Water & Natural Resources Committee

Wednesday November 9, 2005
1:15 p.m.—3:15 p.m.
Reed Hall

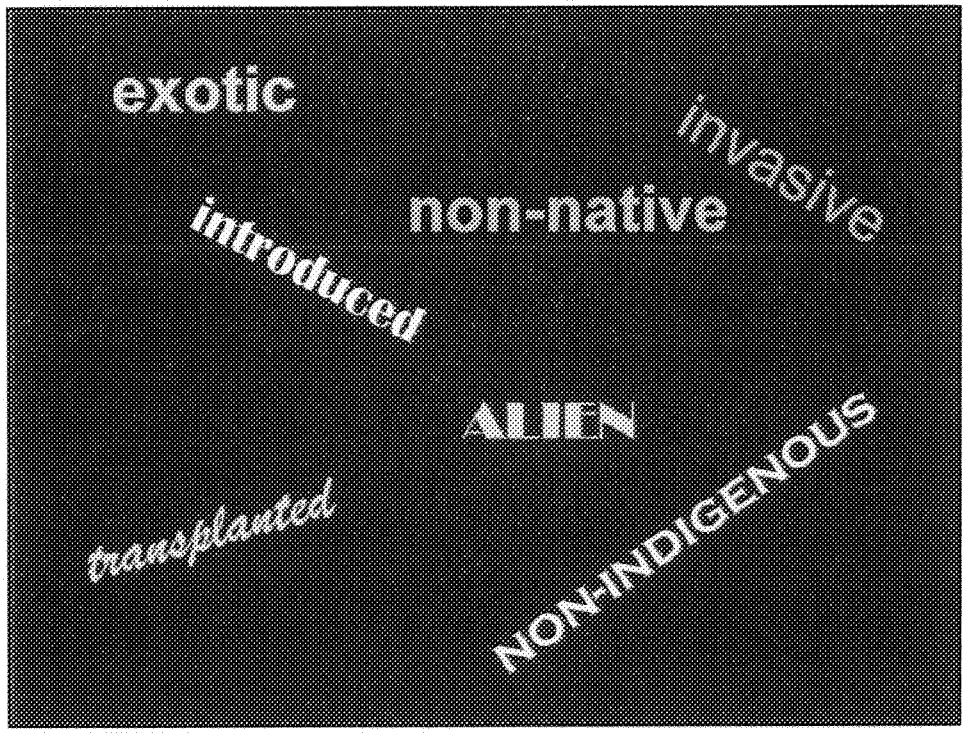
Meeting Packet

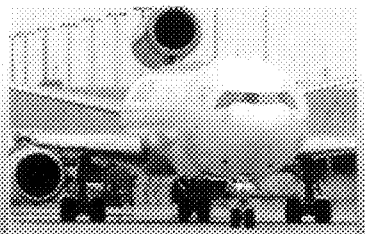
Allan G. Bense
Speaker

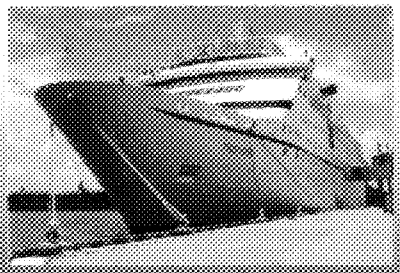
Donna Clarke
Chair

FWCC Presentation

FLORIDA'S EXOTIC SPECIES
ASIAN SWAMP EEL
1997

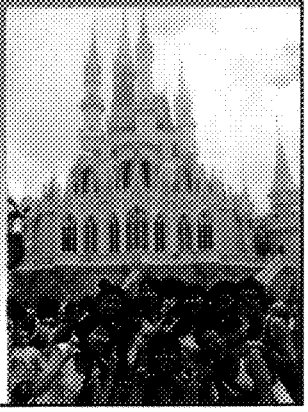

exotic
invasive
non-native
introduced
ALIEN
transplanted
NON-INDIGENOUS





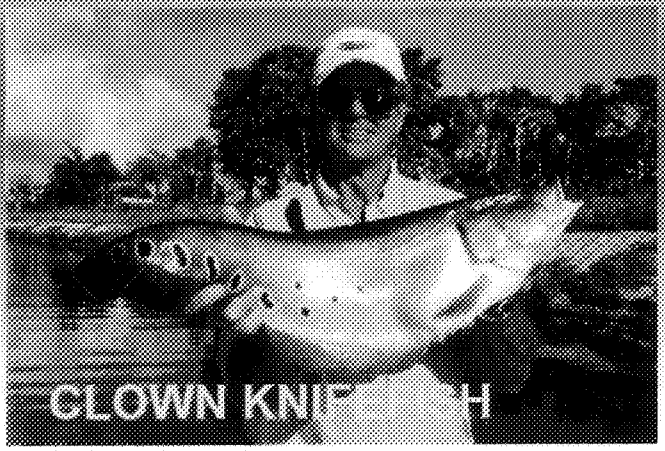
Introduced:

moved by humans



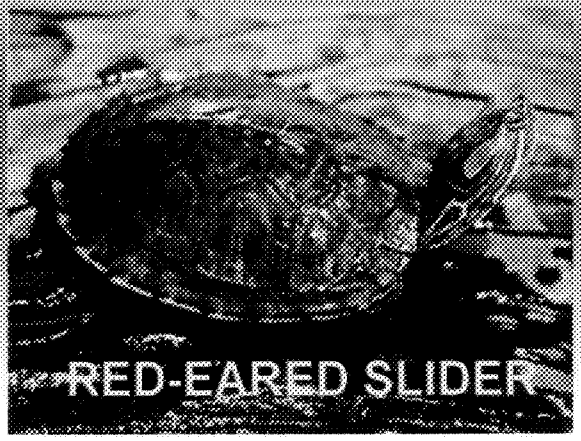
Exotic:

from another country



Transplant:

from same country



Non-Native, Nonindigenous:

from "another area"

RED FOX

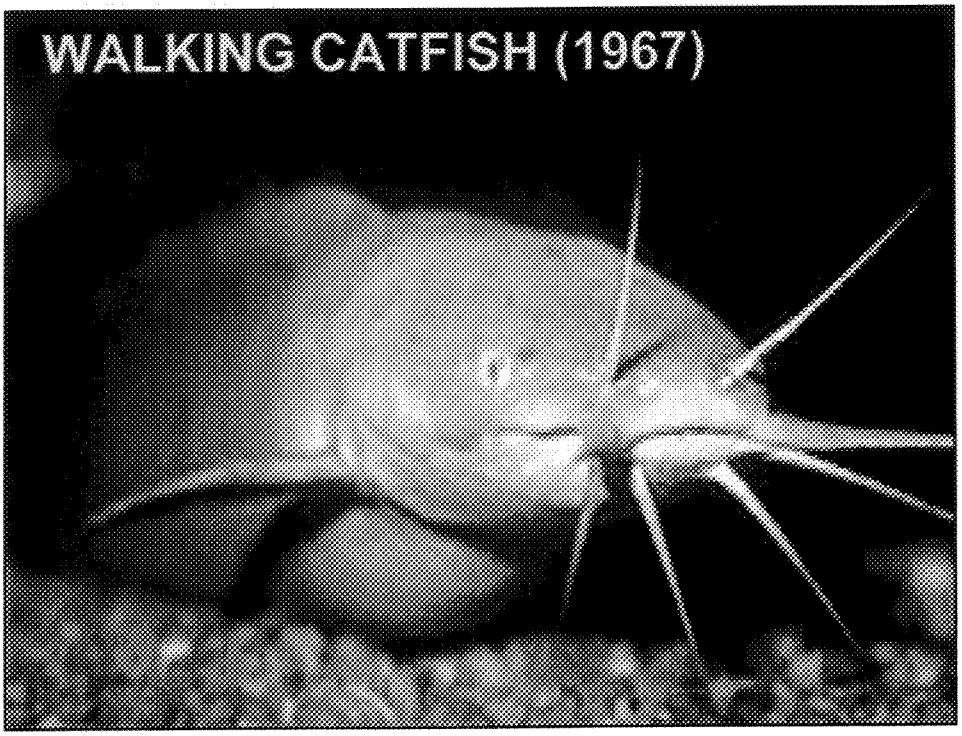
INVASIVE SPECIES

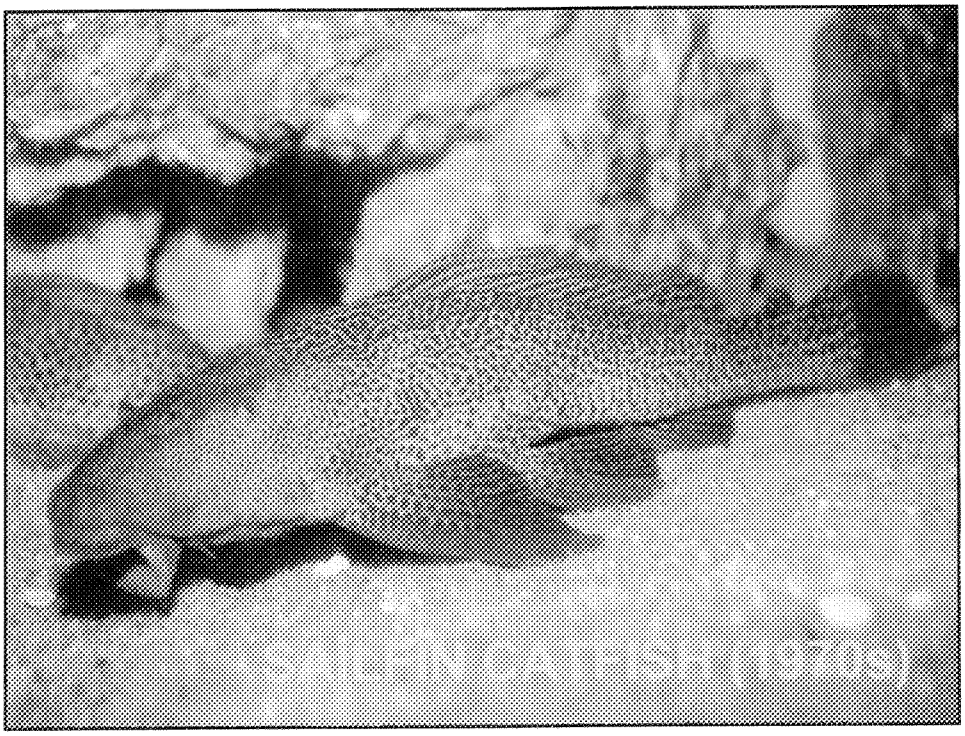
nonindigenous species with the ability to establish self-sustaining, expanding, free-living populations, and *may cause* economic or environmental harm

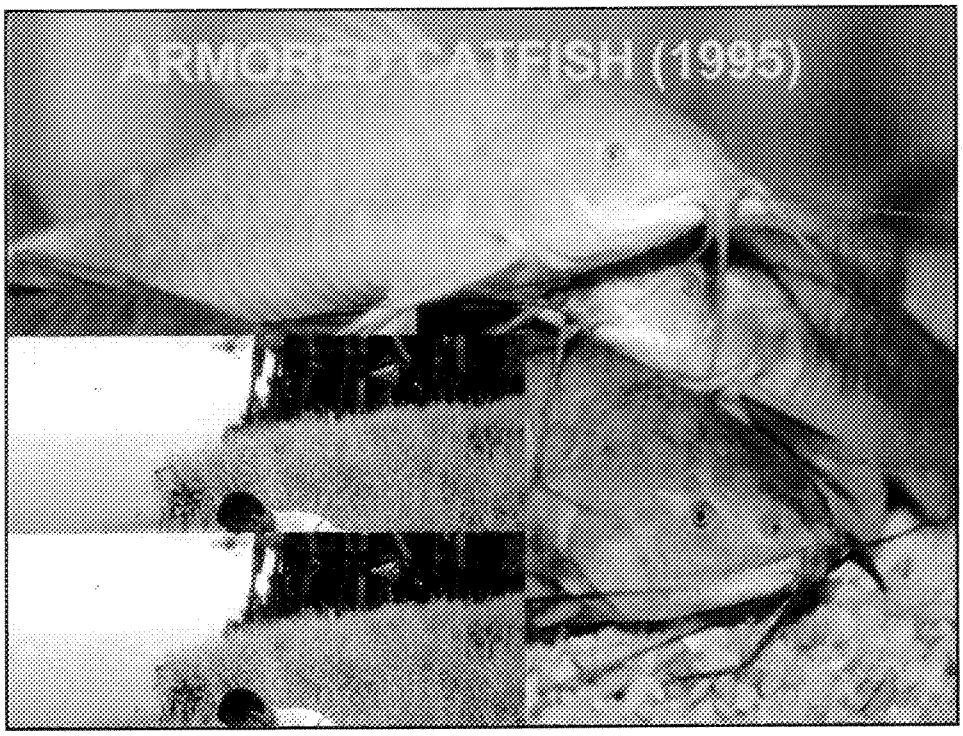
400 EXOTIC FISH, WILDL
AND MARINE SPECIES
OBSERVED
Jaguar
guapote
125 SPECIES ESTABLISHED

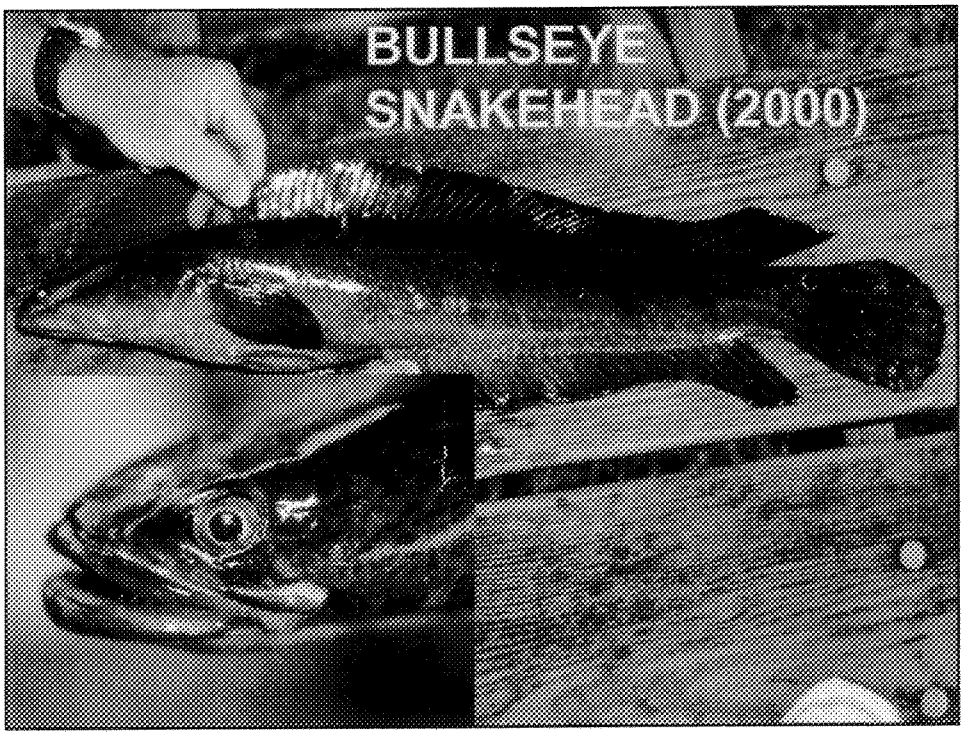
MIDAS CICHLID
(1980)
86 EXOTIC FRESHWATER FISHES
34 REPRODUCING

TILAPIA

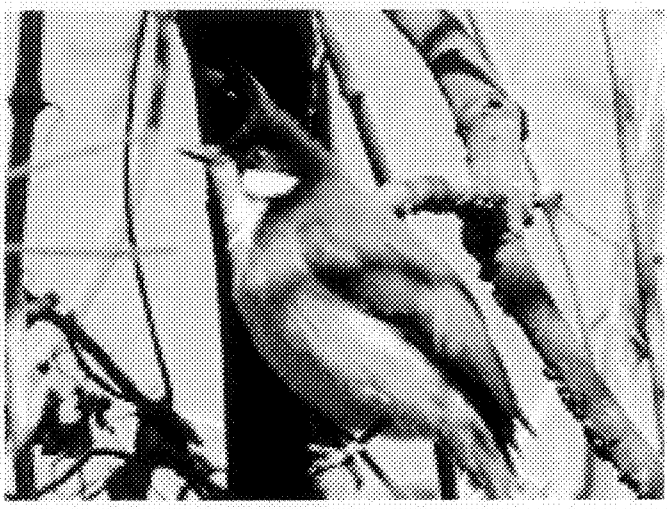

WALKING CATFISH (1967)




ARMORED CATFISH (1995)

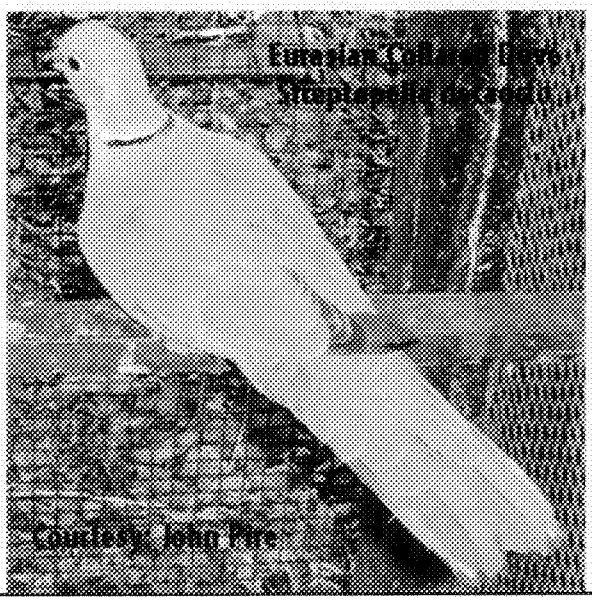

BULLSEYE
SNAKEHEAD (2000)

196 EXOTIC BIRDS OBSERVED
11 ESTABLISHED

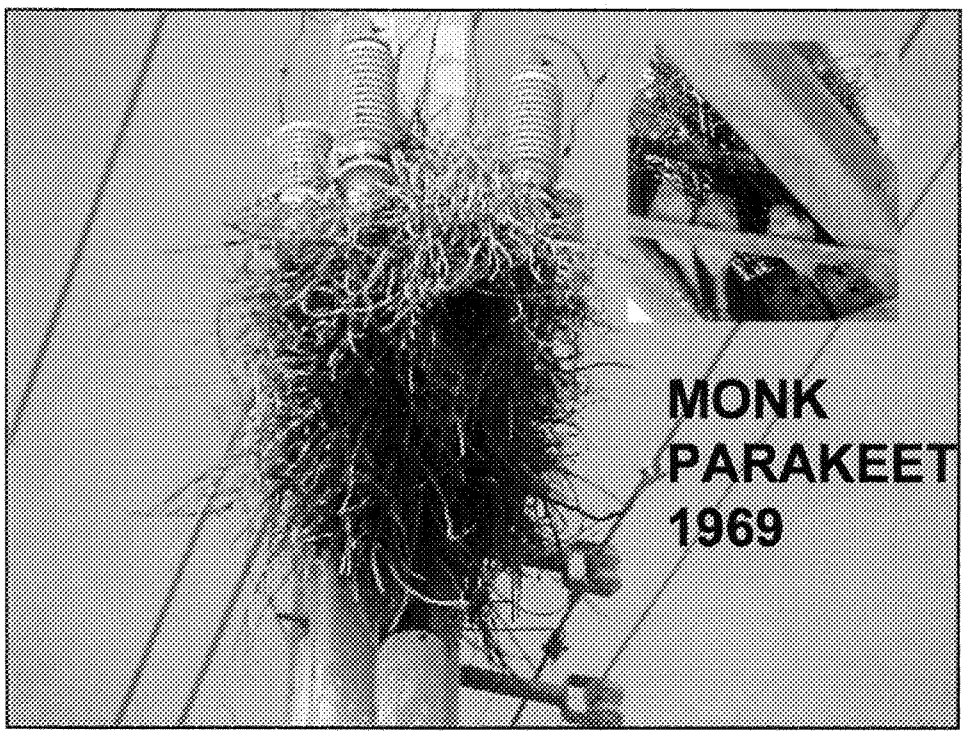


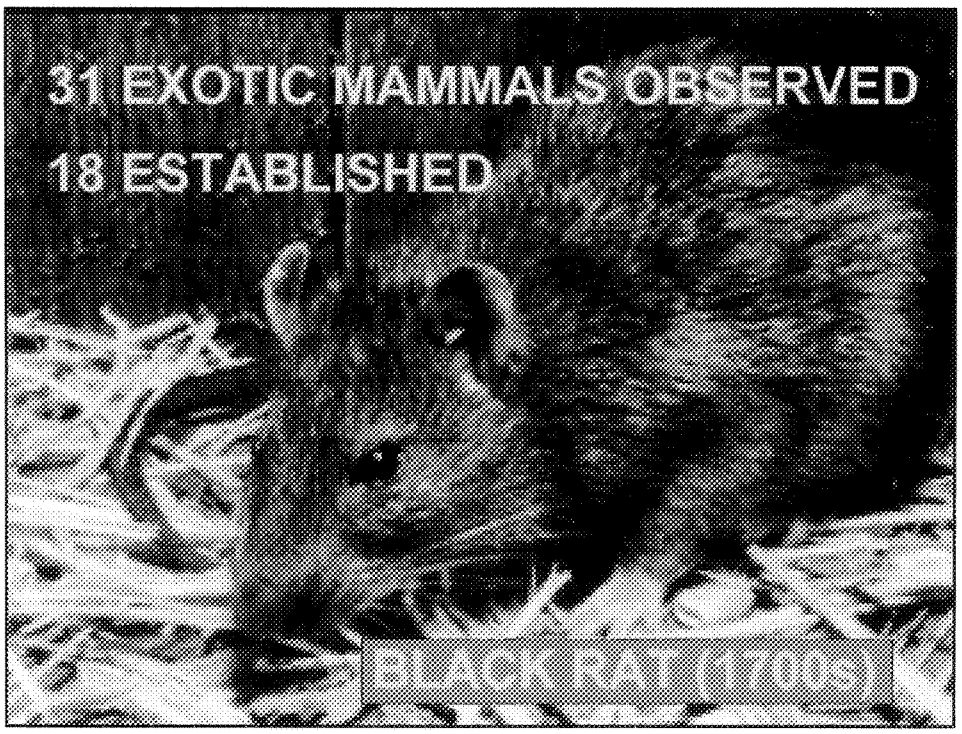
RED-WHISKERED BULBUL (1960s)

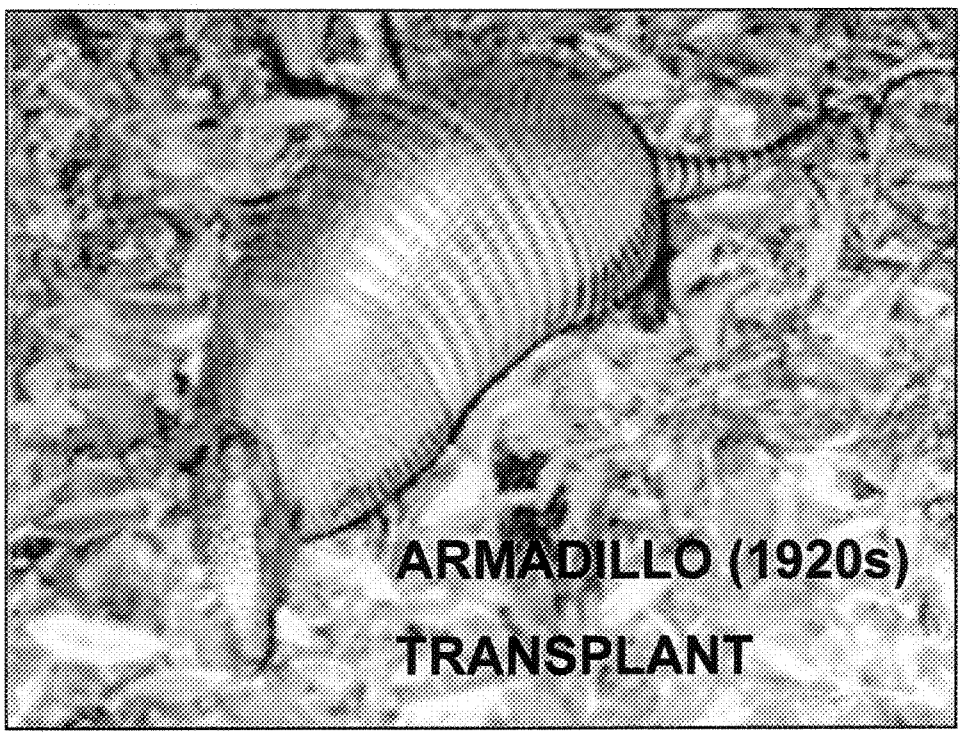
EURASIAN COLLARED DOVE



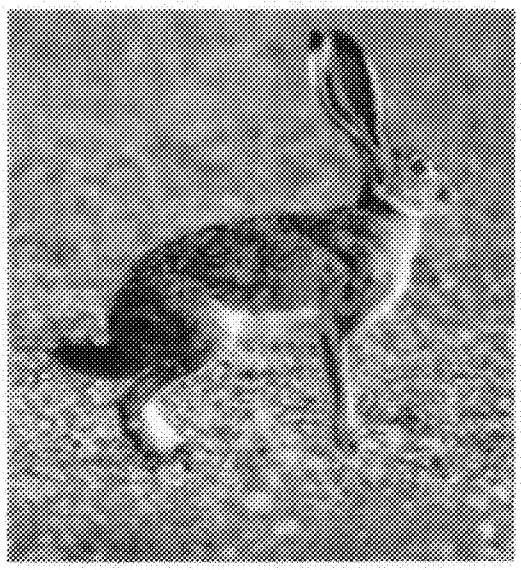
(1987)


MONK
PARAKEET
1969

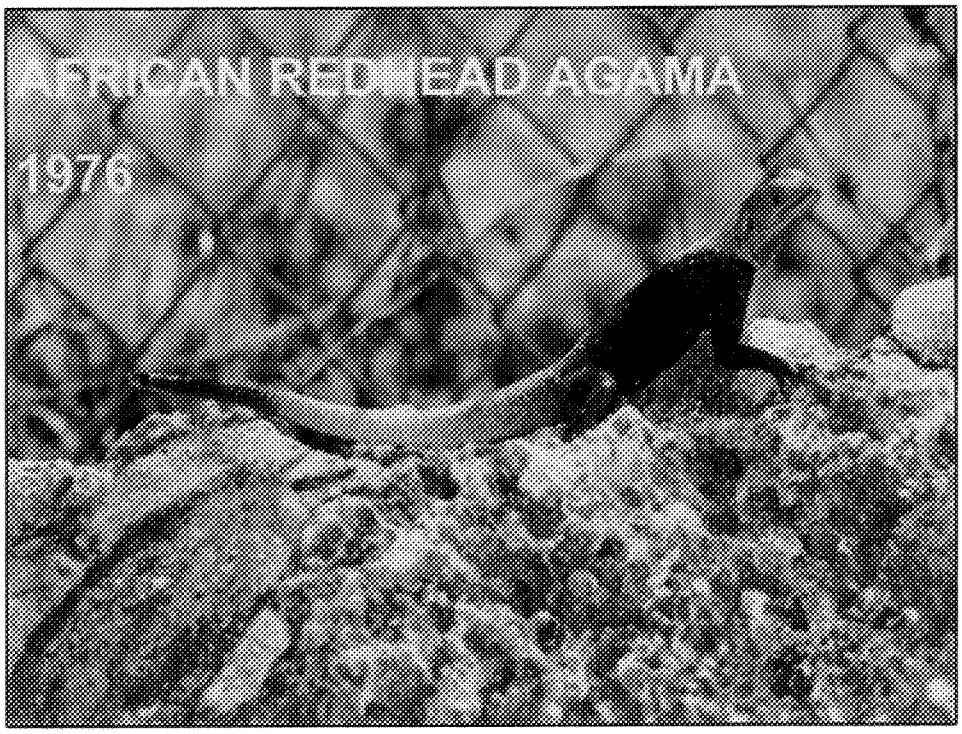

31 EXOTIC MAMMALS OBSERVED
18 ESTABLISHED
BLACK RAT (1700s)



BLACK-TAILED JACKRABBIT (1930s)



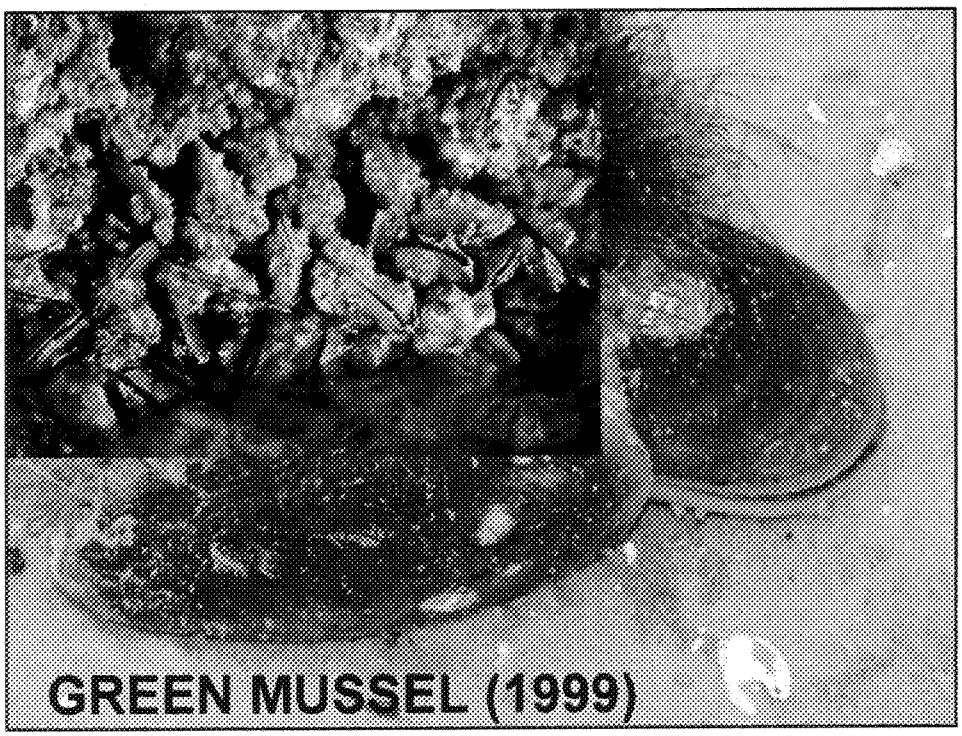
GREEN IGUANA 1966)
48 EXOTIC REPTILES
OBSERVED

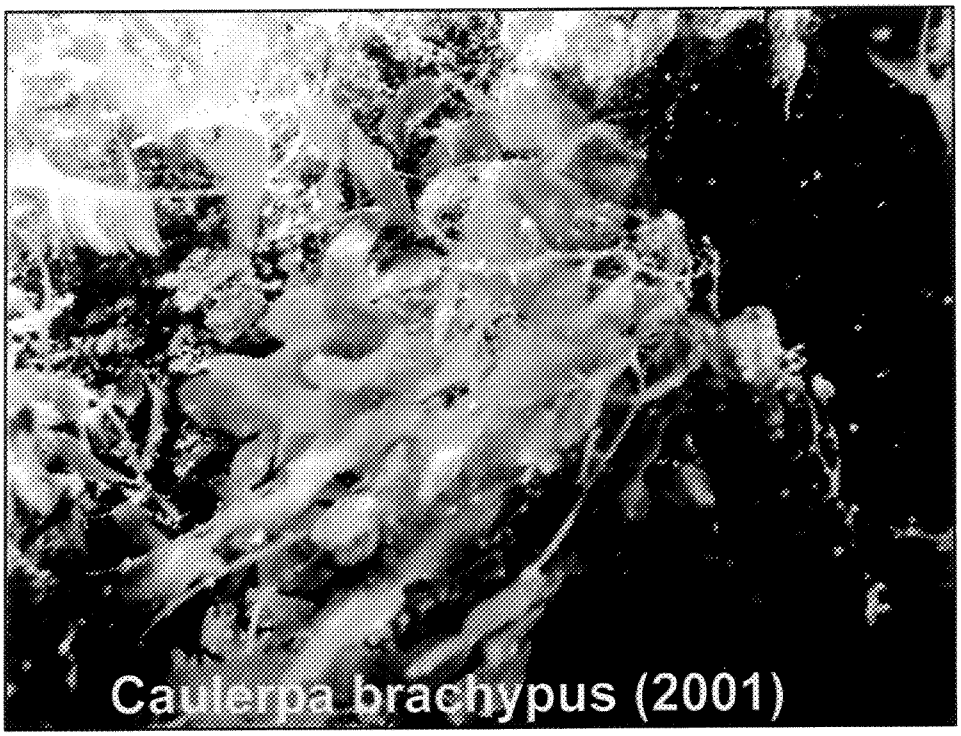

AFRICAN REDHEAD AGAMA
1976

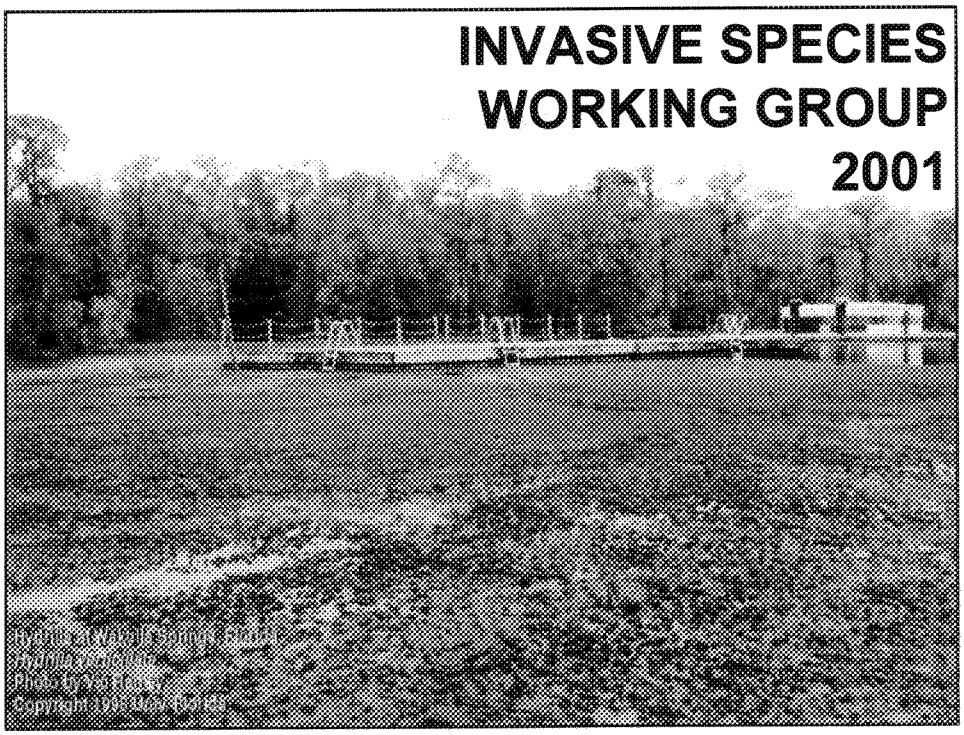
4 EXOTIC AMPHIBIANS OBSERVED
3 ESTABLISHED
CUBAN TREE FROG (1931)

GIANT TOAD (1957)

EXOTIC MARINE SPECIES
31 ESTABLISHED
RED LIONFISH (2000)
photo by Paula Whitfield (NOAA Beaufort Laboratory)

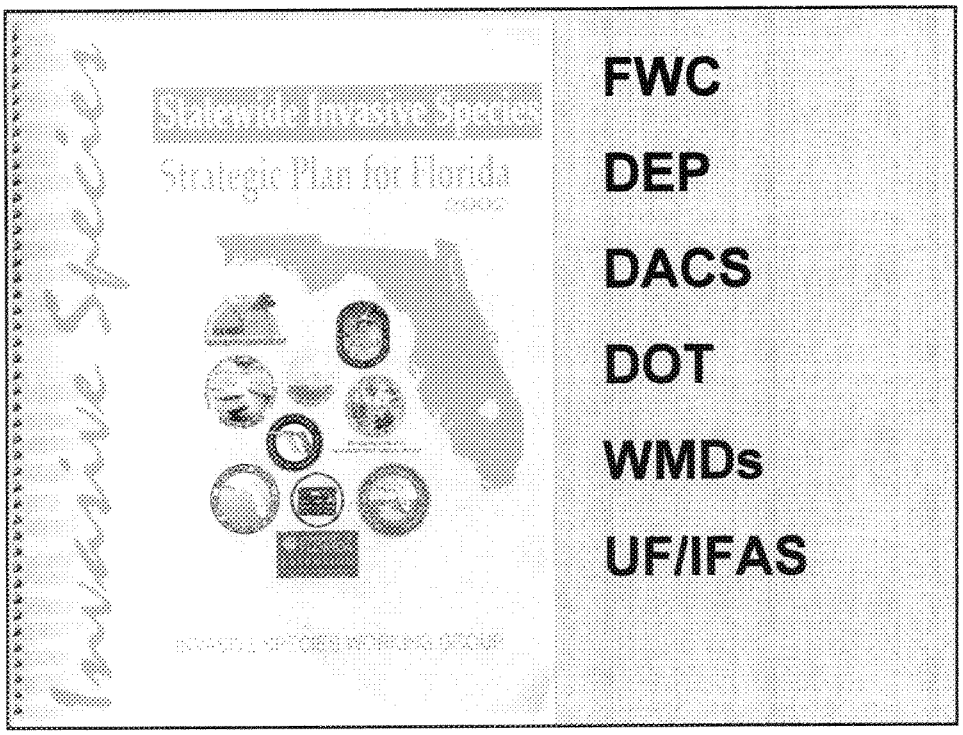

GREEN MUSSEL (1999)


Caulerpa brachypus (2001)


INVASIVE SPECIES
WORKING GROUP
2001

Office of the Governor

integrate with the national plan. By copy of this letter I am asking the Florida Department of Environmental Protection to facilitate a meeting of state agencies in Florida to determine the most effective way to develop a comprehensive plan that coordinates the responsibilities of the agencies to manage and prevent biological invasions. It is our intent that Florida remain a



FWC

DEP

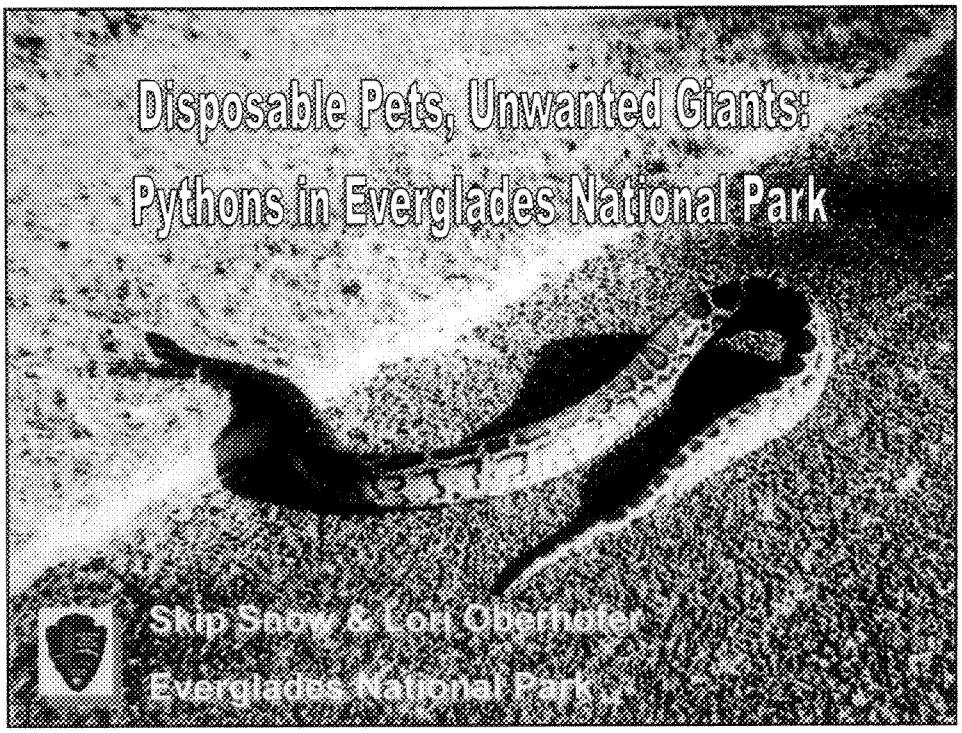
DACS

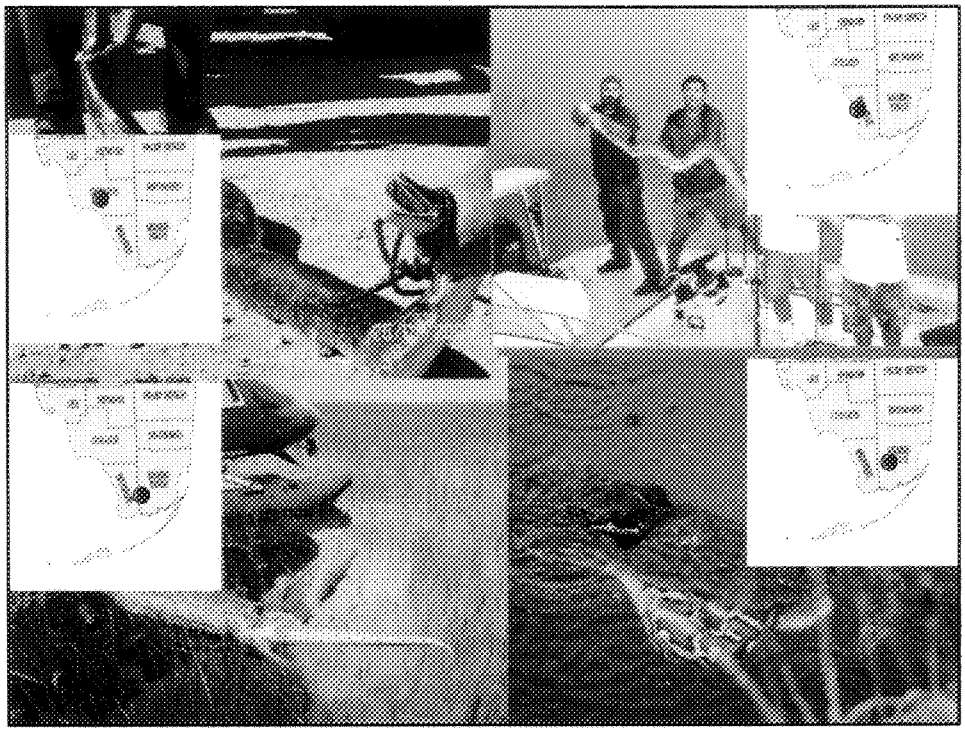
DOT

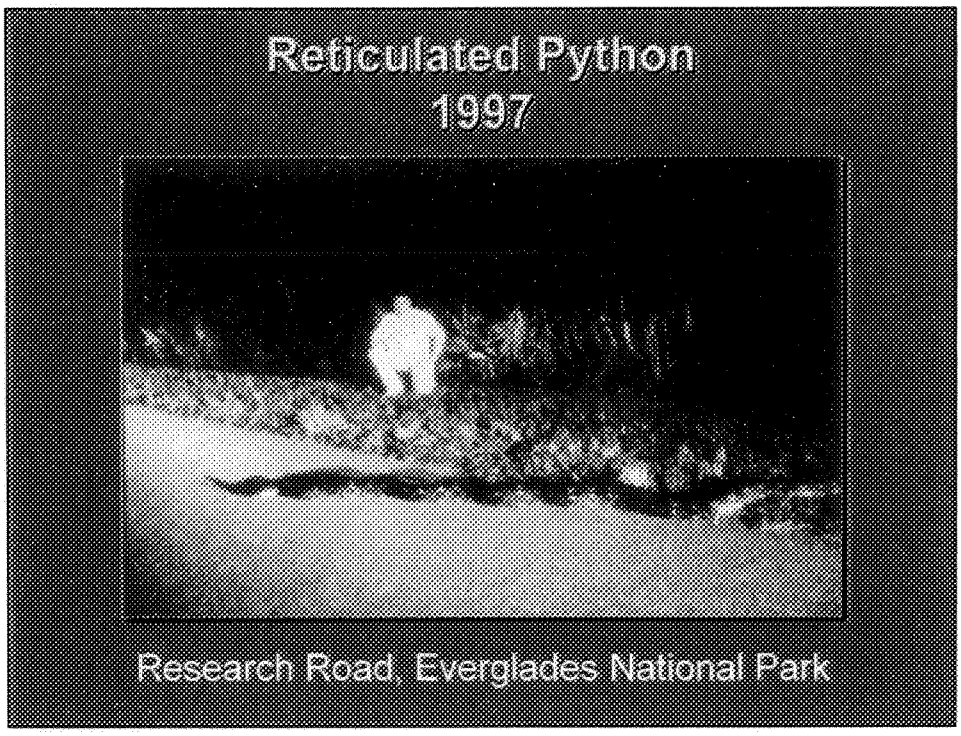
WMDs

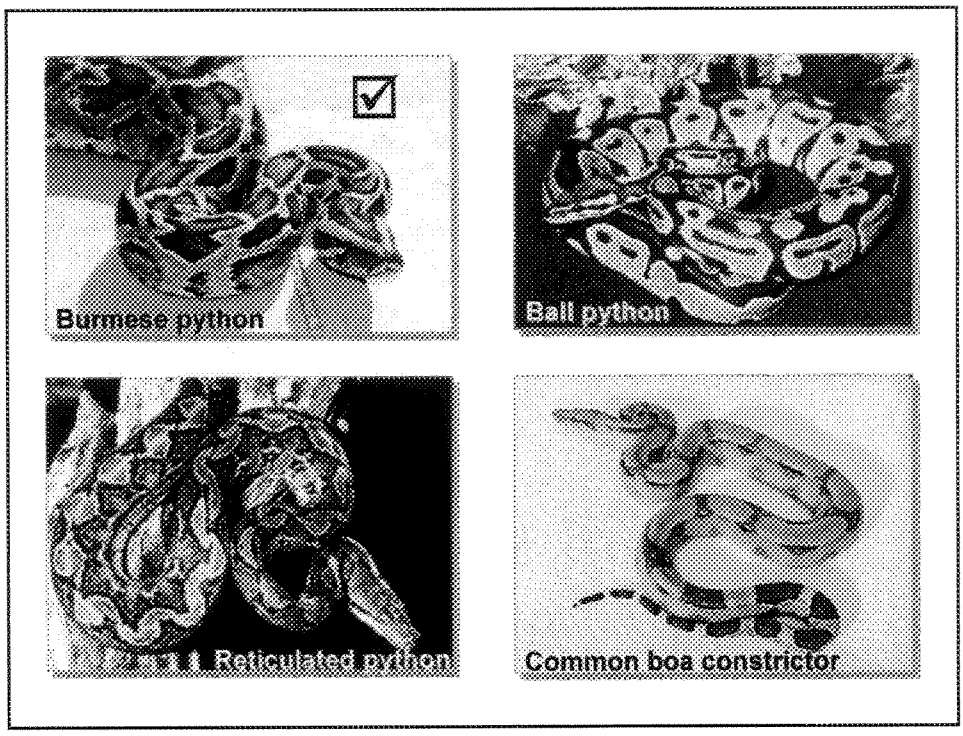
UF/IFAS

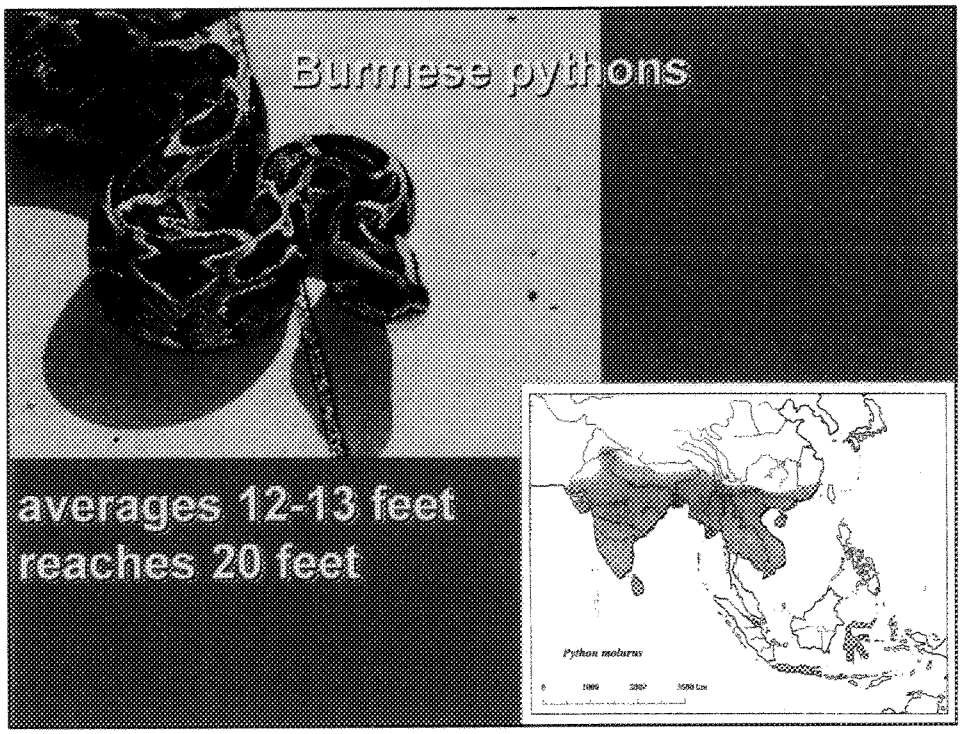
"Fortunately, few of the thousands of species have become invasive."
Charybdis hellerii

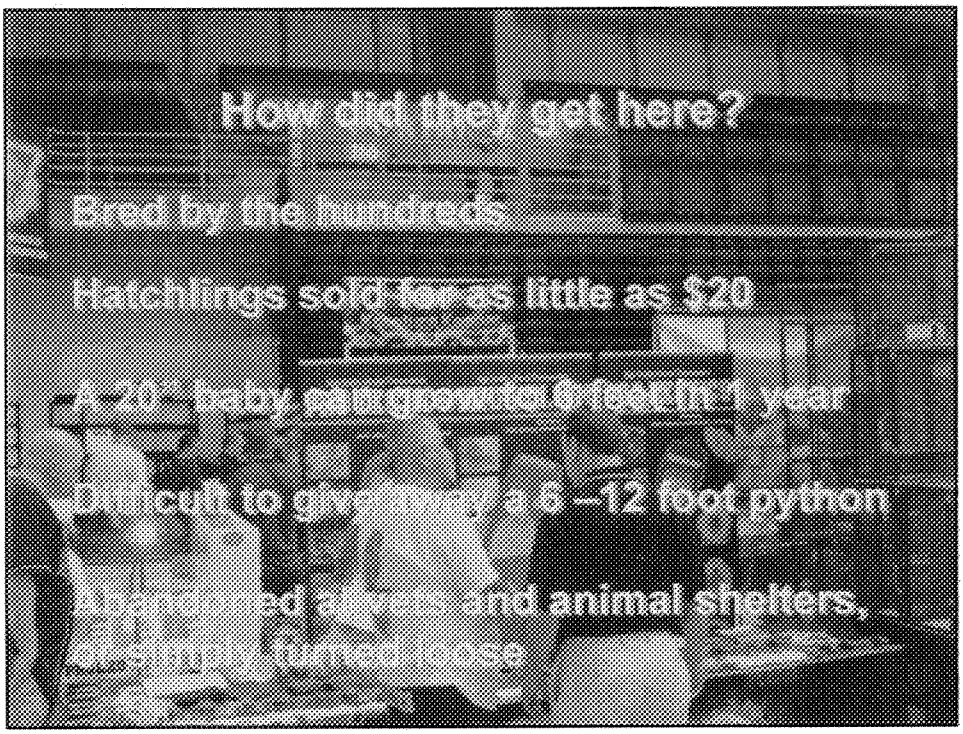

Disposable Pets, Unwanted Giants:
Pythons in Everglades National Park
Skip Snow & Lori Oberhofer
Everglades National Park

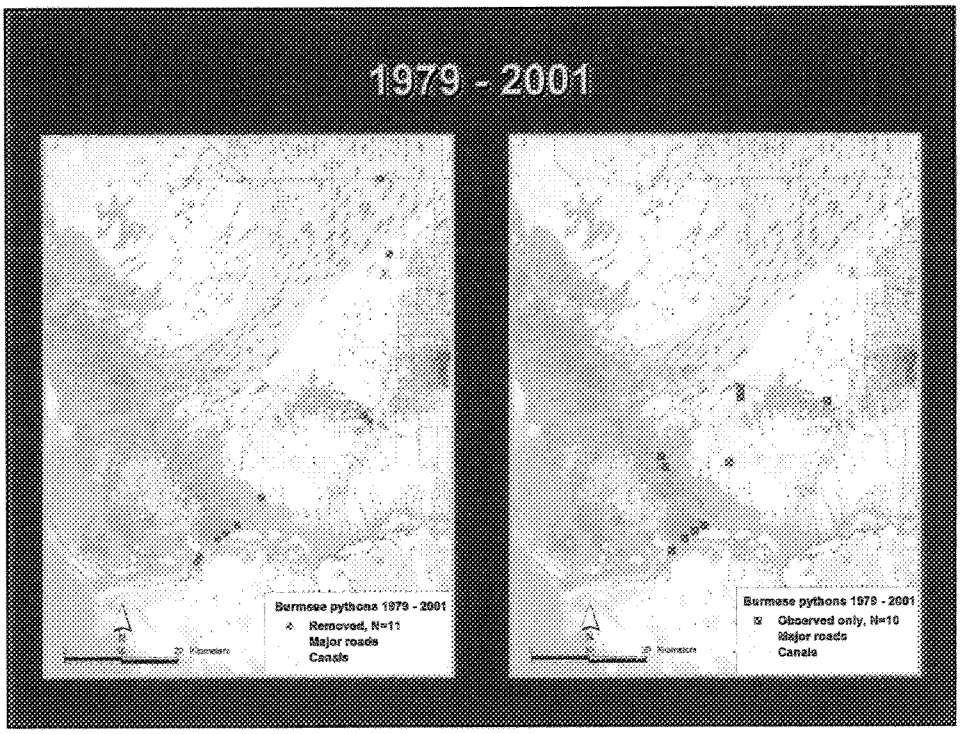


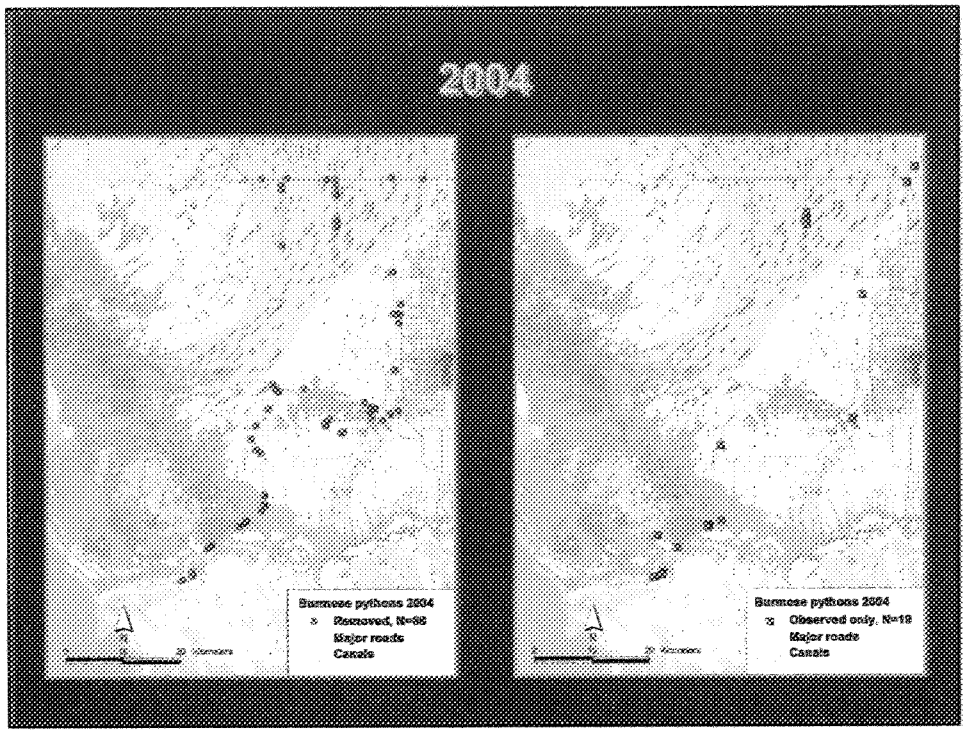

Reticulated Python
1997
Research Road, Everglades National Park

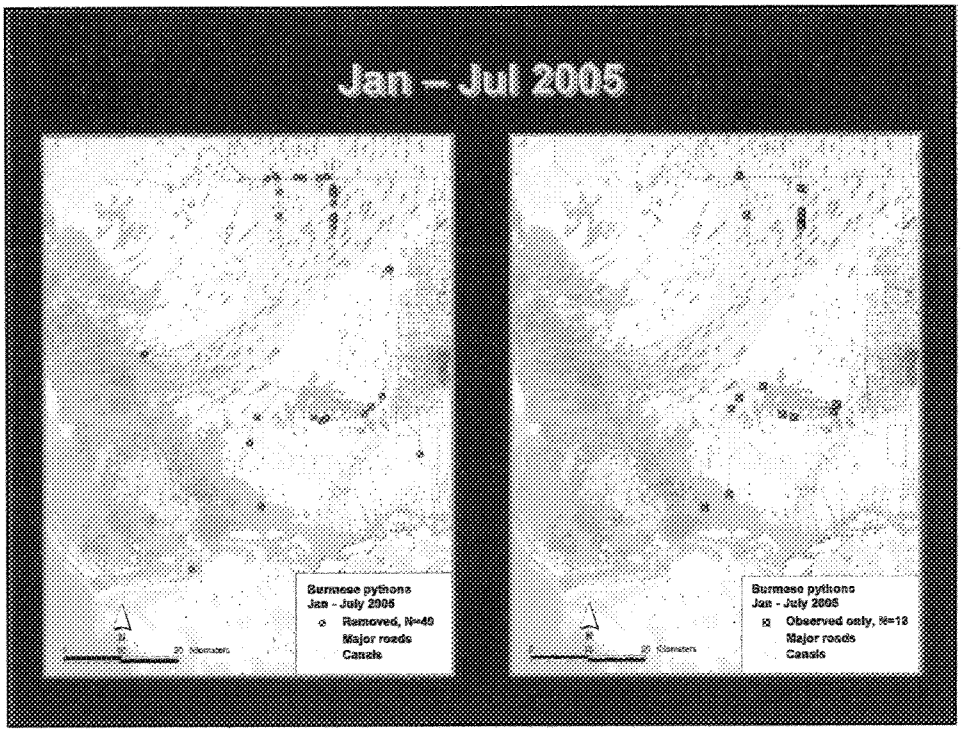

Burmese python
Ball python
Reticulated python
Common boa constrictor

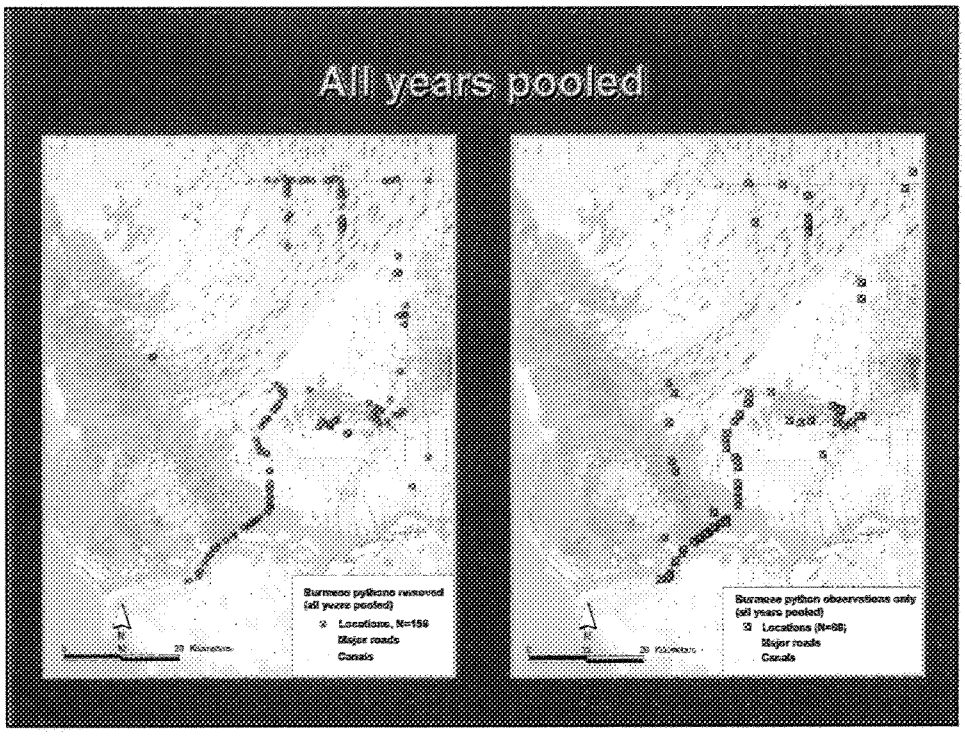

Burmese pythons
averages 12-13 feet
reaches 20 feet
Python molurus

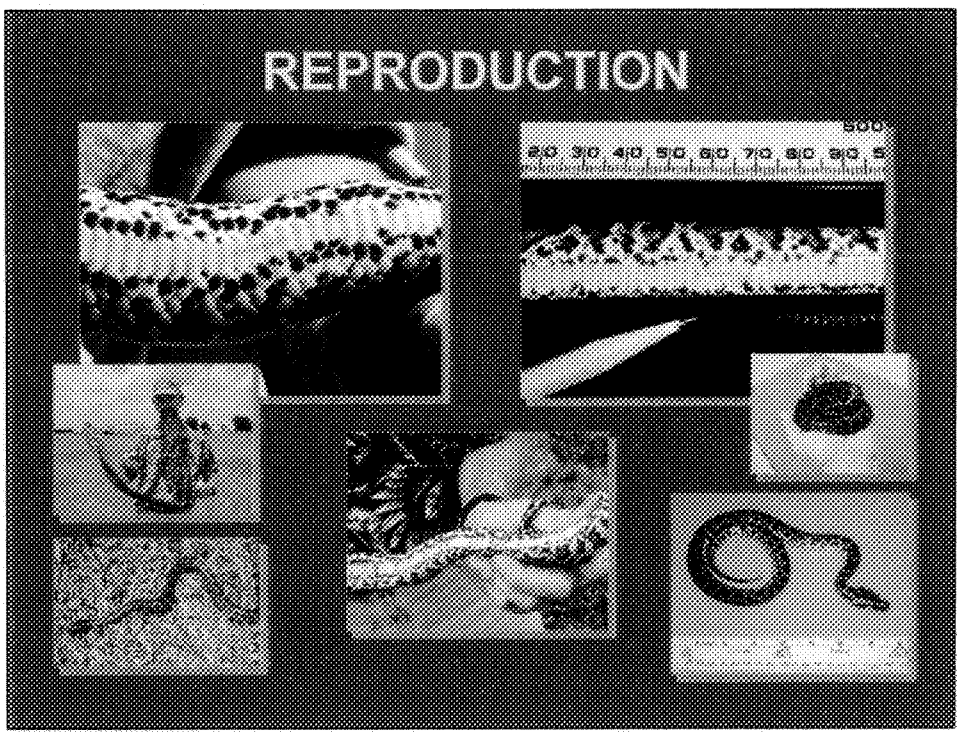

How did they get here?
Bred by the hundreds
Hatchlings sold for as little as $20
Difficult to give away a 6 – 12 foot python
animal shelters.


1979 - 2001
Burmese pythons 1979 - 2001
Removed, N=11
Major roads
Canals
Burmese pythons 1979 - 2001
Observed only, N=10
Major roads
Canals


2004
Burmese pythons 2004
Removed, N=98
Major roads
Canals
Burmese pythons 2004
Observed only, N=19
Major roads
Canals

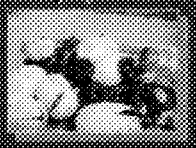

Jan – Jul 2005
Burmese pythons
Jan - July 2005
Removed, N=49
Major roads
Canals
Burmese pythons
Jan - July 2005
Observed only, N=13
Major roads
Canals

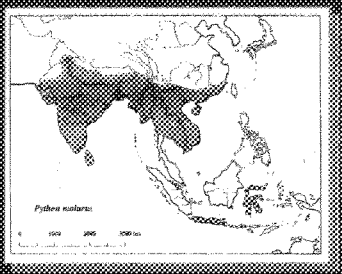

All years pooled
Burmese pythons removed (all years pooled)
Locations, N=156
Major roads
Canals
Burmese python observations only (all years pooled)
Locations (N=68)
Major roads
Canals


REPRODUCTION

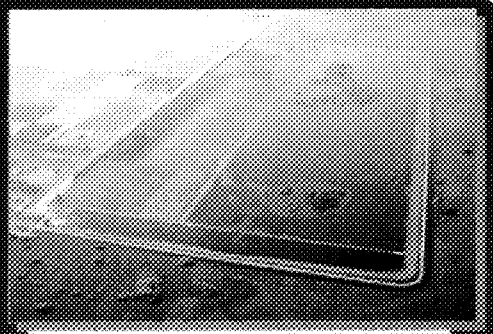
How can they survive here?

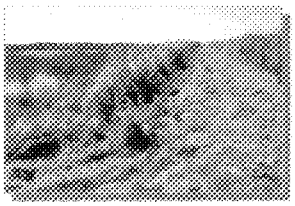
- Generalist in diet, habitat use, and behavior
- Lives in very temperate climates in South Asia
- Lays relatively large clutches of eggs (8 - 107)
- Long lived, 25 years or more
- Able to survive long periods without eating
- Invasive elsewhere
- Hundreds in the pipeline

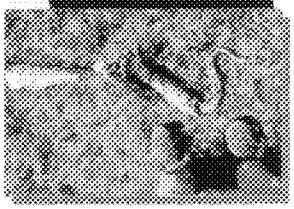




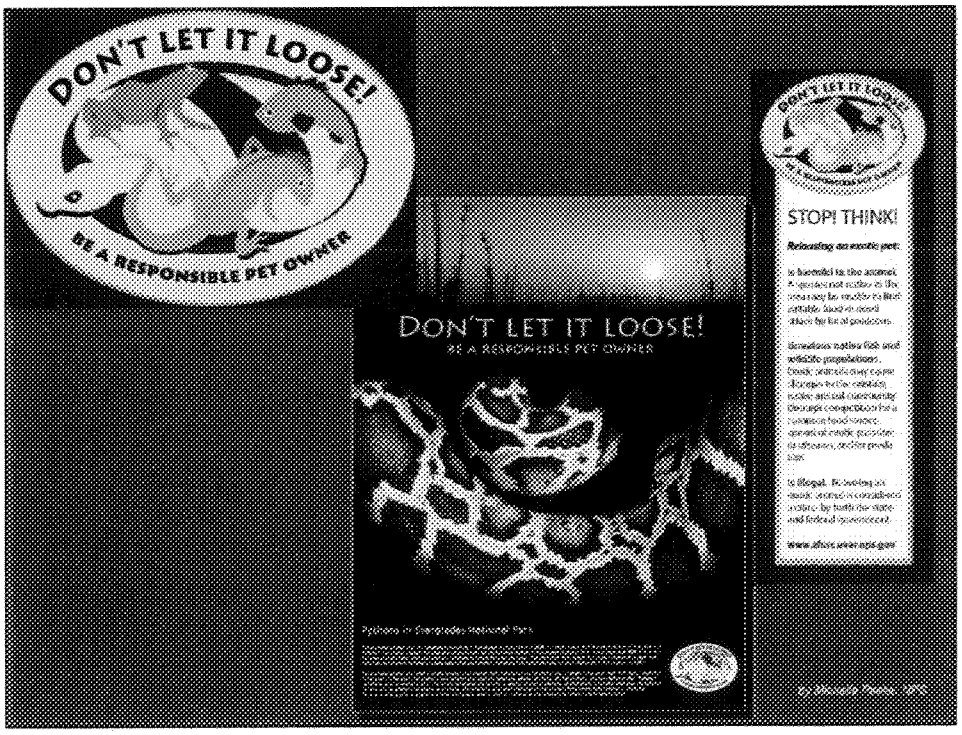
"Berms for Burms!"

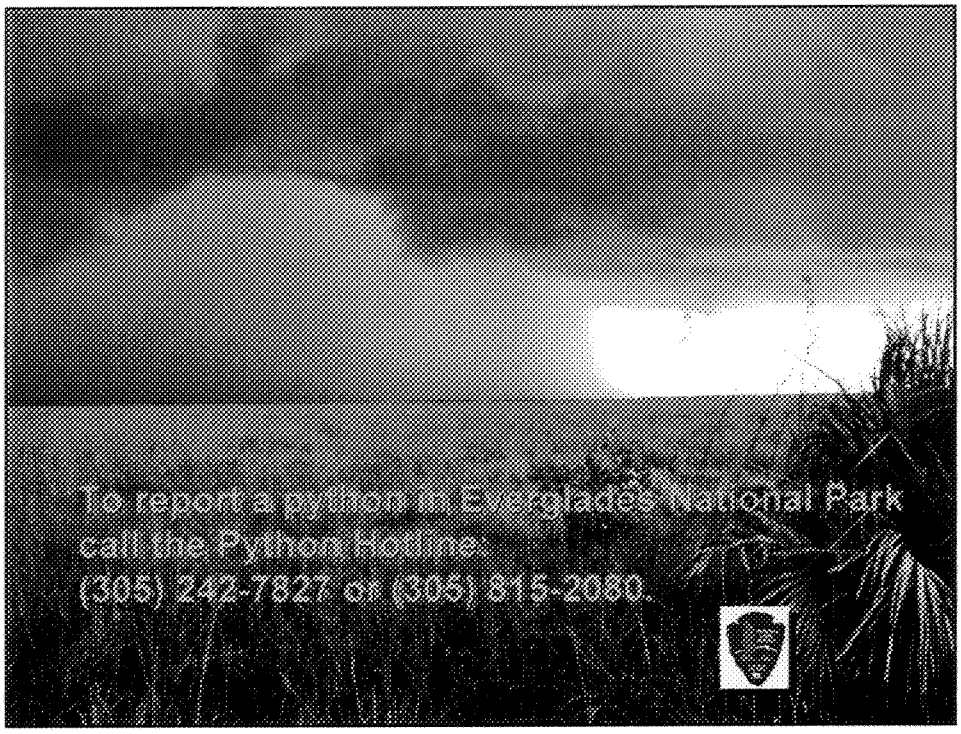


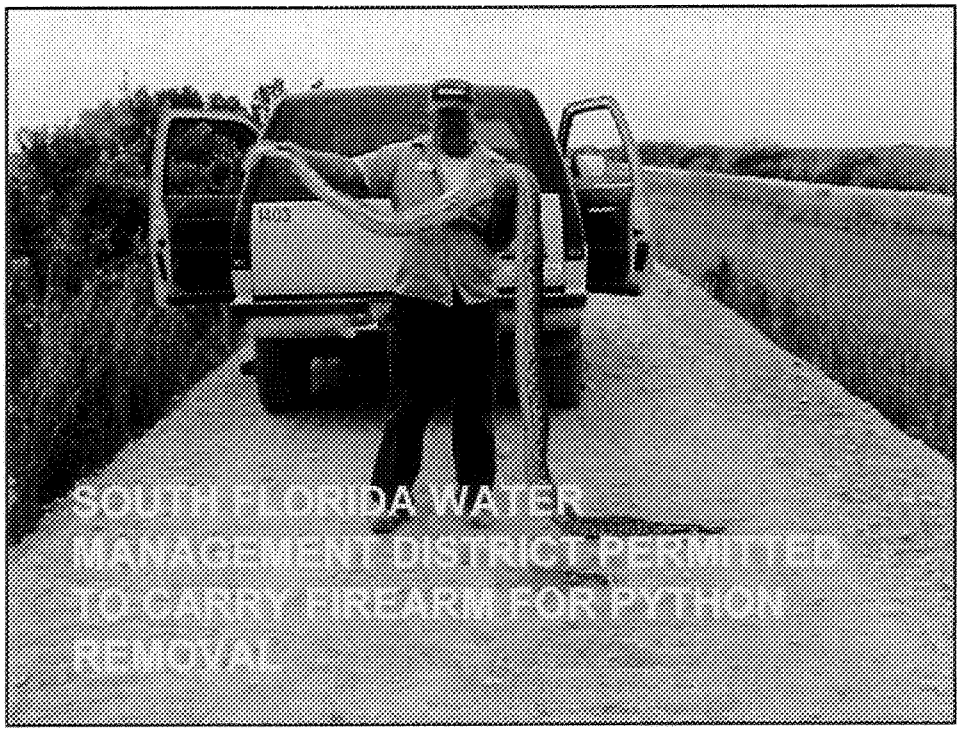


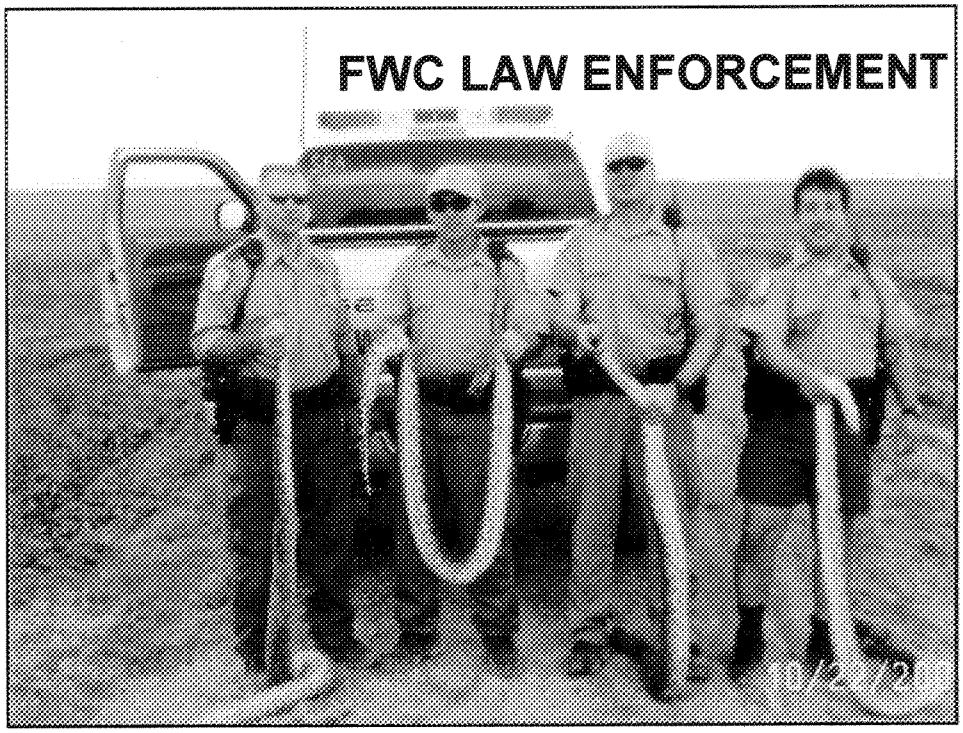


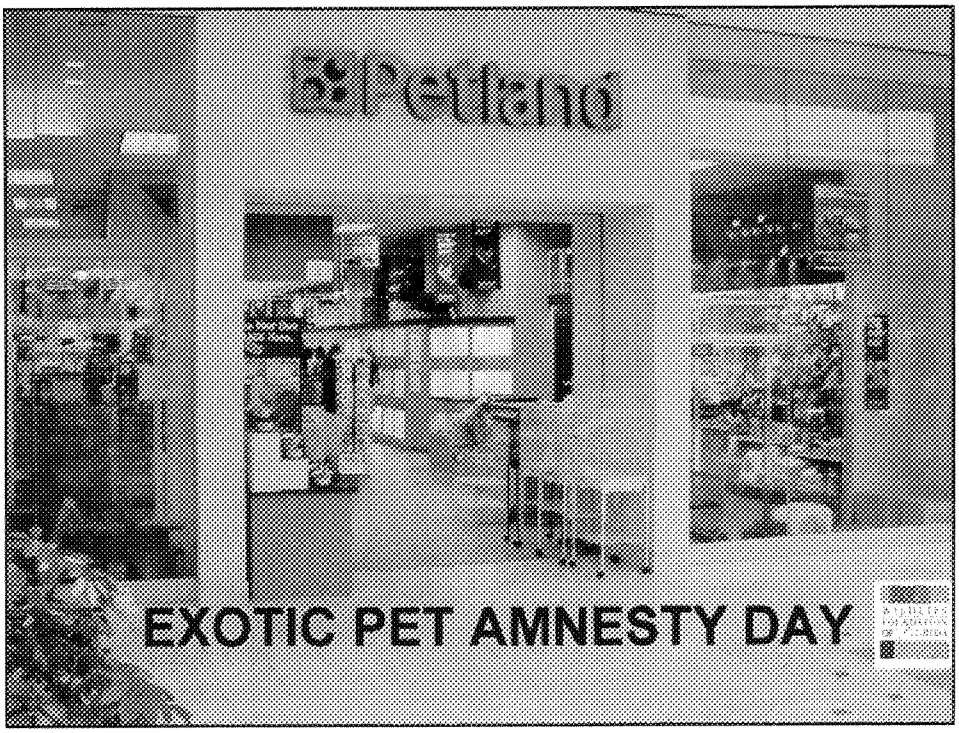
BURMESE PYTHON
MANAGEMENT


DON'T LET IT LOOSE!
BE A RESPONSIBLE PET OWNER
DON'T LET IT LOOSE!
BE A RESPONSIBLE PET OWNER
STOP! THINK!

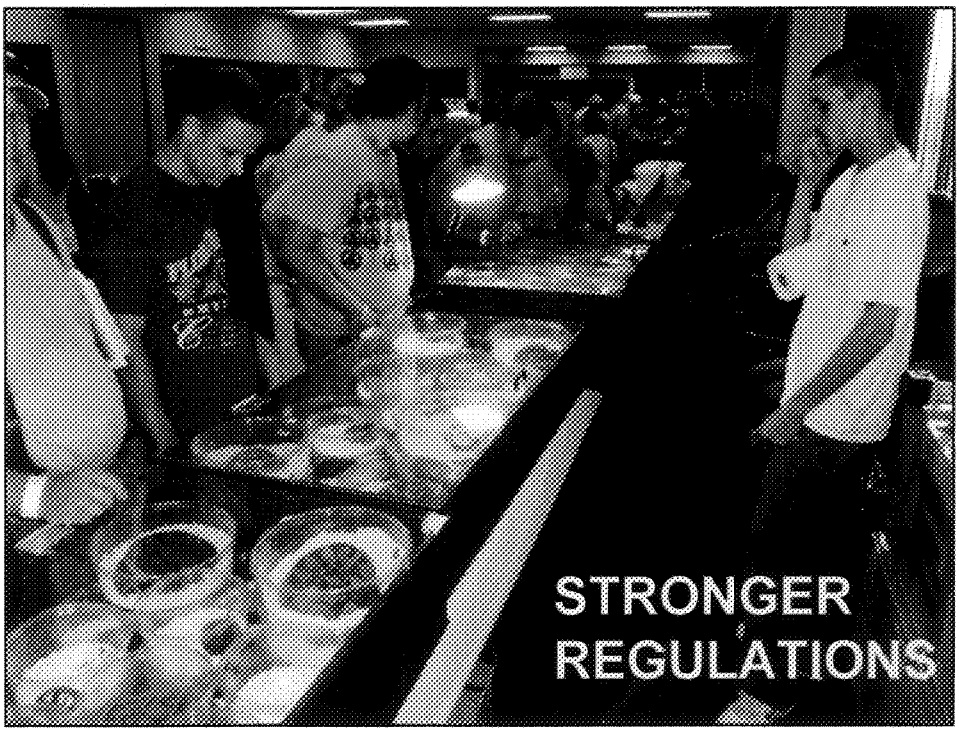

To report a python in the Everglades National Park
call the Python Hotline
(305) 242-7827 or (305) 815-2000


SOUTH FLORIDA WATER
MANAGEMENT DISTRICT PERMITTED
TO CARRY FIREARM FOR PYTHON
REMOVAL

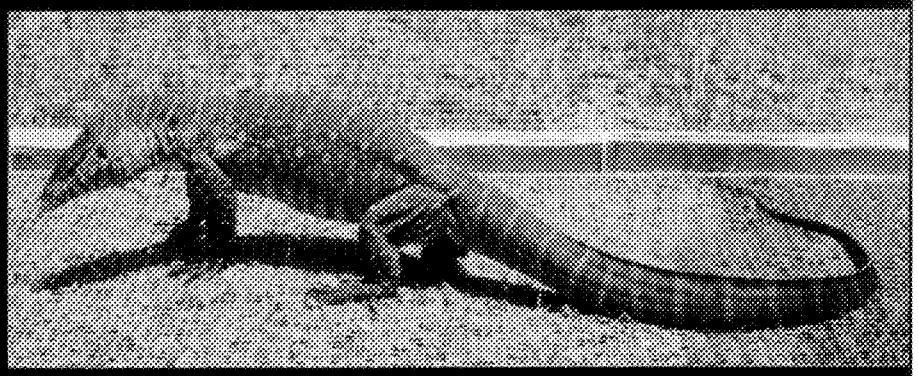

FWC LAW ENFORCEMENT


EXOTIC PET AMNESTY DAY

ENCOURAGE REPTILE
DEALER CERTIFICATION


STRONGER
REGULATIONS

NILE MONITORS IN FLORIDA



Photos and graphics by:
Todd Campbell, University of Tampa
Gregg Kiowden, University of Florida
Kraig Hankins, City of Cape Coral

SVL = 130 mm

Tail = 205 mm

TL = 335 mm

WT = 31 g

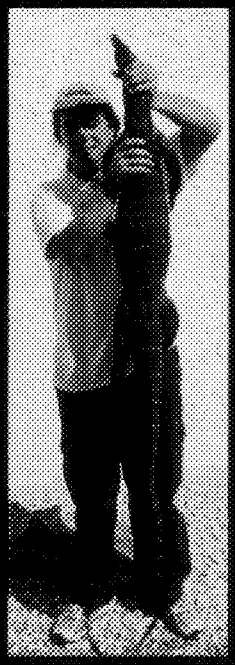
Body Size

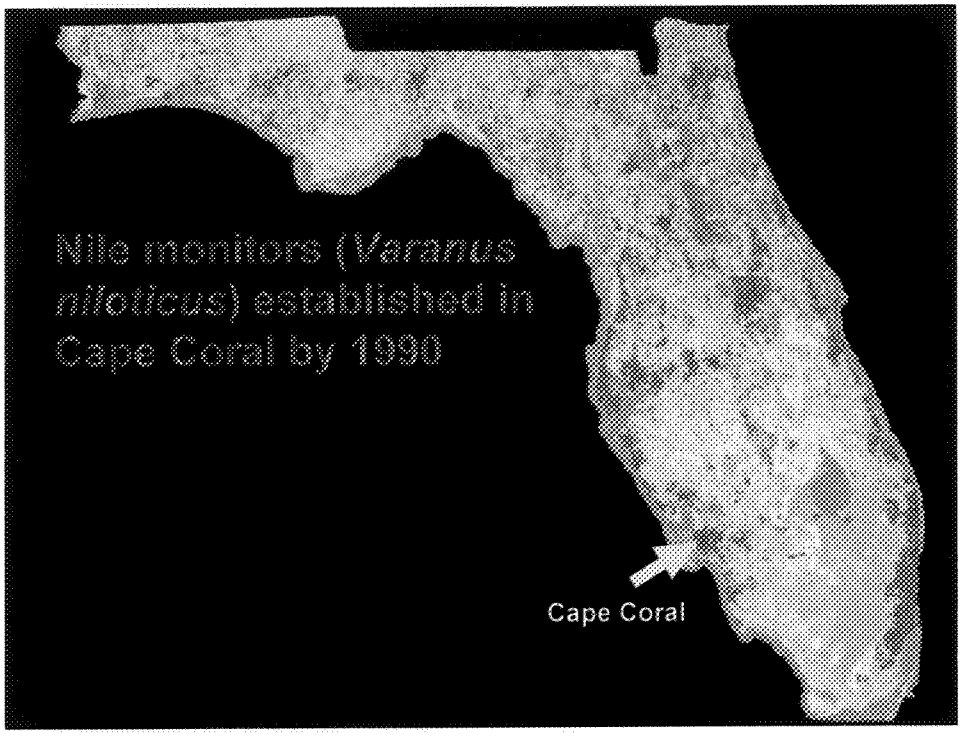
SVL = 805 mm

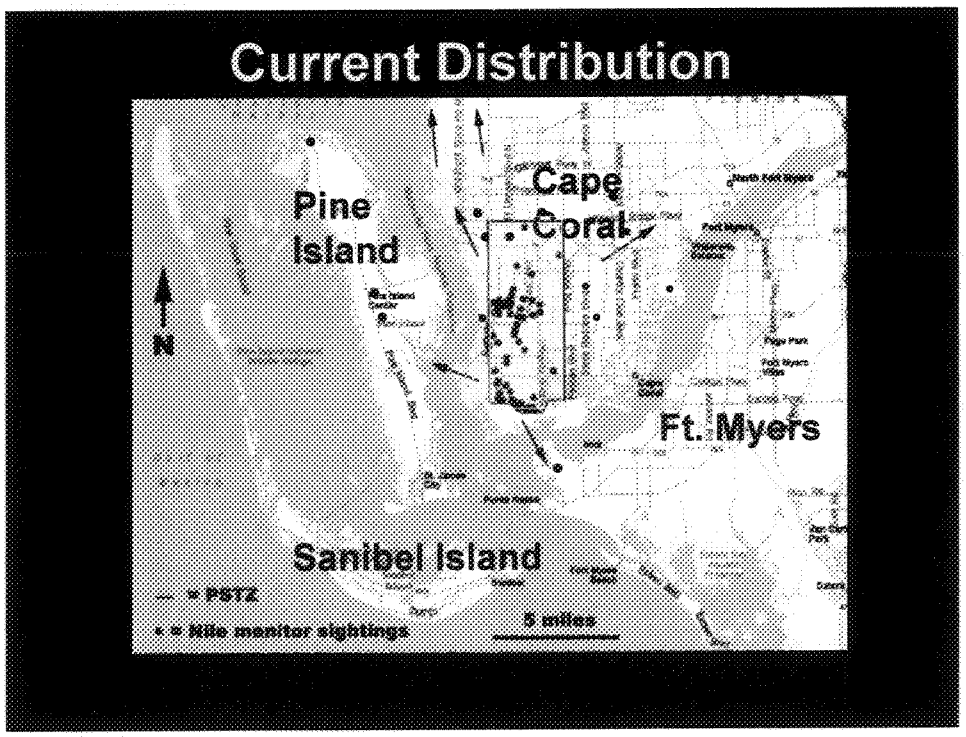
Tail = 1120 mm

TL = 1925 mm

WT = 12,300 g

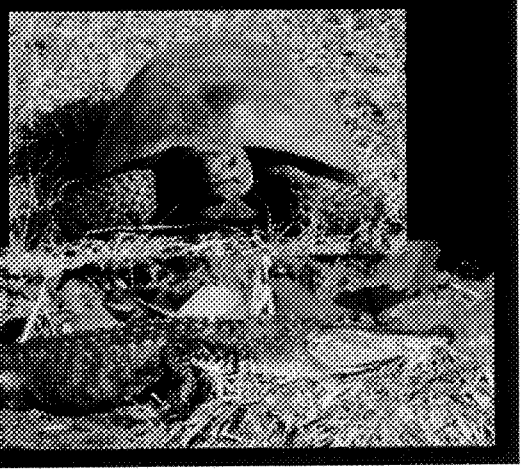



Nile monitors (*Varanus niloticus*) established in Cape Coral by 1990
Cape Coral


Current Distribution
Pine Island
Cape Coral
N
Ft. Myers
Sanibel Island
= PSTZ
= Nile monitor sightings
5 miles

Species Potentially at Risk

Certain insects, crustaceans
Amphibians, lizards, snakes
Gopher tortoise
Freshwater turtles
American alligator
Ground-nesting birds
Wading birds
Small mammals



Big lizards threaten Cape owls

Resident witnesses attack on baby bird

By ANGELA HILL
AHILL@NEWS-PRESS.COM
Published by news-press.com on May 13, 2003

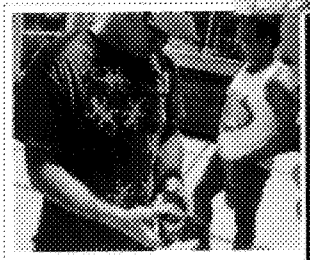
When Karleen Canas picked up a flower pot and charged a Nile monitor lizard with a baby burrowing owl in its mouth, she was making wildlife history.

Canas, 51, of Cape Coral was witness to the first proof that the large non-native lizards eat the city's beloved burrowing owls.

Armed with her evidence, biologists hope to get grant money to remove the lizards before they kill more owls.

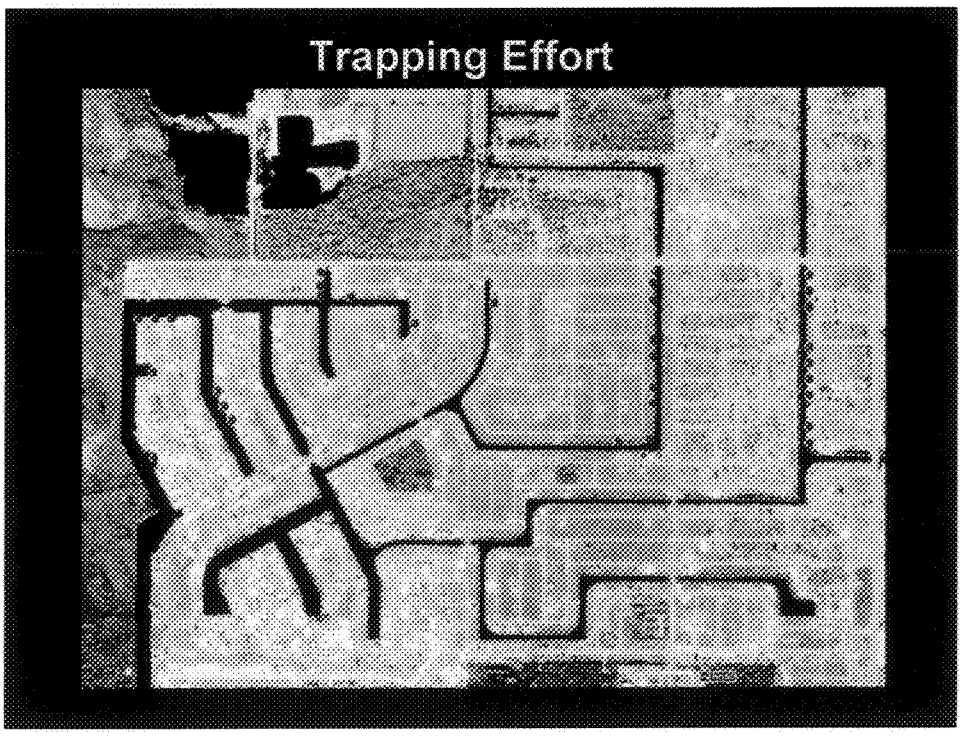
Cape Coral has an estimated 2,000 Florida burrowing owls — the largest population in the world. The owls live elsewhere in Lee County as well, preferring grassy lots and open fields.

Todd Campbell, a biologist with the University of Tampa, coordinates a program to trap the lizards. He said it will be difficult to remove all of them.

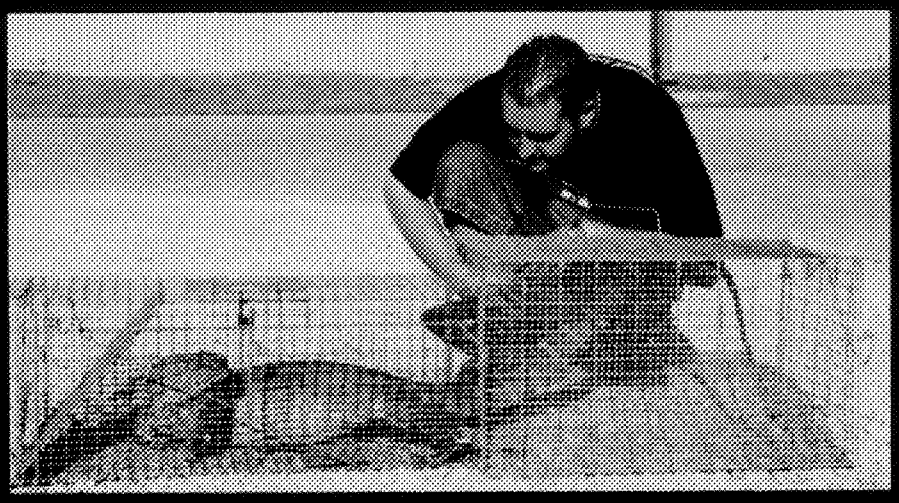


• Todd Campbell, an assistant professor of biology with the University of Tampa, examines the corpse of a burrowing owl killed by a Nile monitor lizard in Cape Coral. STEPHEN HAFFORD/The News-Press

Nile Monitor 'Eradication' Project


Trapping Effort

Over 100 monitors captured to-date



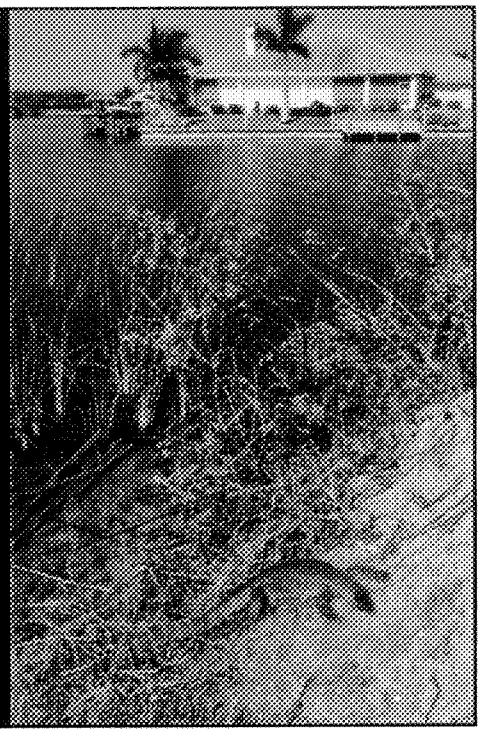
Can they be eradicated?

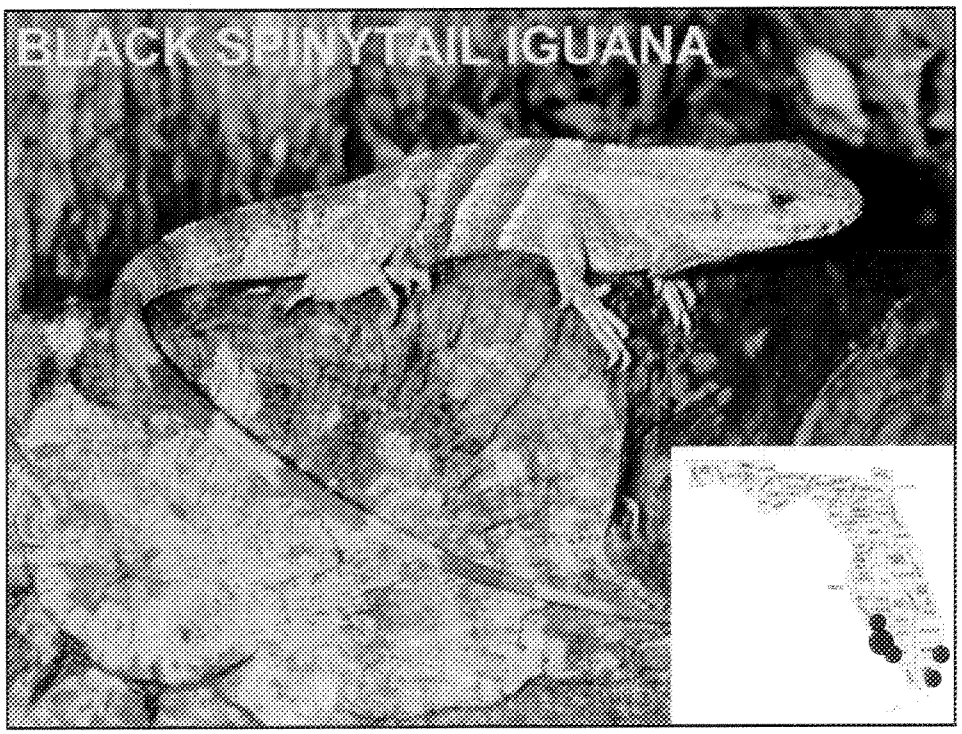
Future Plans

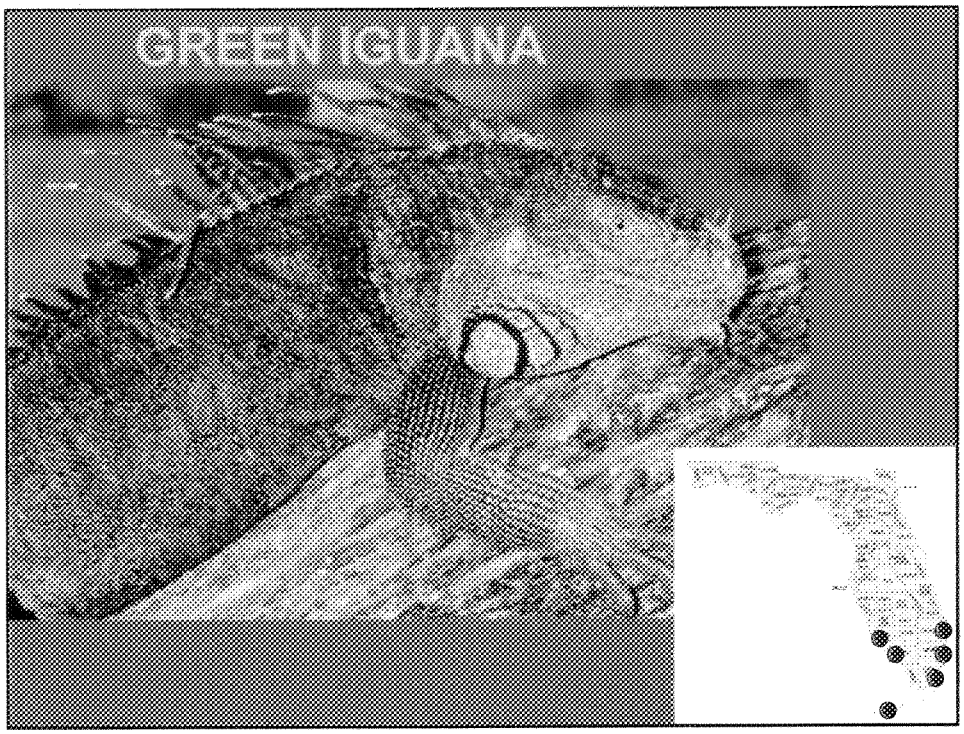
Volunteer program

Scent dogs

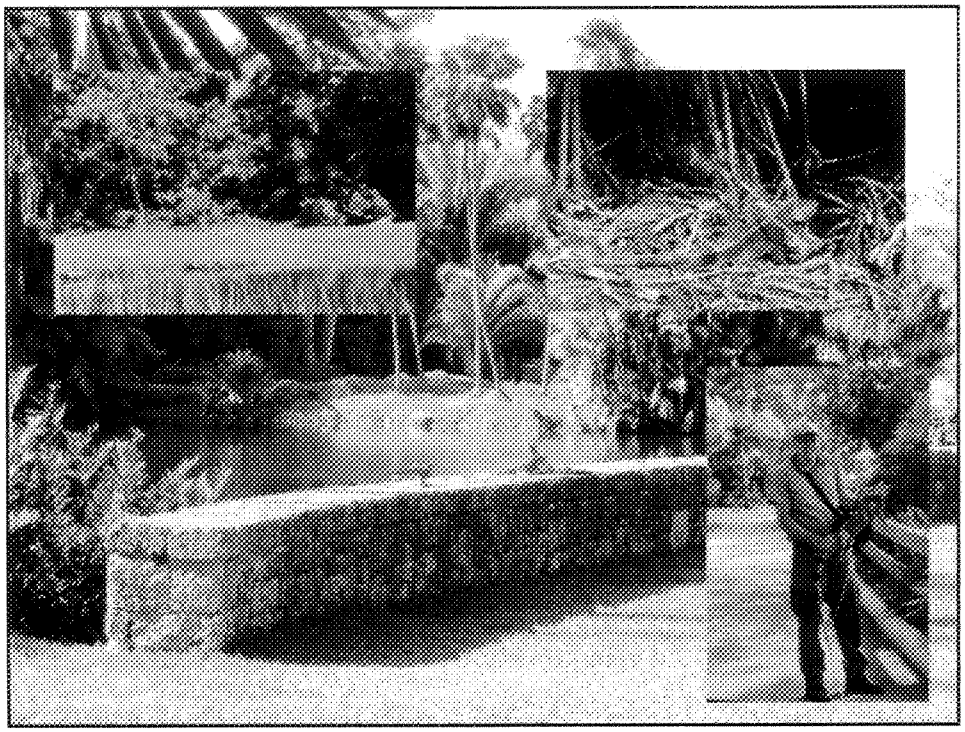
Restricted species

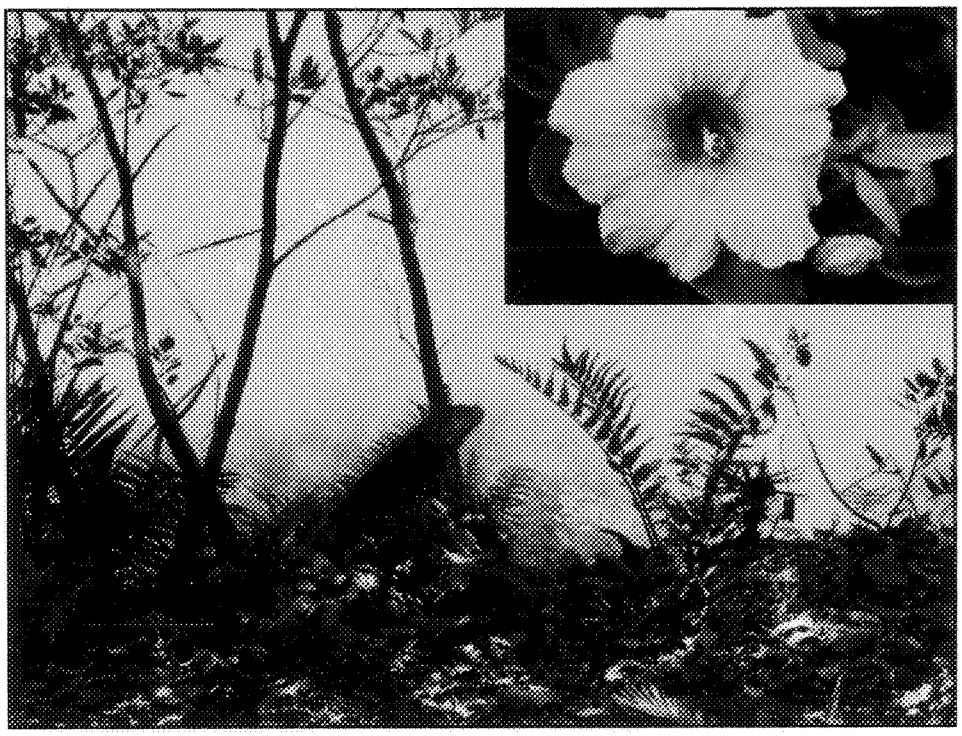




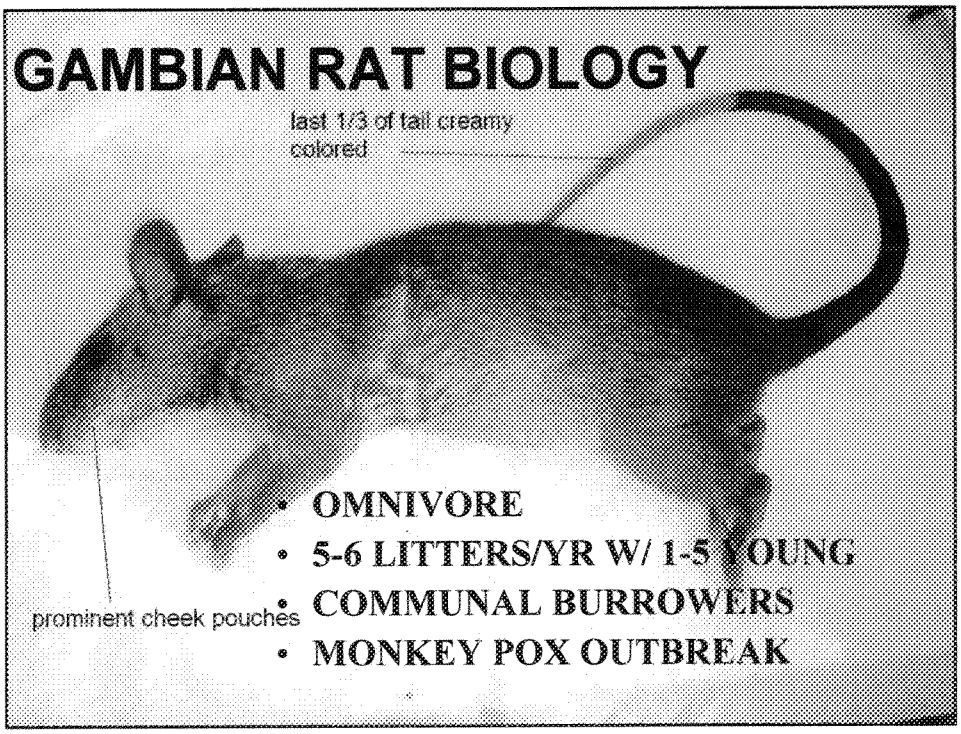

GREEN IGUANA

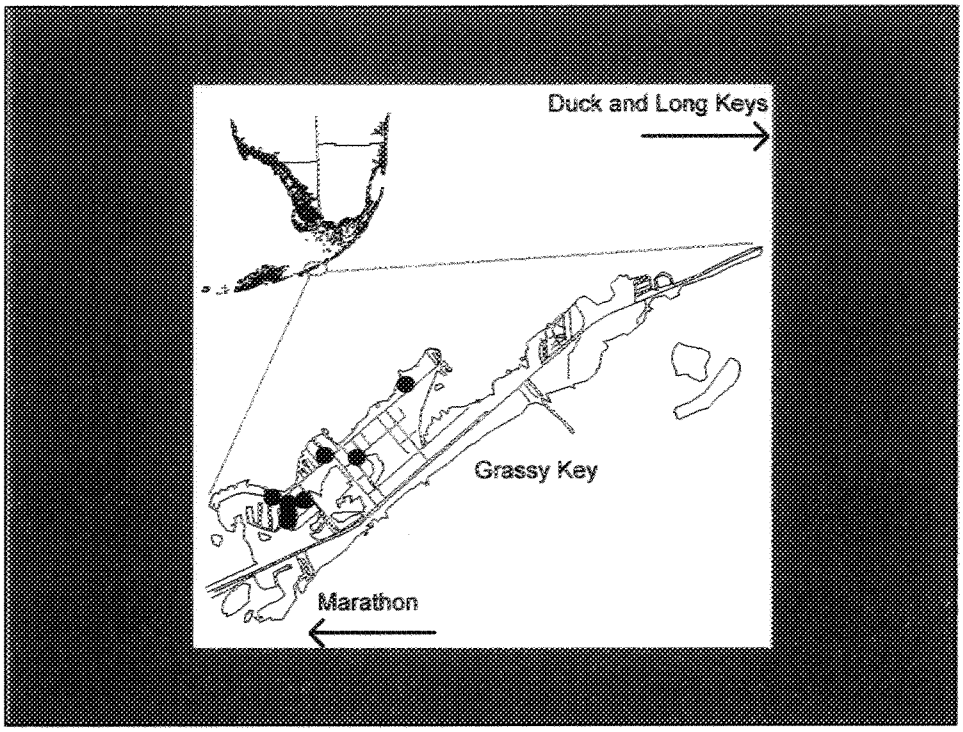
IGUANAS BY THE COOLERFUL



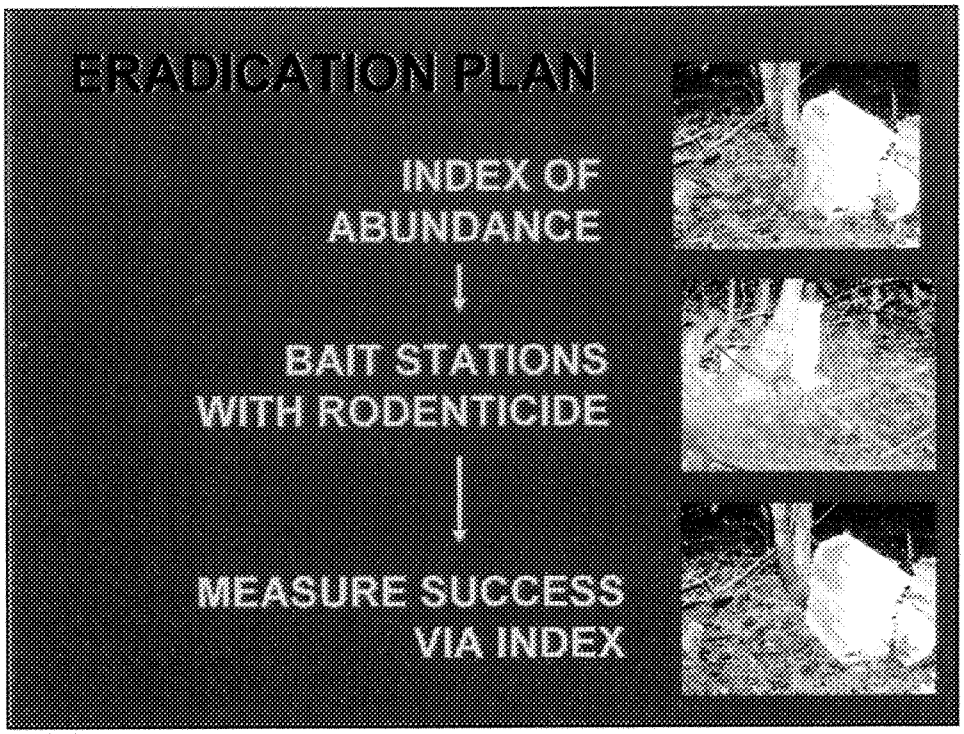


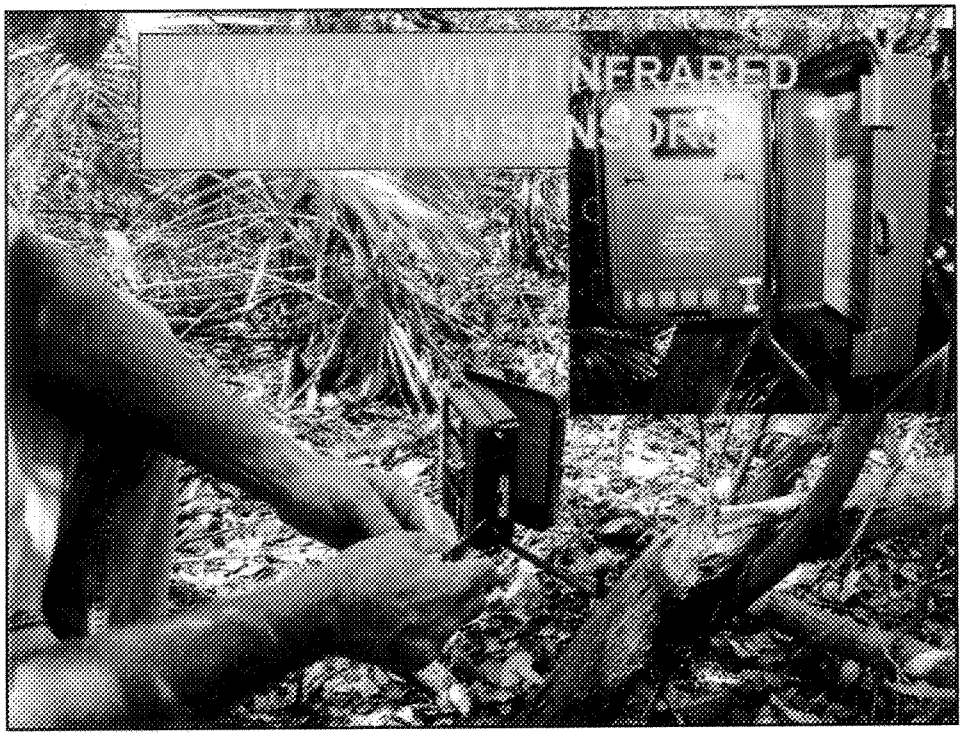
GAMBIAN POUCH RAT (2002)

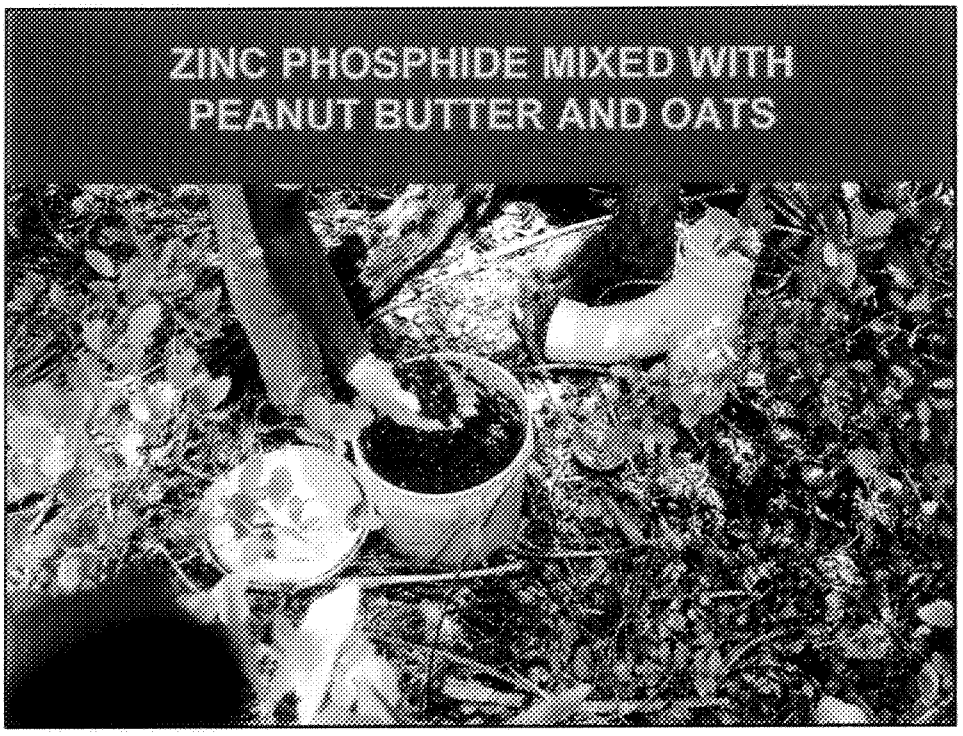

GAMBIAN RAT BIOLOGY
last 1/3 of tail creamy colored
prominent cheek pouches
• OMNIVORE
• 5-6 LITTERS/YR W/ 1-5 YOUNG
• COMMUNAL BURROWERS
• MONKEY POX OUTBREAK

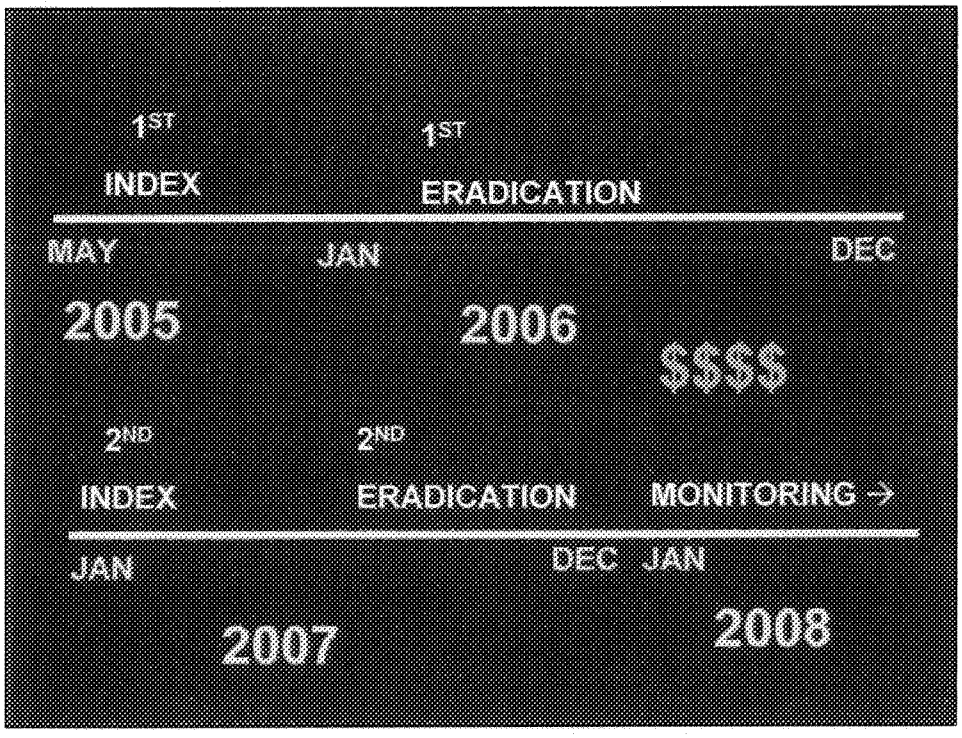

Duck and Long Keys
Grassy Key
Marathon

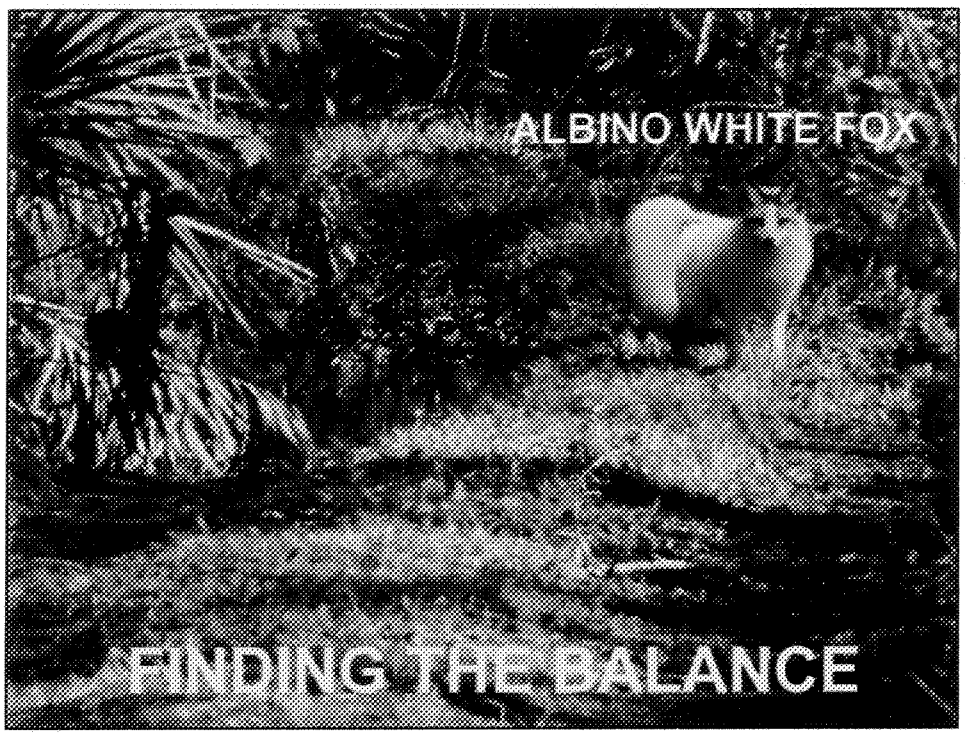
RELEASE
SITE


ERADICATION PLAN
INDEX OF ABUNDANCE
BAIT STATIONS WITH RODENTICIDE
MEASURE SUCCESS VIA INDEX




ZINC PHOSPHIDE MIXED WITH
PEANUT BUTTER AND OATS


1ST
INDEX
1ST
ERADICATION
MAY
JAN
DEC
2005
2006
$$$$
2ND
INDEX
2ND
ERADICATION
MONITORING →
JAN
DEC
JAN
2007
2008


ALBINO WHITE FOX
FINDING THE BALANCE

DEP Presentation

Department of Environmental Protection

Division of State Lands

Bureau of Invasive Plant Management

Upland Invasive Exotic Plant Management

Funding Distribution

369.252 (4) F.S.

Twenty percent of the amount credited to the Invasive Plant Control Trust Fund pursuant to s. 201.15(6) shall be used for the purpose of controlling nonnative, upland, invasive plant species on public lands.

Funding Source

- Florida Forever – 2.28% of Doc Stamps
- Gasoline Tax – $6.3 million
- Commercial Boat Registration – $300K
- Pleasure Boat Registration - $1.9 million

The Department will spend for fiscal year 2005-2006 for invasive plant management in Florida:

Total Invasive Plant Budget	**$38.3 million**
Aquatic Plant Management (80%)	**$29.7 million**
Upland Plant Management (20%)	**$8.6 million**

(Includes $1M annual appropriation for melaleuca control in SFWMD jurisdiction. FS 212.69 1993).

Upland Invasive Exotic Plants on Florida Public Lands

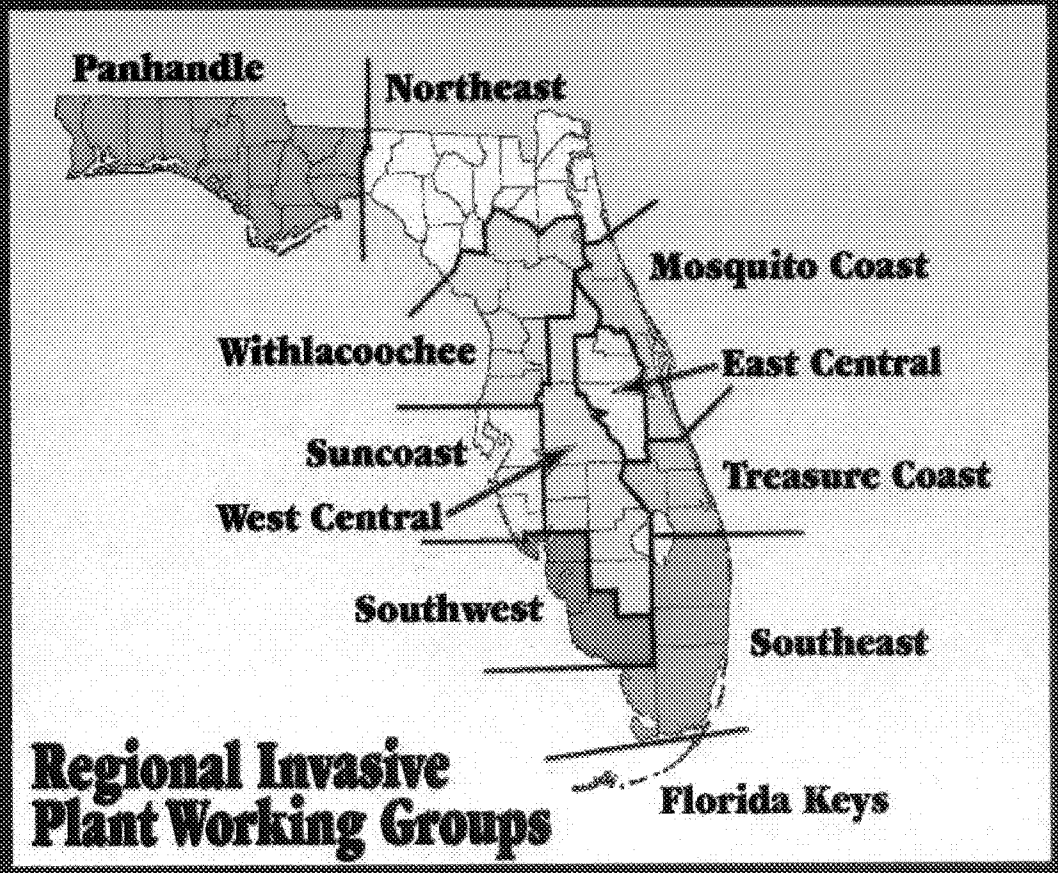
- 11 million acres of public conservation lands
  - 125 invasive species found on public lands
  - 15% (1.6 million acres) estimated infested
  - legislative mandate to keep invasive plants at lowest feasible level – "maintenance" (369.252, FS)
  - nearly impossible to eradicate

Regional Working Groups

- Public conservation lands
- 11million acres
- 11 regions
- 540 participants

  27 federal 71 local

  87 state 44 NGO



Invasive Upland Plant

Regional Working Groups

- *Develop management plans for initial control and management of existing populations of weeds on public conservation lands within their region;*

- *Establish regional control priorities based on severity and potential threats to public conservation lands within their region;*

Invasive Upland Plant

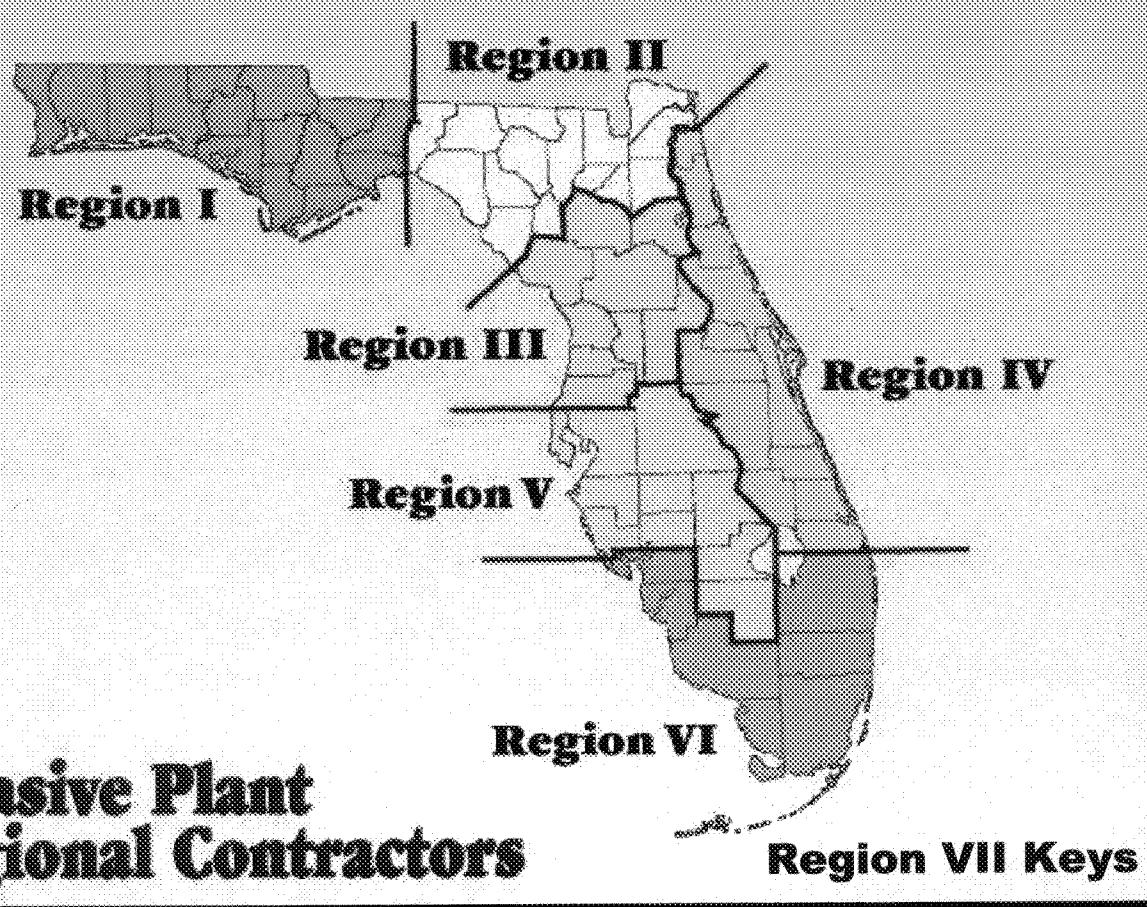
Regional Working Groups

DEP PROJECT FUNDING CRITERIA

- Publicly owned conservation lands only
- Cost-share/matching funds available
- Target species with high invasiveness
- Current control technologies available
- Benefit listed (T&E) species
- Perpetual site management

Invasive Upland Plant

Regional Contractors



Invasive Plant
Regional Contractors

Invasive Upland Plant

Regional Contractors

- DEP has established service contracts with regional invasive plant control contractors (11)
- The contractors are supervised by the land manager and paid directly by DEP
- DEP can reimburse the land managing agency for use of their contractors or crews once a contract has been signed with DEP

MELALEUCA

- 1993 – 50% of melaleuca on public lands
- 2005 – 25% of melaleuca on public lands
- Lake O – 20,000 AC infestation 1997
  Under maintenance control 2002
- WCA 2 and 3 – 690,000 total acres
  Under maintenance control 2005

BRAZILIAN PEPPER

- 700,000 acres South Florida public lands 2005
- Dense thickets exclude wildlife, alter fire regimes
- 1998 – 2005 47,611 AC controlled (20.5% of total)

CLIMBING FERNS
(*Lygodium* species)

- Estimated 250,000 AC pre-04 hurricanes
- Airborne spores spread statewide
- 1998-2005 11,615 AC controlled (5% of total
- BIPM started 'Strike Team' 2004

What unmanaged Lygodium will do to Everglades tree islands

Invasive Upland Plant

Program Results

1997-2005

- 735 projects on 355 Public Conservation Lands
- 286,000 acres initial control
- 63,500 acres maintenance control
- 99 invasive species targeted
- $39 million DEP funds
- $19 million local matching funds

Florida Invasive Plants GeoDatabase

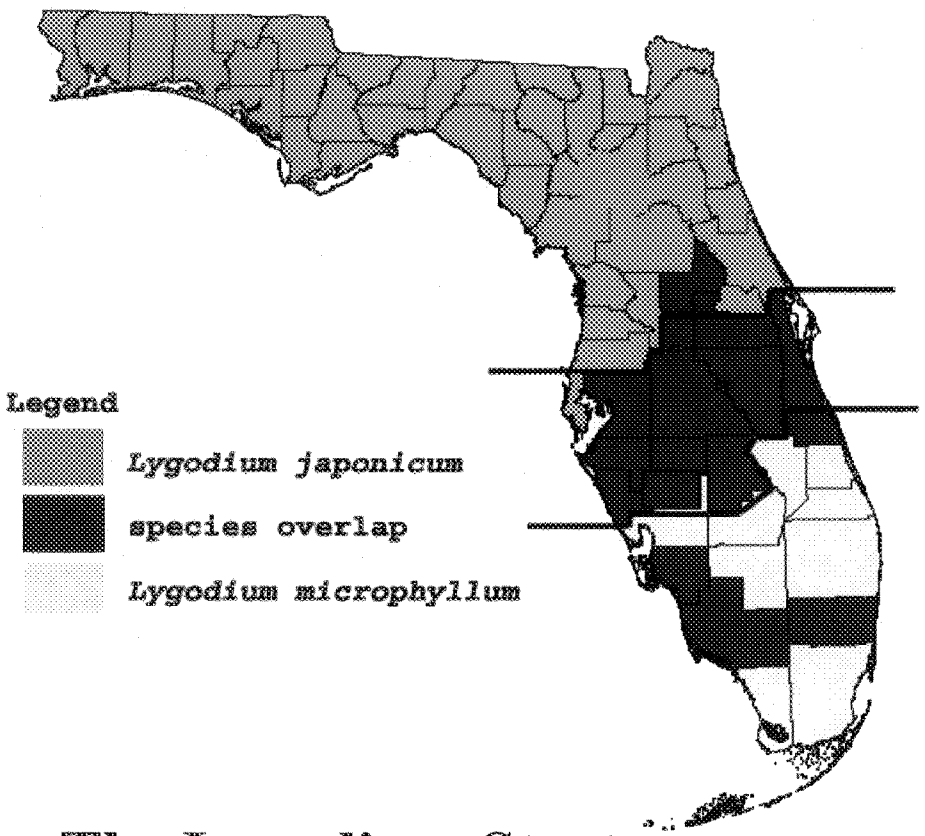
Developed by FNAI

Funded by DEP-BIPM

Co-sponsored by FL EPPC

Multi-agency Lygodium Task Force:

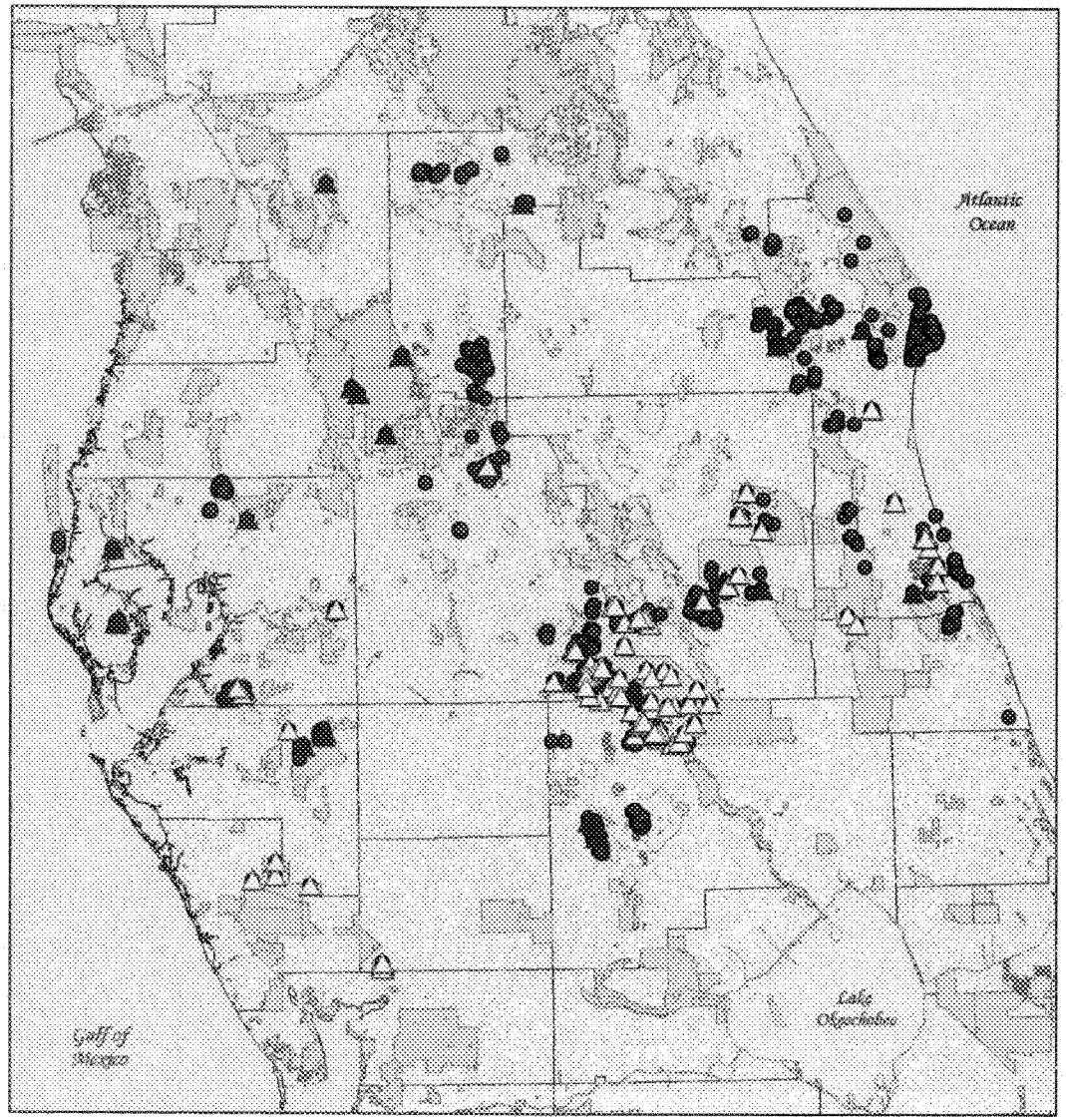
Drawing lines in the sand of central Florida



GeoDatabase focus area For FY2005

The Lygodium Strategy

Map courtesy of TNC



Florida Invasive Plants GeoDatabase

April 2005

▲ *Lygodium japonicum*

△ *Lygodium microphyllum*

● Other Invasive Species

Conservation Lands

FLORIDA Natural Areas INVENTORY

www.fnai.org

For more information, call 850-224-8207, ext. 210.

Map by: H. Seminick

Steadily expanding... April 2005

DACS Presentation

Invasive Species

Florida Department of Agriculture
and Consumer Services

The Problem

New species causing harm to existing species

Why is it a problem?

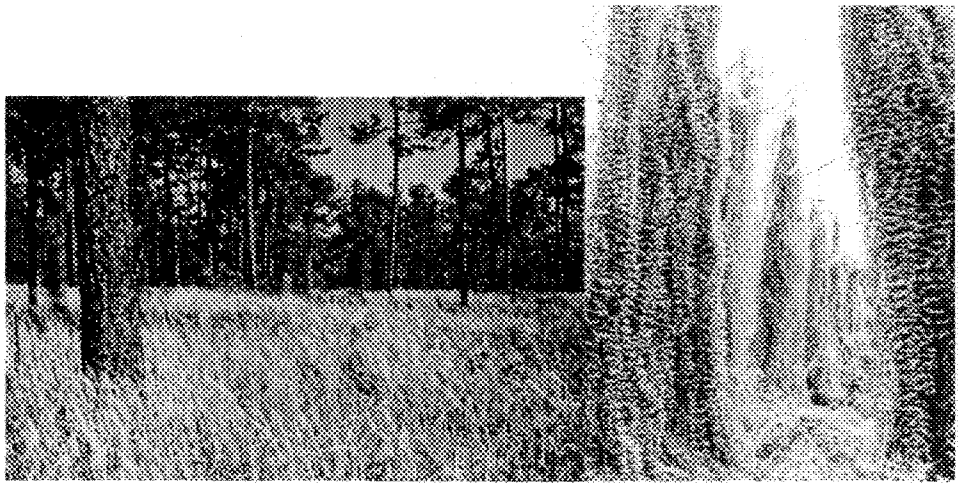
- Invasives can change the existing environment.
- Invasives reduce or eliminate production.
- Consequently,
  - The Department of Agriculture and Consumer Services spends over $45 million annually dealing with invasives.
  - Farmers are estimated to spend over $660 million a year dealing with invasives.

What is being done?

Department's Authority

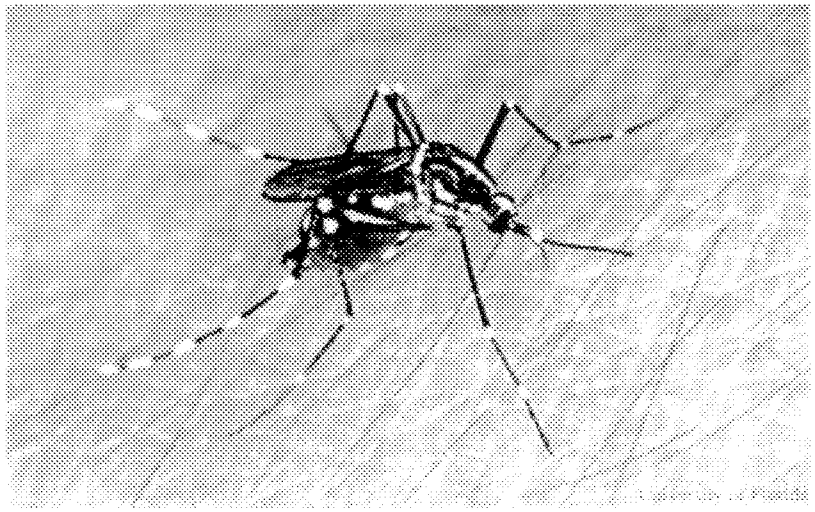
Chapter 253 – Managing state lands

The Divisions of Forestry and Aquaculture both have responsibility for managing state land given to them by the Board of Trustees of the Internal Improvement Trust Fund. Management includes control over organisms found on the property. State land managed includes uplands as well as submerged lands.



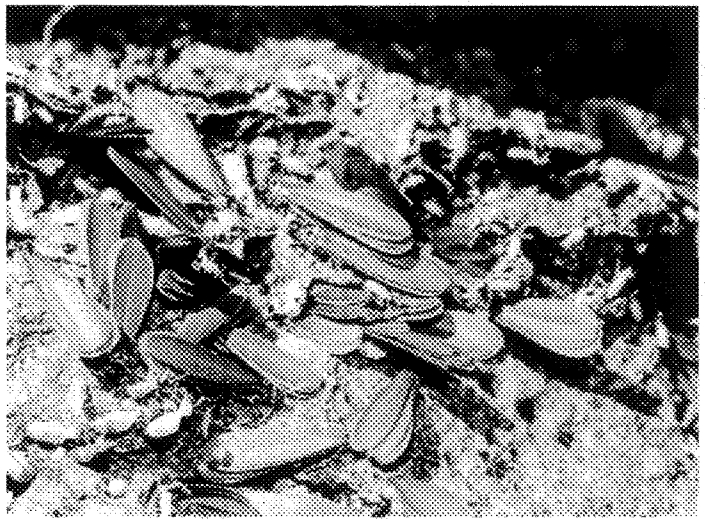
Chapter 388 – Mosquito Control

The department provides funds and spraying services to control outbreaks. Outbreaks carry human diseases like West Nile Virus.



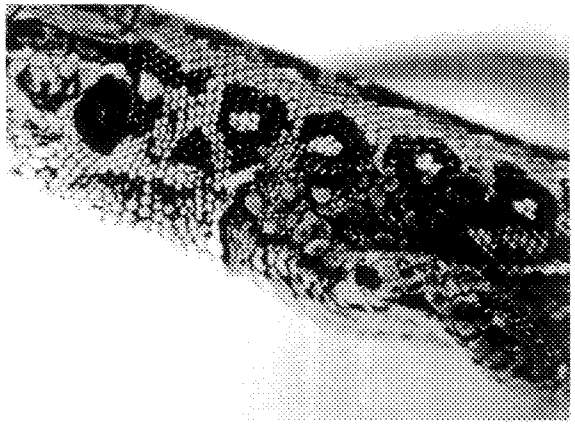
Chapter 482 – Pest Control (roaches, termites)

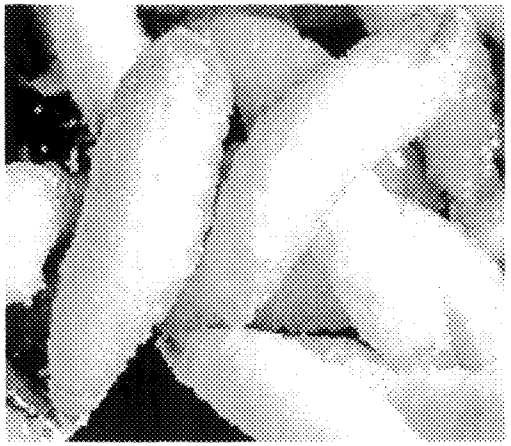
The department samples, inspects, and addresses findings of new pests as well as regulates the pest control industry and the chemicals they use.



Chapter 585 – Animal Diseases and Animal Biologicals

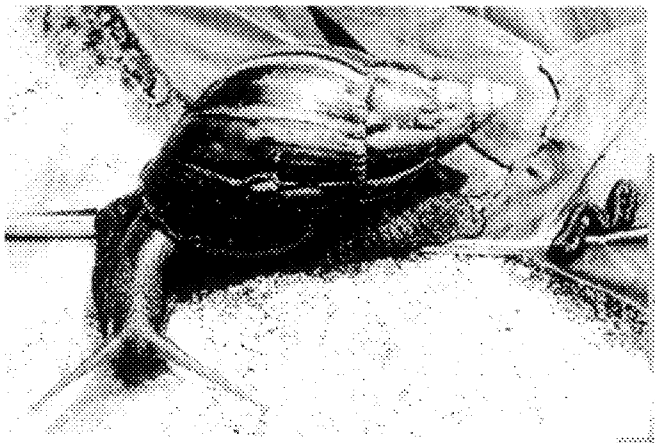
The department through the State Veterinarian has the responsibility of protecting animal health through investigating, identifying, treating, controlling and eradicating pests and diseases of animals. The department also regulates the use of animal biologicals used for treatment.

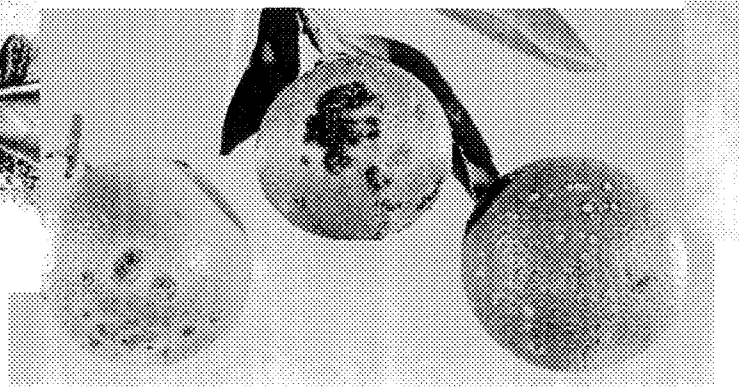


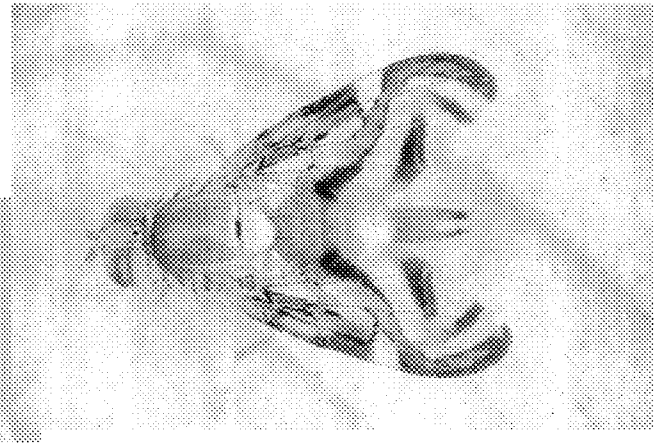


Chapter 581 – Plants, Plant Pests, and Plant Diseases (nursery and home owners)

The department is responsible for regulating plant pests and diseases, noxious weeds and engineered plants, pests, or other organisms that can affect plant life.

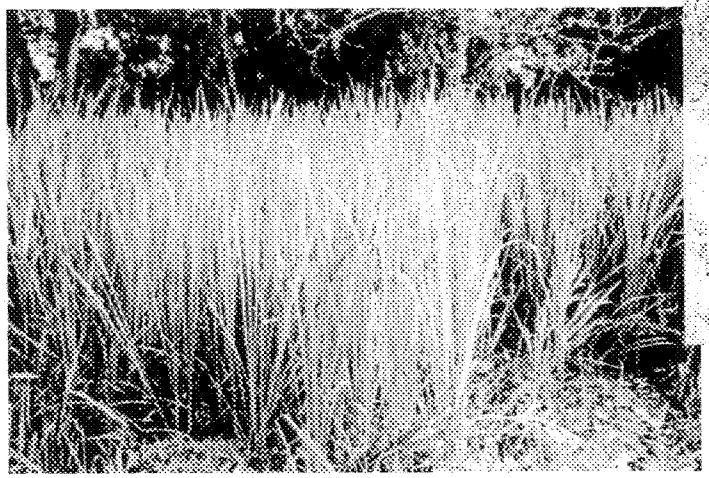


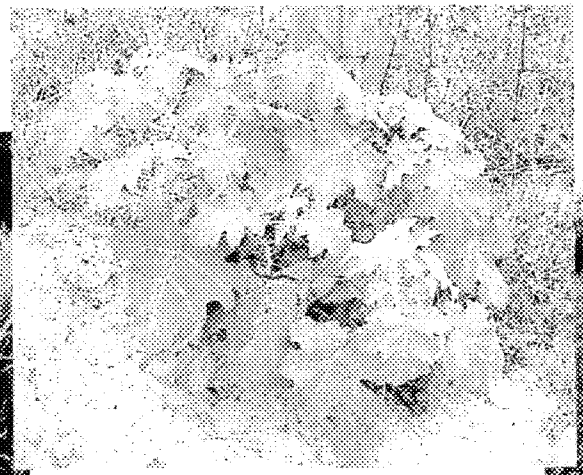


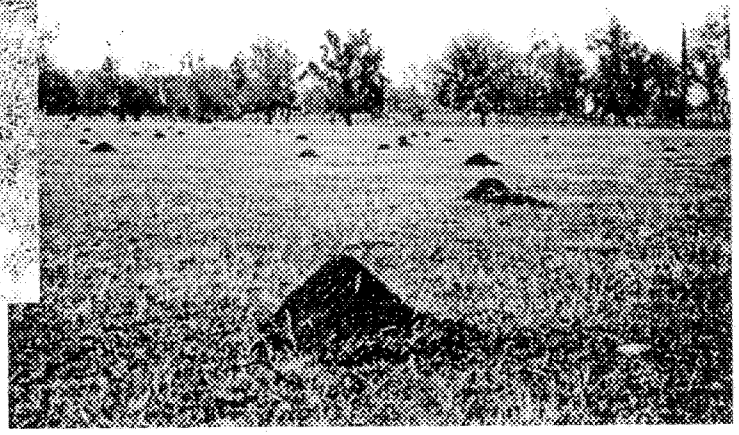


Chapter 589 – Forestry

The department is responsible for the management of the state forests and can provide services to private land owners as well.



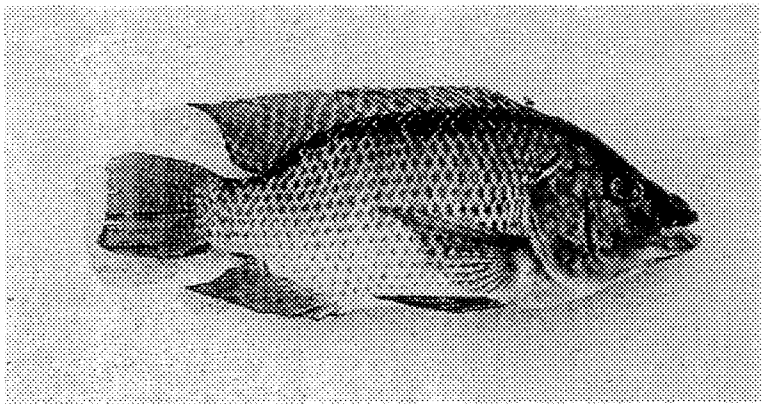




Chapter 597 – Aquaculture Species

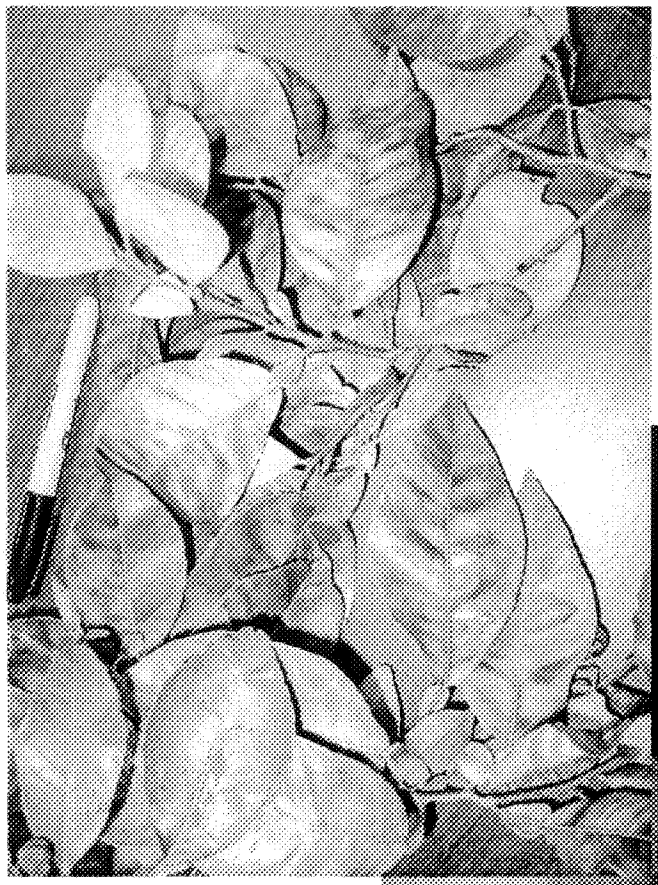
The department is responsible for regulating aquaculturists. This is done by inspection of the farms. Aquatic plant farms and fish production, fresh and marine, are covered.

When the department is on the farm it enforces the other agency's rules relative to prohibited plants and animals.



Current Conditions

- Presently there are 12 new plant pests seen by the department every year.
- The department has 473 field inspectors.
- Florida has at least 4 major airports, 5 major water ports, more than 3 major U.S. highways entering the state, and 76.8 million visitors a year. Not to mention 17.3 million residents.



Solutions

- Coordinated multi-agency, multidiscipline approach.
- Resources for surveillance of introductions.
- Resources for responding to finds.
- Resources for control and/or eradication, where possible.