Next Steps Towards Recovery of the Cape Sable Seaside Sparrow

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Mission - 

Ecostudies Institute is dedicated to understanding and conserving native populations of birds and other wildlife and their habitats.

- Founded in 2001
- Based in East Olympia, WA

Our core beliefs

- Biodiversity and intact habitats and ecosystems are important to the well-being of humans.
- Sound science should guide the conservation, management, and restoration of birds and wildlife.
- Disseminating results of scientific research promotes informed decision making and public involvement in conservation.
CSSS Distribution

- 6 Subpopulations
  - Large: B, E
  - Small: A, C, D, F
- ENP rangewide helicopter survey
- Demographic monitoring in subpopulations A, B and D
Population Estimate

- Rangewide population estimate based on ENP survey data $\sim 3,216$
- Raw count data x multiplier (16x)
- Problems with multiplier/estimate
  - No estimate of precision
  - Surveys not replicated
  - Multiplier assumptions not valid
    - Detection probability = 1.0
    - Sex ratio is 1:1 (balanced)
    - Sparrows are not detected at distances $> 200$ m
Population Trends
(Demographic Study Plots)

- Pop A
  - Continued decline

- Pop D
  - Stable (variable)

- Pop B
  - Increasing (until 2016)
CSSS Ecology

- **Habitat Requirements**
  - Marl prairies (large areas)
  - Fire history ≥ 3 years required for breeding

- **Survivorship**
  - CSSS survival ~ 2-3 yrs

- **Reproduction**
  - Mean nest height ~15 cm
  - Nesting cycle ~ 30-40 d
  - Nest success ~ 0.40
  - Multi-brooding necessary
CSSS Dispersal Patterns

Mean dispersal 19.2 km (± 7.2)
Subpopulation A

- Reduces stochastic risk for entire CSSS population
- Sole remaining breeding population in Pop A?
- Dispersal rates too low to support recovery
- Translocation likely necessary to aid recovery
Subpopulation E

- Second ‘core’ subpopulation
- Spreads out stochastic risk in eastern Everglades
- Pop E likely most important source of recruits to A and other small subpopulations
- Loss of critical habitat in Pop E could rapidly affect other subpopulations
Subpopulation C

- Crossroad for dispersal among subpopulations
- Opportunity for 3\textsuperscript{rd} viable subpopulation in the eastern Everglades
- Closest suitable habitat for shift of Pop E in response to potential habitat loss
Next Steps

• Population estimation
  – Improve current estimate
  – Subpopulation level

• Demographic modeling
  – Meta-analysis of existing long-term demographic data
  – Relate demographic data to habitat modeling results

• Demographic monitoring
  – Continue in subpopulations A and B
  – Add subpopulations C and E

• Translocation
  – Subpopulation A
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