SUSTAINABLE ECOSYSTEMS INSTITUTE

Multi-Species Avian Ecology Forum 2007

Process and Key Conclusions

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SEI Multi-Species Avian Ecology and Restoration Review 2007

A Multi-species approach to Restoration.

Goals

- Review new information since 2003 workshop, and provide scientific clarity to assist restoration.

- Address specific questions regarding science and management of 4 species of concern:
  - Cape Sable Seaside Sparrow
  - Snail Kite
  - Wood Stork
  - Roseate Spoonbill

2007 forum was in response to request from USFWS and sanctioned by the Task Force

Cape Sable Seaside Sparrow

Snail Kite

Roseate Spoonbill

Wood Stork

Sustainable Ecosystems Institute

Scientific organization that provides non-partisan scientific review and advice.

The Institute uses its “SEI Process,” a scientific review method, to integrate science into decisions. Used to resolve critical environmental issues and controversies nationwide at the species and ecosystem levels- Everglades, Missouri River, California Redwoods and several endangered species.

SEI’s Conservation Science Network is comprised of more than 400 top scientists form the backbone of SEI’s scientific work.

SEI PROCESS

Open and Transparent Science Review.

Assemble a panel of recognized experts in a public forum, listen to presentations on the relevant science.

In a scientifically facilitated process, discuss that science openly so that the review is public and debate and reasoning is clear.

Panel presents findings in a report and a question and answer discussion.

SEI PROCESS

Goal is to assist policy makers, managers, and interested stakeholders to use the best science available in decisions.

Method is to strength the understanding of the science including its quality, and to articulate areas of uncertainty, and risks.

A SCIENCE PROCESS

SEI's role

To facilitate the presentation, discussion and evaluation of science.

It is *not* SEI's role to make management or policy decisions.

2007 Multi-Species Forum

Science - An iterative process where information is continually gathered, shared, and reviewed.

Avian Forum - a timely science review meeting

- *update on the science,*
- *evaluate the implications of new scientific information for species and restoration, and*
- *provide guidance on how the science can inform management actions.*

Built on 2003 workshop.

Science Panel

- **Dr. Barbara Bedford** Cornell University
- **Dr. Virginia Burkett**, USGS National Wetlands Research Center
- **Dr. Mike Collopy,** University of Nevada
- **Dr. Scott Derrickson,** Smithsonian Institution
- **Dr. Chris Elphick**, University of Connecticut
- **Dr. Randy Hunt**, US Geological Survey
- **Dr. Ken Potter,** University of Wisconsin-Madison
- **Dr. Jim Sedinger**, University of Nevada
- **Dr. Jeff Walters**, Virginia Tech

Avian, hydrology, vegetation, changing ecosystems (climate change)

Panel Charge

Review new information on individual species, and multi-species in the context of restoration.

Provide assessment of the science and its implications.

Provide scientific recommendations and guidance in response to questions from policy makers and managers.

--Overall goal to help move restoration forward--

SEI 2007 Workshop

Public Science Forum: August 13-15 2007 at FIU.

Meeting facilitated by translational scientist (Dr. Steven Courtney)

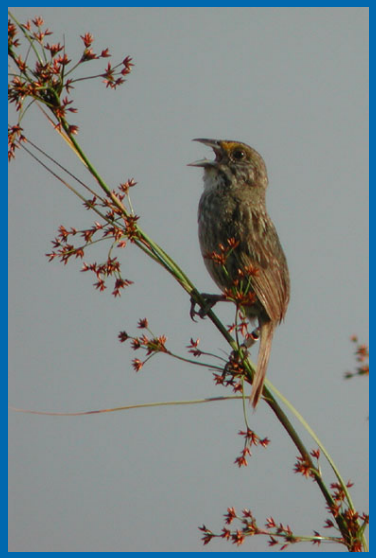
19 separate presentations

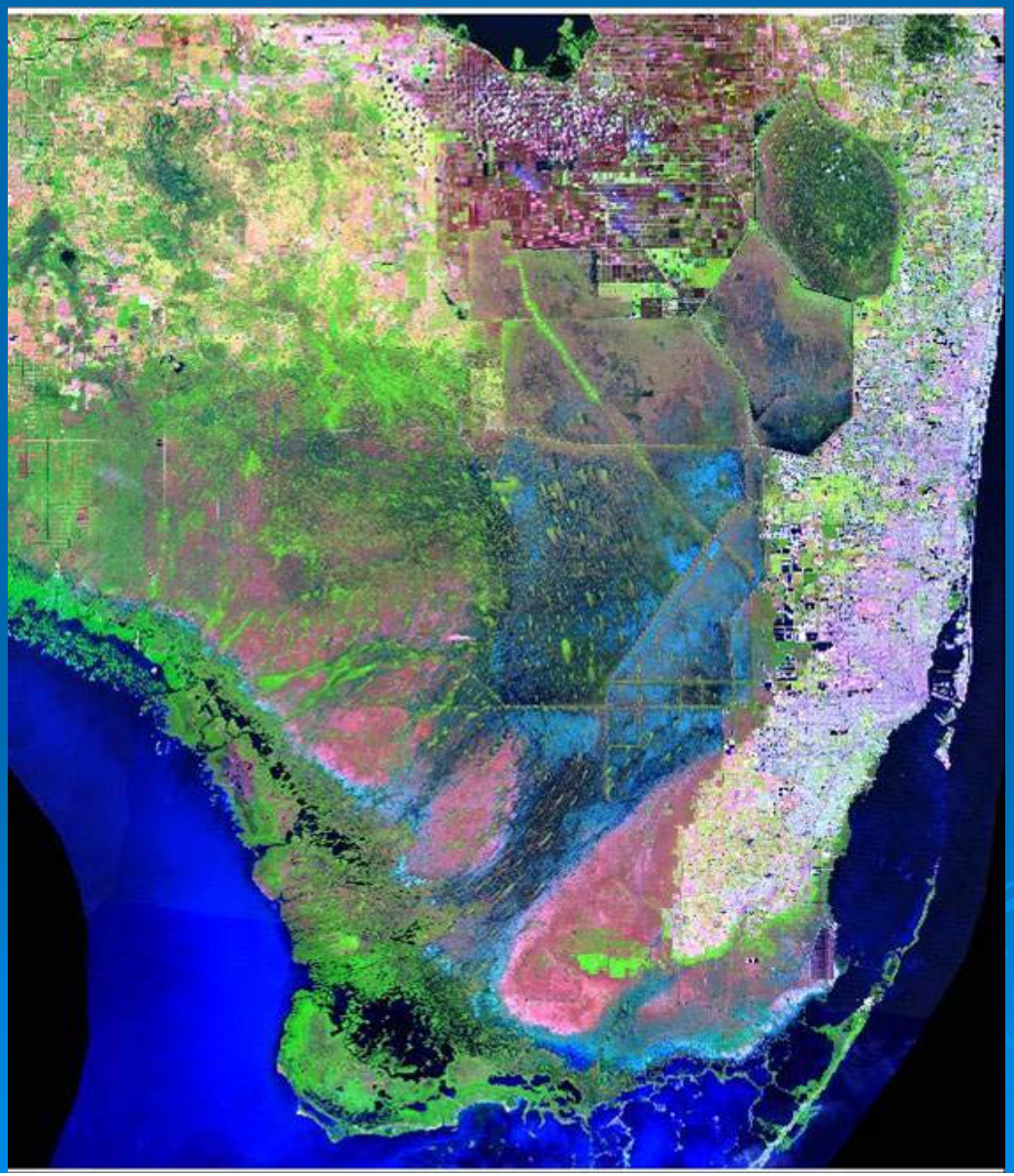
13 discussion sessions (panel, scientists, and audience)

Scientific papers and reports, and restoration reports.

Weekly follow up meetings.

Overview of Findings





Overarching Conclusions

Focus on four species but many recommendations have broader applications.

<u>Overarching/Multispecies.</u>

1. Impressive series of studies since 2003 workshop which have deepened knowledge and lead to new recommendations.

2. Compelling support for framework that water flow is central to restoration. Also a systems approach is important.

3. Status Quo is not an option if the goal is restoration. Status Quo puts species at further risk: Every effort should be made to move forward with ModWaters and Decomp. No species should delay implementation.

Overarching Conclusions 2

4. Multi-species. There are no true conflicts but until the desired water management system has been created tradeoffs will exist. A conceptual framework for multi-species is needed.

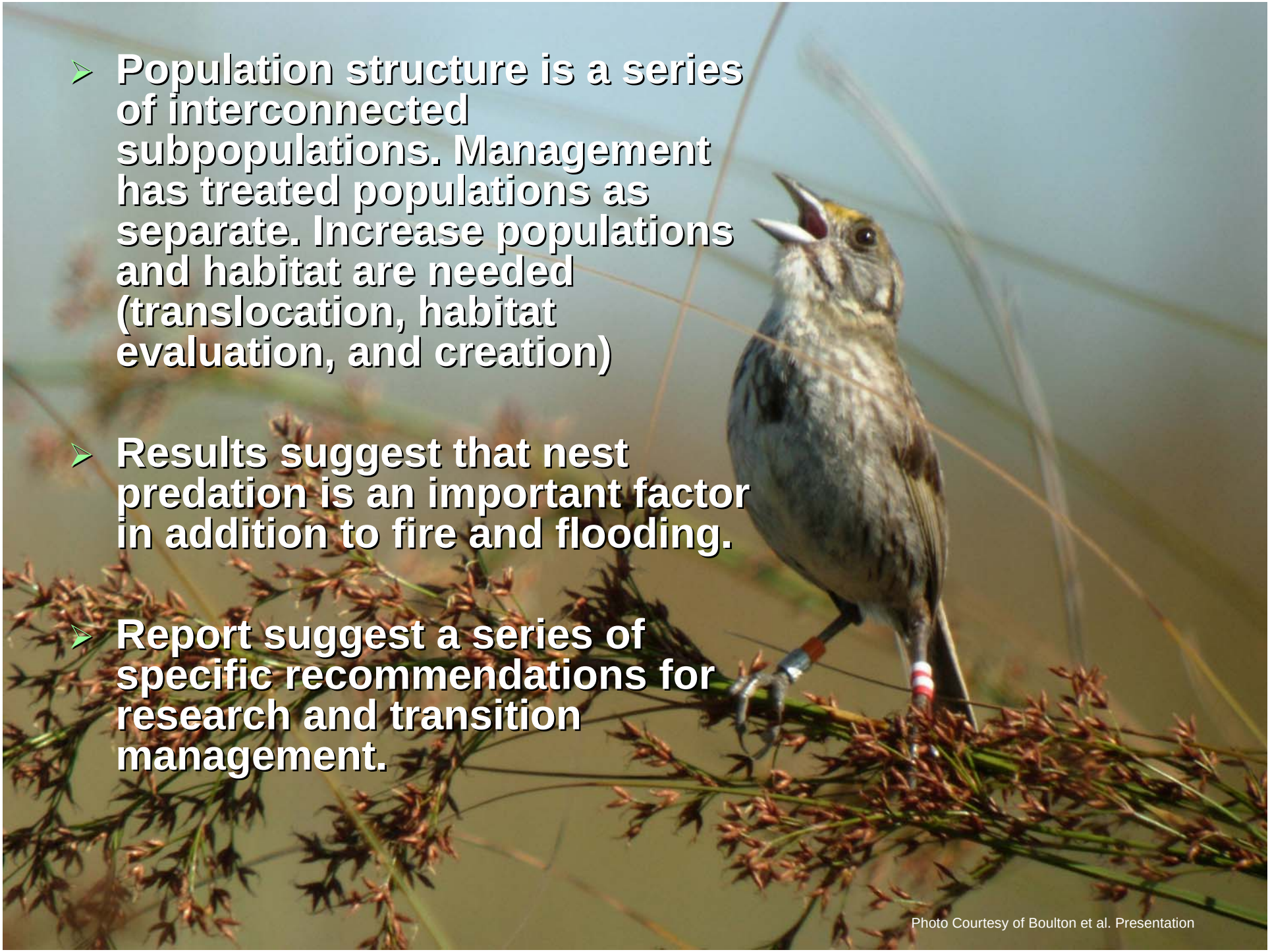
5. Science structure is inadequate to meet the needs of managers and policy makers. Consortium structure.

6. Science integration is also inadequate to address restoration e.g. species-multi-species-vegetation-hydrology linkages. Discrepancy between hydrological and ecological scale of models.

Cape Sable Seaside Sparrow

- **CSSS has not rebounded and species is at risk from environmental stochasticity.**
- **Some actions may increase risk to sparrow but with additional measures this risk is acceptable. Restoration should not be delayed as delay does not help sparrows or other species.**
- **CSSS has greater dispersal capacity and is more resilient. But maintenance/creation of habitat is essential**

Photo Courtesy of Boulton et al. Presentation



- Population structure is a series of interconnected subpopulations. Management has treated populations as separate. Increase populations and habitat are needed (translocation, habitat evaluation, and creation)
- Results suggest that nest predation is an important factor in addition to fire and flooding.
- Report suggest a series of specific recommendations for research and transition management.

Photo Courtesy of Boulton et al. Presentation

Snail Kite

- Has been affected by recent climatic and human impacts. But decline may not be as great as reported.
- Water management (including in WCA-3A) can be adapted to account for nesting and recovery in ways that are consistent with restoration goals.
- Integrate links between Apple Snail, Snail Kite, with hydroperiod and vegetation.
- Telemetry studies need to restart.
- Address impacts of non-native Apple Snail

Photo Courtesy of Kitchens Presentation

Wood Stork and Roseate Spoonbill

Findings highlight the value of new information and point to specific data needs that will help inform managers.

WOODSTORK

- Integrate hydrological information with nesting and habitat use at the appropriate scale for the bird.

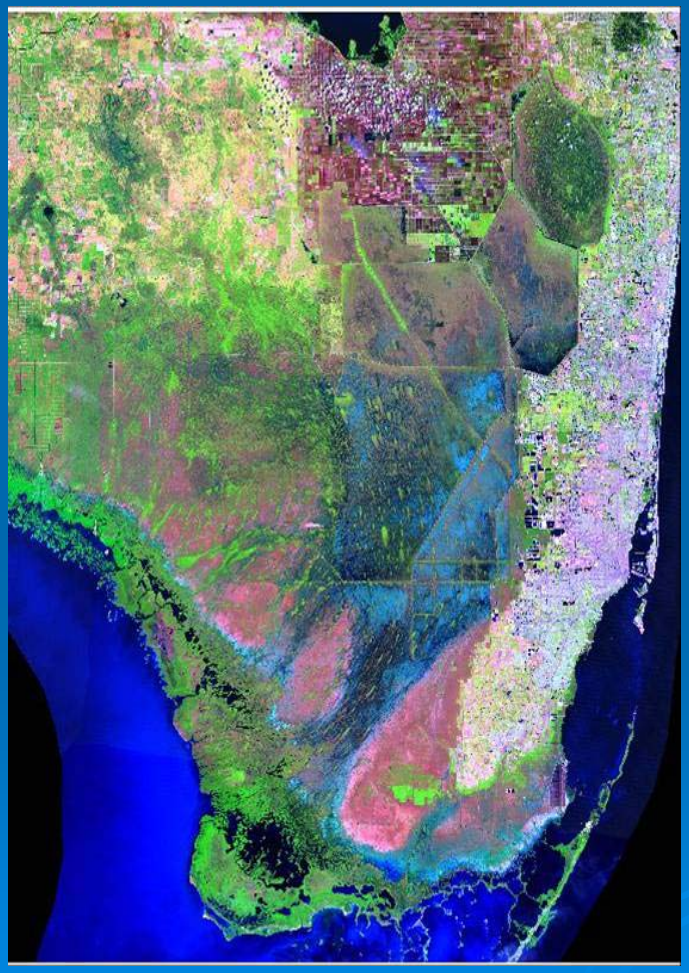
Photo Courtesy of Lorenz Presentation

SPOONBILL

is a key indicator species

- Satellite telemetry continued for movement and habitat use
- DNA analysis for sex determination.

Hydrology and Modeling in Relation to Species of Concern



- **Hydrological modeling is a necessary and appropriate tool.**
- **Regional models ideal for regional questions, but local-scale ecological thresholds require simulations at smaller scale.**
- **Develop a process to allow ecological concerns and thresholds to be formally considered in 2010 System Operations Manual revision.**
- **Potential impacts of climate change are articulated and need to be integrated into planning and models.**

Summary Key Conclusions

Restoration is key. It is important to move forward as the status quo only increases risk .

Species can be managed through transition; there will be some risks that can be mitigated against. No species should or needs to hold up restoration.

The science structure, the integration of ecological and inter-disciplinary science, and representation of senior executive scientists at senior management level is insufficient to support the needs of managers and policy makers through restoration. (This is true for 4 species but also more broadly).

Scientific Discussion on Findings