Wildlife in Sugarcane Fields of the Everglades Agricultural Area

Elise V. Pearlstine, Michelle L. Casler, Wendy M. Bear, Frank J. Mazzotti and Kenneth G. Rice
Purpose

- Study wildlife in agriculture
- Describe habitat characteristics
- Study management practices and effects
- Provide educational material to growers and public
Everglades Agricultural Area

Lake Okeechobee
Sugarcane Characteristics

- Grown year-round
- Low input
- Dense vegetation
- Associated water features
- Associated edge habitat
- Limited access
ARM Loxahatchee NWR

- Managed for wildlife
- Native plants encouraged
- Water management wildlife friendly
- Exotic species control
- Visitation controlled
Methods

• Point Counts
  – Road, ditch, canal and field
  – Five minutes at sunrise - birds
  – Five minutes after dark plus ground search - anurans
  – All individuals heard and seen
Methods

- Minnow Traps
  - Canals and ditches for small fish
  - Overnight
  - Also used observation and throw nets for large fish
Birds

• Sugarcane
  – More individuals
  – More species
    • 72 species

• Impoundments
  – Fewer individuals
  – Fewer species
    • 54 species
Birds

• Sugarcane
  – 29 species associated with water (40%)
  – 39 species associated with land (54%)
  – 4 species land/water associations (6%)

• Impoundments:
  – 23 species associated with water (43%)
  – 28 species associated with land (52%)
  – 3 species land/water associations (5%)
Sugarcane Microhabitat

Average Number of Birds in Sugarcane Habitat

- Canal
- Other Ag
- Road
- Structure
- Sugarcane
- Vegetation

Total
Impoundment Microhabitat

Average Number of Birds in Impoundment Habitat

Canal | Impoundment | Road | Structure | Tree | Vegetation

0.00 | 0.50 | 1.00 | 1.50 | 2.00 | 2.50 | 3.00 | 3.50 | 4.00

[Graph showing the average number of birds in different microhabitats with labels and data points]
Adjacent Habitat

• Fallow and Fallow Flooded Fields
• Rice Fields
• Some sampling sites adjacent to wildlife habitat
Fish

• Sugarcane
  – No difference in individuals
  – More species
    • 19 species

• Impoundments
  – No difference in individuals
  – Fewer species
    • 14 species
Anurans

- Sugarcane
  - Fewer individuals
  - More species
    - 13 species

- Impoundments
  - More individuals
  - Fewer species
    - 11 species
Reptiles

• Sugarcane
  – More individuals*
  – More species
    • 22 species

• Impoundments
  – Fewer individuals*
  – Fewer species
    • 8 species

*Not statistically tested
Mammals

- Sugarcane
  - More individuals*
  - More species
    - 12 species

- Impoundments
  - Fewer individuals*
  - Fewer species
    - 6 species

*Not statistically tested
EAA Characteristics

• Large size and proximity to natural areas
• Limited access and unpaved roads
• Abundant water – flooded fields and canals
• Low input of fertilizers and pesticides as well as low use of machinery
Results

• EAA good wildlife habitat for some species
• Wildlife use all components of agricultural fields
• Management practices
  – Ditch and canal management affect wildlife
  – Harvest does not affect wildlife populations
Questions?