names and detailed community descriptions are referred to the *Guide to the Natural Communities of Florida* (FNAI 1990) and *Ecosystems of Florida* (Myers and Ewel [eds.] 1990).

Seasonal occurrence describes periods of presence or activity as well as life-cycle information.

Florida distribution describes the species' general range in Florida, not just documented localities (see also **Florida distribution map** above).

Range-wide distribution summarizes the species' geographic occurrence throughout its entire range.

Conservation status offers information about the relative degree of protection the species has on current conservation lands, as well as threats to or status of the Florida population.

Protection and management recommendations summarize the actions needed to protect the species in Florida.

Selected references are the sources used in preparing the species account or that provide the reader with more extensive information. Complete citations are provided in the **references** section.

Geographic Searches

Electronic versions of this *Guide* and the *Field Guide to the Rare Plants of Florida* are available at our website (www.fnai.org), which will allow queries by county, FNAI rank, or listing status.

Further Resources

The rare animals included in this guide comprise only a small percentage of Florida's diverse fauna. Many other resources are available to assist the reader in identifying most of Florida's remaining, and generally more abundant, animals. We especially recommend the following, complete citations for which are provided in the reference section.

Dragonflies: Dunkle (1989, 2000)

Butterflies and Moths: Glassberg et al. (2000), Minno and Pierce (1999)

Fishes: Gilbert (ed.) (1992), Mettee et al. (1996), Page and Burr (1998), Walls (1976)

Amphibians and Reptiles: Ashton and Ashton (1988a, 1988b, 1991), Bartlett and Bartlett (1999), Conant and Collins (1991), Ernst et al. (1994), Moler (ed.) (1992), Petranka (1998), and Tenant (1997)

Birds: Dunn (1999), Peterson (1998), Pranty (1996), Robbins et al. (2001), Sibley (2000)

Mammals: Brown (1997), Humphrey (ed.) (1992), Whitaker (1996)

In addition to these books, the Internet/World Wide Web contains hundreds of useful sites, including many on-line field guides to groups of species for various geographic regions. Here are a few examples.

Endangered Species Program, U.S. Fish and Wildlife Service
<http://endangered.fws.gov/>

National Biological Information Infrastructure, U.S. Geological Survey
<http://biology.usgs.gov/>

eNature Online Field Guides
http://www.enature.com/guides/select_group.asp

Online Guide to the Snakes of Florida
<http://www.flmnh.ufl.edu/natsci/herpetology/FL-GUIDE/onlineguide.htm>

Patuxent Bird Identification InfoCenter, U.S. Geological Survey
<http://www.mbr-pwrc.usgs.gov/Infocenter/infocenter.html>

List of Species

Common Name

Scientific Name

Corals

pillar coral

Dendrogyra cylindrus

Mussels

fat threeridge

Amblema neislerii

Apalachicola floater

Anodonta heardi

Chipola slabshell

Elliptio chipolaensis

purple bankclimber

Elliptoideus sloatianus

shiny-rayed pocketbook

Lampsilis subangulata

Gulf moccasinshell

Medionidus penicillatus

Ochlockonee moccasinshell

Medionidus simpsonianus

oval pigtoe

Pleurobema pyriforme

Snails

Florida tree snails

Liguus fasciatus

matecumbensis,

L. f. septentrionalis

Stock Island tree snail

Orthalicus reses reses

Crayfish and Shrimp

fire-back crayfish

Cambarus pyronotus

Panama City crayfish

Procambarus econfinae

Santa Fe cave crayfish

Procambarus erythropus

Black Creek crayfish

Procambarus pictus

Squirrel Chimney cave shrimp

Palaemonetes cummingsi

Mayflies

rare mayflies

multiple species

Dragonflies

diminutive clubtail

Gomphus westfalli

Say's spiketail

Cordulegaster sayi

Beetles

Highlands tiger beetle

Cicindela highlandensis

Butterflies

Schaus swallowtail

Heraclides artistodemus

ponceanus

Fish

Gulf sturgeon

Acipenser oxyrinchus desotoi

shortnose sturgeon

Acipenser brevirostrum

key blenny

Starksia starcki

Fish (cont.)

Lake Eustis pupfish	<i>Cyprinodon variegatus hubbsi</i>
blackmouth shiner	<i>Notropis melanostomus</i>
bluenose shiner	<i>Pteronotropis welaka</i>
saltmarsh topminnow	<i>Fundulus jenkinsi</i>
key silverside	<i>Menidia conchorum</i>
shoal bass	<i>Micropterus cataractae</i>
Suwannee bass	<i>Micropterus notius</i>
crystal darter	<i>Crystallaria asprella</i>
harlequin darter	<i>Etheostoma histrio</i>
Okaloosa darter	<i>Etheostoma okaloosae</i>
tessellated darter	<i>Etheostoma olmstedii</i>

Amphibians

Salamanders

striped newt	<i>Notophthalmus perstriatus</i>
flatwoods salamander	<i>Ambystoma cingulatum</i>
tiger salamander	<i>Ambystoma tigrinum</i>
Apalachicola dusky salamander	<i>Desmognathus apalachicola</i>
southern dusky salamander	<i>Desmognathus auriculatus</i>
seal salamander	<i>Desmognathus monticola</i>
four-toed salamander	<i>Hemidactylium scutatum</i>
many-lined salamander	<i>Stereochilus marginatus</i>
Georgia blind salamander	<i>Haideotriton wallacei</i>

Frogs

gopher frog	<i>Rana capito</i>
Florida bog frog	<i>Rana okaloosae</i>
carpenter frog	<i>Rana virgatipes</i>
pine barrens treefrog	<i>Hyla andersonii</i>

Reptiles

Crocodylians

American alligator	<i>Alligator mississippiensis</i>
American crocodile	<i>Crocodylus acutus</i>

Turtles

loggerhead	<i>Caretta caretta</i>
green turtle	<i>Chelonia mydas</i>
hawksbill	<i>Eretmochelys imbricata</i>
Kemp's ridley	<i>Lepidochelys kempii</i>
leatherback	<i>Dermochelys coriacea</i>
spotted turtle	<i>Clemmys guttata</i>
Barbour's map turtle	<i>Graptemys barbouri</i>
Escambia map turtle	<i>Graptemys ernsti</i>
diamondback terrapin	<i>Malaclemys terrapin</i>

Turtles (cont.)

Suwannee cooter

gopher tortoise
 alligator snapping turtle
 striped mud turtle (Lower Keys)
 Gulf Coast smooth softshell

Lizards

Florida Keys mole skink
 blue-tailed mole skink
 sand skink
 Florida scrub lizard

Snakes

eastern indigo snake
 Florida pine snake

 short-tailed snake
 southern hognose snake
 Atlantic salt marsh snake
 peninsula ribbon snake (Lower Keys)
 Florida brown snake (Lower Keys)
 red rat snake (Lower Keys)
 key ringneck snake
 rim rock crowned snake
 southern copperhead
 eastern diamondback rattlesnake
 timber rattlesnake

Pseudemys concinna
suwanniensis
Gopherus polyphemus
Macroclemys temminckii
Kinosternon baurii
Apalone mutica calvata

Eumeces egregius egregius
Eumeces egregius lividus
Neoseps reynoldsi
Sceloporus woodi

Drymarchon corais couperi
Pituophis melanoleucus
mugitus
Stilosoma extenuatum
Heterodon simus
Nerodia clarkii taeniata
Thamnophis sauritus sackenii
Storeria dekayi victa
Elaphe guttata guttata
Diadophis punctatus acricus
Tantilla oolitica
Agkistrodon contortrix contortrix
Crotalus adamanteus
Crotalus horridus

Birds**Pelicans**

brown pelican

Wading Birds

snowy egret
 little blue heron
 tricolored heron
 reddish egret
 white ibis
 roseate spoonbill
 wood stork

Birds of Prey

osprey
 swallow-tailed kite
 snail kite

bald eagle
 short-tailed hawk

Pelecanus occidentalis

Egretta thula
Egretta caerulea
Egretta tricolor
Egretta rufescens
Eudocimus albus
Ajaia ajaja
Mycteria americana

Pandion haliaetus
Elanoides forficatus
Rostrhamus sociabilis
plumbeus
Haliaeetus leucocephalus
Buteo brachyurus

Birds of Prey (cont.)

crested caracara

southeastern American kestrel

Cranes and Limpkin

limpkin

Florida sandhill crane

Shorebirds, Terns and Skimmers

piping plover

snowy plover

Wilson's plover

American oystercatcher

royal tern

sandwich tern

roseate tern

least tern

black skimmer

Pigeons

white-crowned pigeon

Cuckoos

mangrove cuckoo

Owls

Florida burrowing owl

Woodpeckers

red-cockaded woodpecker

Jays

Florida scrub-jay

Wrens

Marian's marsh wren

Worthington's marsh wren

Sparrows

Florida grasshopper sparrow

Cape Sable seaside sparrow

Louisiana seaside sparrow

MacGillivray's seaside sparrow

Scott's seaside sparrow

*Caracara cheriway**Falco sparverius paulus**Aramus guarauna**Grus canadensis pratensis**Charadrius melodus**Charadrius alexandrinus**Charadrius wilsonia**Haematopus palliatus**Sterna maxima**Sterna sandvicensis**Sterna dougallii**Sterna antillarum**Rynchops niger**Columba leucocephala**Coccyzus minor**Athene cunicularia floridana**Picoides borealis**Aphelocoma coerulescens**Cistothorus palustris**marianae**Cistothorus palustris griseus**Ammodramus savannarum**floridanus**Ammodramus maritimus**mirabilis**Ammodramus maritimus fisheri**Ammodramus maritimus**macgillivraii**Ammodramus maritimus**peninsulae***Mammals****Shrews**

Sherman's short-tailed shrew

Blarina carolinensis shermani

Bats

gray bat
southeastern bat
southeastern big-eared bat
Florida mastiff bat

Rabbits

Lower Keys marsh rabbit

Rodents

eastern chipmunk
mangrove fox squirrel
Sherman's fox squirrel
Key Largo woodrat
key rice rat
Sanibel Island rice rat
Florida mouse
Anastasia beach mouse

Choctawhatchee beach mouse

Perdido Key beach mouse

Santa Rosa beach mouse

southeastern beach mouse

St. Andrews beach mouse

Key Largo cotton mouse

salt marsh vole

round-tailed muskrat

Carnivores

Florida black bear
southern mink (south Florida population)

Atlantic salt marsh mink
Gulf salt marsh mink
Florida panther

Sirenians

manatee

Deer

key deer

Myotis grisescens
Myotis austroriparius
Corynorhinus rafinesquii
Eumops glaucinus floridanus

Sylvilagus palustris hefneri

Tamias striatus
Sciurus niger avicennia
Sciurus niger shermani
Neotoma floridana smalli
Oryzomys argentatus
Oryzomys palustris sanibeli
Podomys floridanus
Peromyscus polionotus
phasma

Peromyscus polionotus
alloparys

Peromyscus polionotus
trissyllepsis

Peromyscus polionotus
leucocephalus

Peromyscus polionotus
niveiventris

Peromyscus polionotus
peninsularis

Peromyscus gossypinus
allapaticola

Microtus pennsylvanicus
dukecampbelli

Neofiber alleni

Ursus americanus floridanus

Mustela vison mink
(evergladensis)

Mustela vison lutensis

Mustela vison halilimnetes

Puma concolor coryi

Trichechus manatus

Odocoileus virginianus clavium

Florida Counties



Alachua	Franklin	Lee	Pinellas
Baker	Gadsden	Leon	Polk
Bay	Gilchrist	Levy	Putnam
Bradford	Glades	Liberty	Santa Rosa
Brevard	Gulf	Madison	Sarasota
Broward	Hamilton	Manatee	Seminole
Calhoun	Hardee	Marion	St Johns
Charlotte	Hendry	Martin	St Lucie
Citrus	Hernando	Miami-Dade	Sumter
Clay	Highlands	Monroe	Suwannee
Collier	Hillsborough	Nassau	Taylor
Columbia	Holmes	Okaloosa	Union
De Soto	Indian River	Okeechobee	Volusia
Dixie	Jackson	Orange	Wakulla
Duval	Jefferson	Osceola	Walton
Escambia	Lafayette	Palm Beach	Washington
Flagler	Lee	Pasco	