



# Regional Envirothon: Wildlife

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# Background

- **Envirothon Wildlife Resource Specialist**
  - 1998 to present
  - Recently, Our Region was “on Break”
- **Wildlife Biologist**
  - Environmental Education
  - Eco-Tours & Field Studies
  - UF/IFAS Florida Master Naturalist Instructor



# Wildlife Station

- Rotate Student Teams around Tables
- Multiple Assistants to Answer Questions
- Some Items Fragile; Others can Handle
- Test Overview
  - Props
  - Calls
  - Scat, Tracks, Signs
  - Conceptual Application



# Overall Comments

- **Spelling Matters**
- **Common Names & Terminology Must Be Complete**
  - “deer” & “white-tail deer” not accepted
  - “white-tailed deer” is correct
- **Scientific Names not Tested**
  - Understand Concept of Taxonomy
- **Vocabulary**
  - Fill in the Blank, Multiple Choice, Applying Terminology, & Understanding Concepts

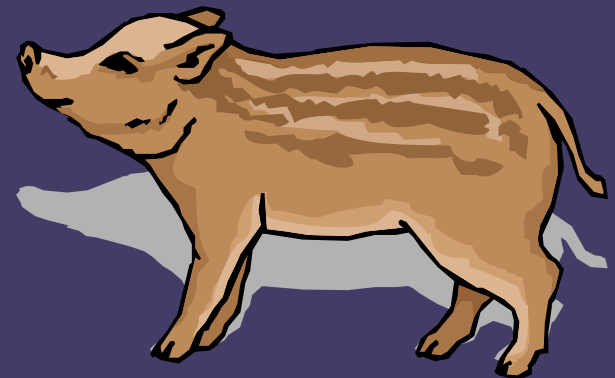
# I. FL Envirothon Study Packet: Wildlife Section

- **Introduction**
- **Wildlife Biology**
- **Management and Research**
  - Management Techniques
  - Research Techniques



# FL Envirothon Study Packet: Wildlife Section

- **Natural Histories**
  - Sign
  - Many Species from American Alligator to Wild Hog



# **FL Envirothon Study Packet: Wildlife Section (cont.)**

- **Diseases**
  - Canine Distemper, Lyme Disease, Rabies
- **Human Causes and Effects**
- **Regulatory Protection of Environment**
- **References**
- **Glossary**
  - Definition of “Extirpation” Not Initially Provided

# II. Additional Regional Wildlife Glossary



- **National Envirothon's Wildlife Glossary (abbreviated) + Regional Glossary**
- **Know all Vocabulary Words**
  - How Apply to Florida Wildlife
- **Written Definitions will Not be Required**
  - Other Methods of Testing...Yes!



# III. Wildlife & Their Signs

- **“Florida Tracks, Scats & Signs”  
Laminated ID Guide**
  - Funding for Complimentary Guide Tentative
- **Know the following:**
  - Common gaits
    - Diagonal Walker, Bounder, Pacer, etc.
  - Track patterns
    - Direct Register, Indirect Register)
  - How to Measure Tracks, Strides, Straddle



# Wildlife & Their Signs (cont.)



- Black bear, Raccoon, Opossum
- Florida panther, Bobcat, River Otter
- White-tailed deer, Armadillo
- Coyote, Gray Fox, Eastern Cottontail
- Bats, Eastern Mole, Pocket Gopher
- Eastern Gray Squirrel, Wild Hog
- American Alligator, Gopher Tortoise
- Woodpeckers, Osprey, Owls, Wild Hog



# **Wildlife & Their Signs (cont.)**

- **Tracks**
- **Scats**
- **Other Wildlife Signs**
  - Denning, browsing, burrows, holes, etc.

**Additional Resource (FYI only): <http://www.bear-tracker.com/>**

# IV. National Envirothon

## Materials for Regional

[http://flenvirothon.com/Studyguides/enviro\\_wildlife.pdf](http://flenvirothon.com/Studyguides/enviro_wildlife.pdf)

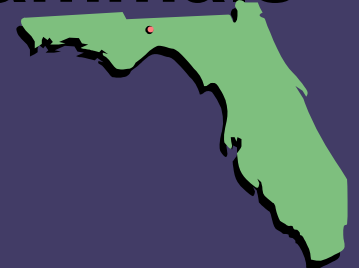
- **“Outdoor Action Guide to Animal Tracking”**
  - <http://www.princeton.edu/~oa/nature/tracking.pdf>
- **Know the Following:**
  - Common gaits
    - Diagonal walker, bounder, pacer, etc.
    - Track patterns
  - How to measure tracks, strides, straddle
  - Tracks, Scats & Other wildlife signs
    - Denning, browsing, burrows, holes, etc.

# National Envirothon Materials for Regional (cont.)

[http://flenvirothon.com/Studyguides/enviro\\_wildlife.pdf](http://flenvirothon.com/Studyguides/enviro_wildlife.pdf)

- **Smithsonian National Museum of Natural History: N. A. Mammals**
  - Website Provided (<http://www.mnh.si.edu/mna/main.cfm>)
  - “Map Search” Web Pages are More Specific
- **Map Search: North American Mammals**
  - Wildlife Natural History
  - See Focal Species List (next slide)

[http://www.mnh.si.edu/mna/image\\_menu.cfm](http://www.mnh.si.edu/mna/image_menu.cfm)



# National Envirothon Materials for Regional (cont.)

[http://flenviron.com/Studyguides/enviro\\_wildlife.pdf](http://flenviron.com/Studyguides/enviro_wildlife.pdf)

## Focal Species

- Raccoon, Opossum, Bobcat
- White-tailed Deer, River Otter, Armadillo
- Eastern Mole, Coyote, Gray Fox
- Bats
  - Brazilian Free-tailed, Evening, Big Brown
  - Eastern Pipistrelle, Northern Yellow, Seminole
- E. Gray & E. Fox Squirrels, E. Cottontail

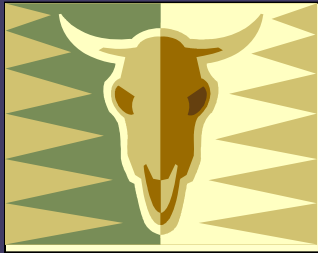




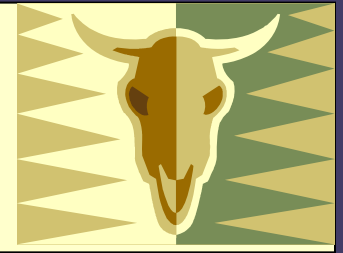
# V. Skulls



- **Skulls Vary with Species**
- **Useful Tool for Identification Purposes**
- **Identify Skulls by Common Name**
- **Use of Dichotomous Key**
- **Apply Skull Adaptations to Wildlife Natural History**
- **Websites Provided**
  - Skull Information & Photos of Focal Species
  - Dichotomous Key



# Skulls (cont.)



## Focal Species:

- Black Bear, Opossum, River Otter
- Puma (aka Mountain Lion, Panther)
- Bobcat, White-tailed Deer, Gray Fox
- Eastern Cottontail, Eastern Gray Squirrel
- Wild Hog, Armadillo

# VI. Teeth / Dentition

- **Wildlife Teeth Vary**
- **Useful Tool for Identification Purposes**
- **Apply Dentition Formulas to Skulls and Skulls to Dentition Formulas**
- **Website Provided**



National Envirothon Resource (FYI only) h  
[http://www.mnh.si.edu/mna/image\\_menu.cfm](http://www.mnh.si.edu/mna/image_menu.cfm)

# VII. Additional Publications

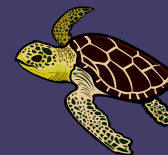
- Threats to Florida's Biodiversity
- Living with Alligators
- Endangered Species Value: Importance of Conserving Biological Diversity
- Laws Protecting Florida's Wildlife
- Amphibians Indicate Ecological Restoration Success
- Nonnative Reptiles of S. Florida ID Guide
- Impacts of Free-ranging Pets on Wildlife



# VIII. Sea Turtles

<http://myfwc.com/research/wildlife/sea-turtles/fl-sea-turtles/species/>

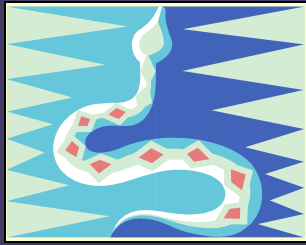
- **Leatherback**
- **Green**
- **Loggerhead**
- **Hawksbill**
- **Kemp's Ridley**



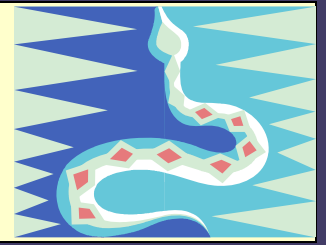
# IX. Florida Bats

- **Florida Bat Conservancy**
  - <http://www.floridabats.org/>
- **Know Bat Facts & Habitats**
- **Bats of Florida—Focal Species:**
  - Brazilian free-tailed, Evening, Florida bonneted, Seminole, Northern yellow, Big brown, Tri-colored (formerly Eastern Pipistrelle)





# X. Snakes



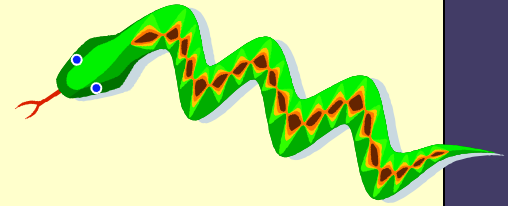
## Difference b/w Venomous & Nonven.

- <http://www.flmnh.ufl.edu/herpetology/fl-guide/fl-snakelist.htm>

## Venomous Snakes

- Know & ID Florida's 6 Venomous Snakes
  - Southern Copperhead
  - Cottonmouth
  - Eastern Diamondback Rattlesnake
  - Timber Rattlesnake
  - Dusky Pigmy Rattlesnake
  - Eastern Coral Snake

# Snakes (cont.)



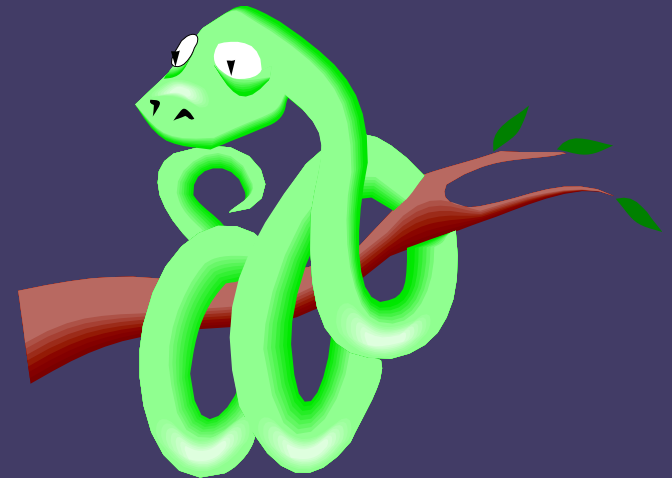
## Non-venomous Snakes

Know & ID 12 Focal Nonvenomous Snakes

- Southern ringneck snake
- Peninsula ribbon snake
- Eastern hognose snake
- Rough green snake
- Southern black racer
  - adult & juvenile color patterns / behaviors)

# Snakes (cont.)

- Eastern corn snake (formerly Red rat snake)
- Eastern rat snake (formerly Yellow rat snake)
- Florida banded snake
- Eastern garter snake
- Brahminy blind snake
- Eastern indigo snake
- Eastern coachwhip snake



**Additional Reading: “Dealing with Snakes”**

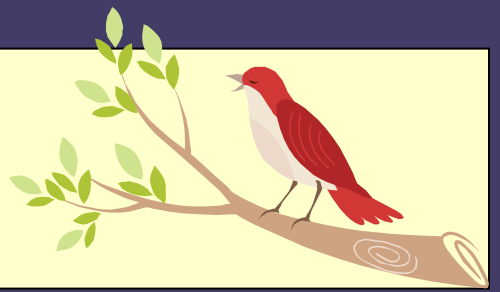
[http://ufwildlife.ifas.ufl.edu/dealing\\_with\\_snakes.shtml](http://ufwildlife.ifas.ufl.edu/dealing_with_snakes.shtml)

# XI. Bird Calls



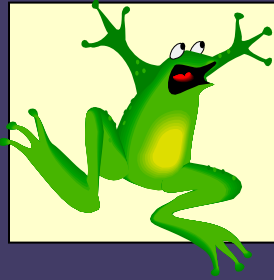
- **Recognize and Identify 16 Focal Bird Species' Calls**
- **General Bird Call Information**
  - Hints for Learning Calls Website (FYI only)
- **Cornell Ornithological Lab Website Provided for Calls**

# Bird Calls (cont.)



- American crow
- Bald eagle
- Barred owl
- Blue jay
- Boat-tailed grackle
- Catbird
- Chuck-will's-widow
- Common nighthawk
- Eastern meadowlark
- Eastern screech owl
- Fish Crow
- Great horned owl
- Northern cardinal
- Northern mockingbird
- Osprey
- Red-winged blackbird





## **XII. Frogs & Toads**

- **Identification of 15 Focal Species**
  - Including Key Characteristics
- **Know calls of Focal Species**
  - Website for Calls Provided
  - USGS for All Except Bullfrog (UF)
- **Understand Conservation or Environmental Aspects**
  - Decline, Imperiled, Invasive Exotic, etc.
  - Relate to Florida Species, Habitats & Resource Management

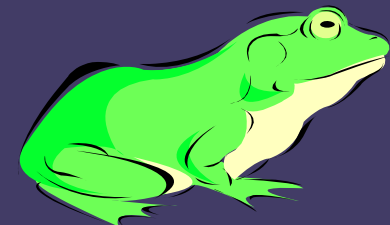
# Frogs & Toads (cont.)



- **Barking Treefrog**
- **Bullfrog**
- **Cuban Treefrog**
  - Cuban Treefrog UF Publ.
- **E. Narrowmouth Toad**
- **E. Spadefoot Toad**
- **Southern / FL Cricket Frog**
- **Florida Gopher Frog**
- **Green Treefrog**
- **Greenhouse Frog**
- **Marine/Cane/Giant Toad**
  - Marine Toads UF Publ.
- **Pig Frog**
- **Pinewoods Treefrog**
- **Southern Leopard Frog**
- **Southern Toad**
- **Squirrel Treefrog**

# Frogs & Toads (cont.)

- **Natural History Information about Focal Species**
  - Use UF Weblinks Provided
- **Additional Reading**
  - “Humane Method of Euthanizing Non-native Invasive Frogs/Toads”
  - Weblink Provided





**Questions?**