Recovering Imperiled Species

Adaptive Management for Conservation in the Face of Climate Change

Greater Everglades Ecosystem Restoration 2008

Naples, Florida

July 30, 2008

U.S. Fish and Wildlife Service

Species Recovery and the Challenge of Climate Change

Outline of Presentation

I. The Changes Ahead

II. The Species and Habitats Involved

III. What Do We Have?

IV. What Do We Need?

V. What Must We Consider?

VI. Take Home Messages

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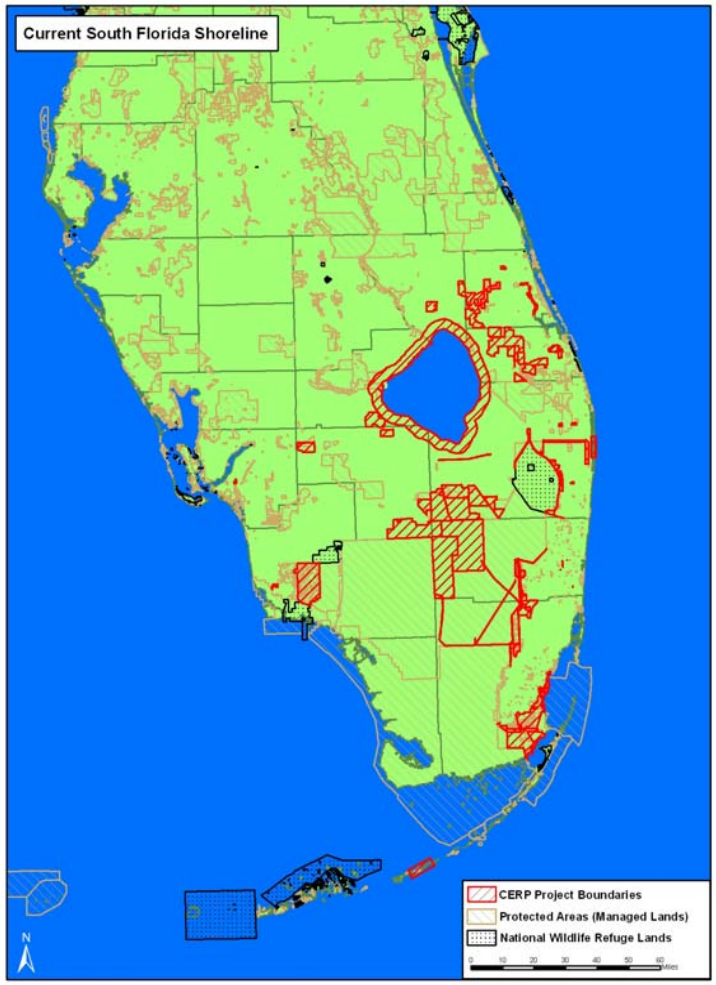

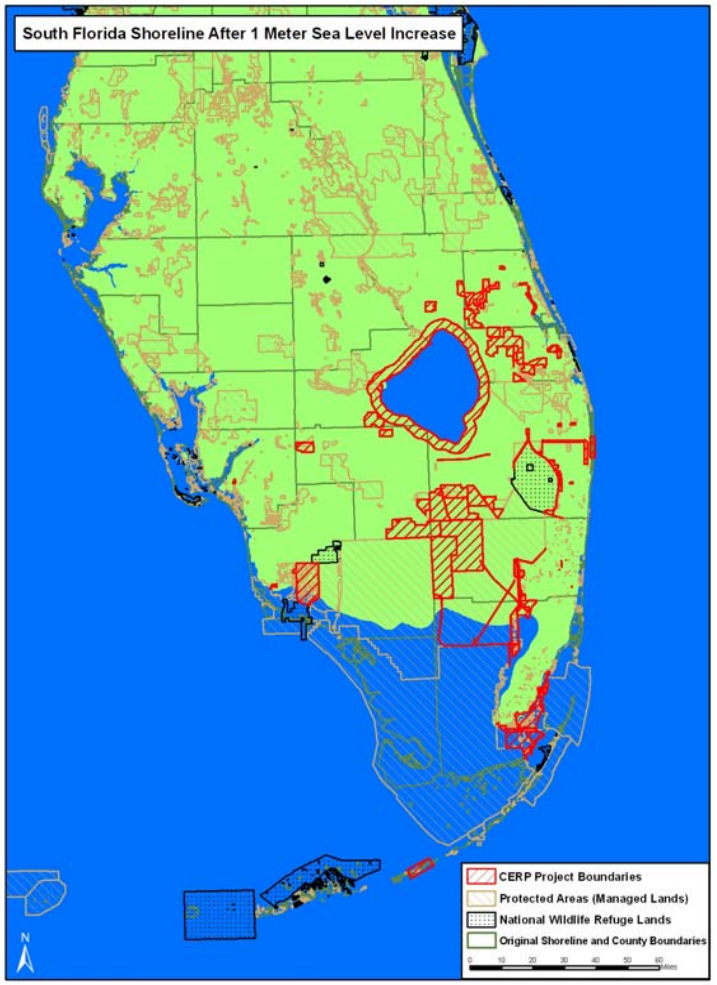

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The Species Involved

Climate Change Could Drive More than a Million Species Towards Extinction by the Year 2050

– Chris Thomas, Conservation Biologist –

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The Species Involved

- 67 Threatened and Endangered Species
- Native Fish and Wildlife Species
- Exotic Species

* Florida panther * Key deer * Key Largo cotton mouse * Key Largo woodrat

* Lower Keys rabbit * Rice rat * Audubon's crested caracara * Cape Sable seaside sparrow

* Everglade snail kite * Florida scrub-jay * Wood stork *American crocodile * Green sea turtle

* Hawksbill sea turtle * Kemp's ridley sea turtle * Leatherback sea turtle * Loggerhead sea turtle

* Schaus swallowtail butterfly * Stock Island tree snail * Key tree-cactus

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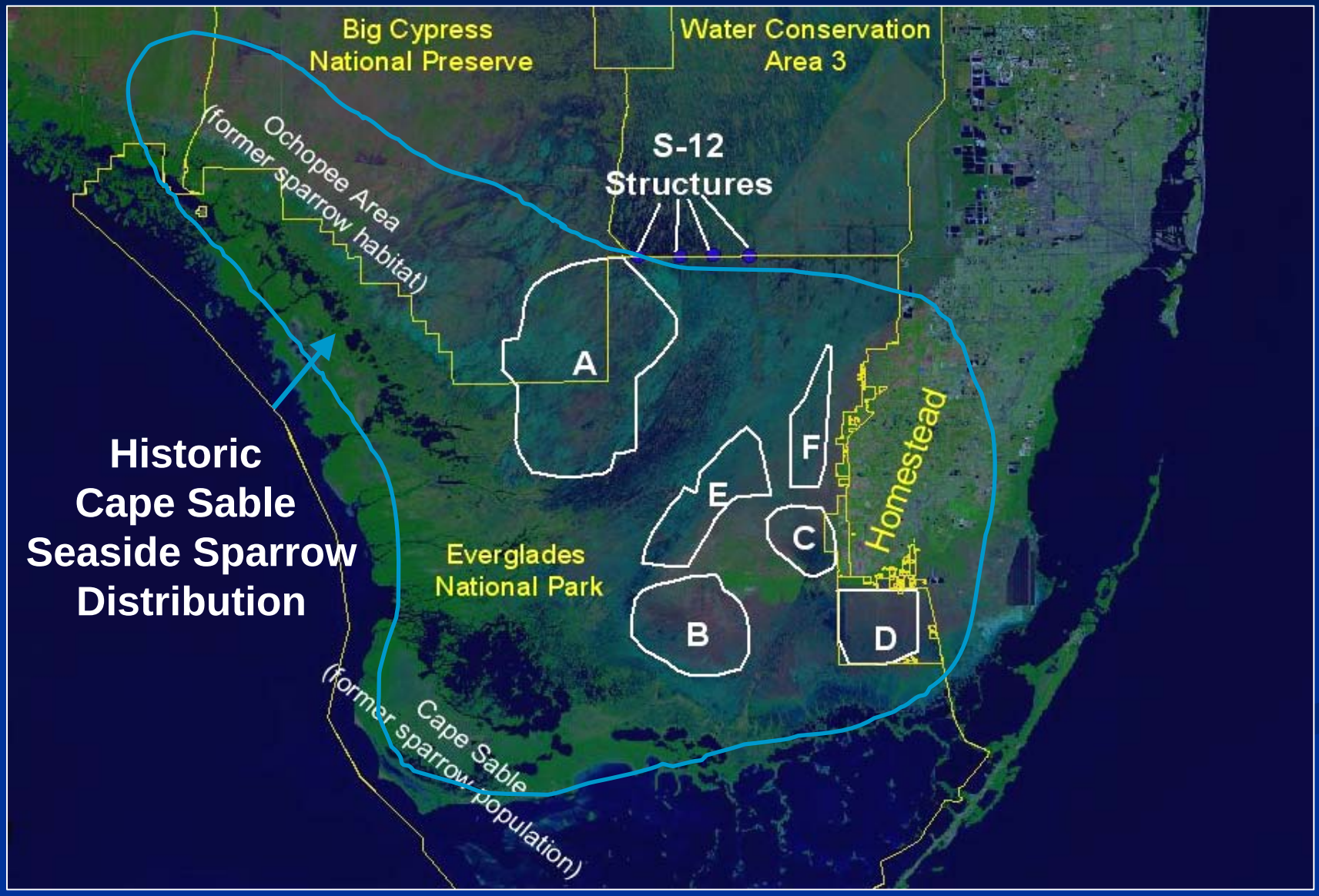

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The Habitats Involved: Our National Wildlife Refuges

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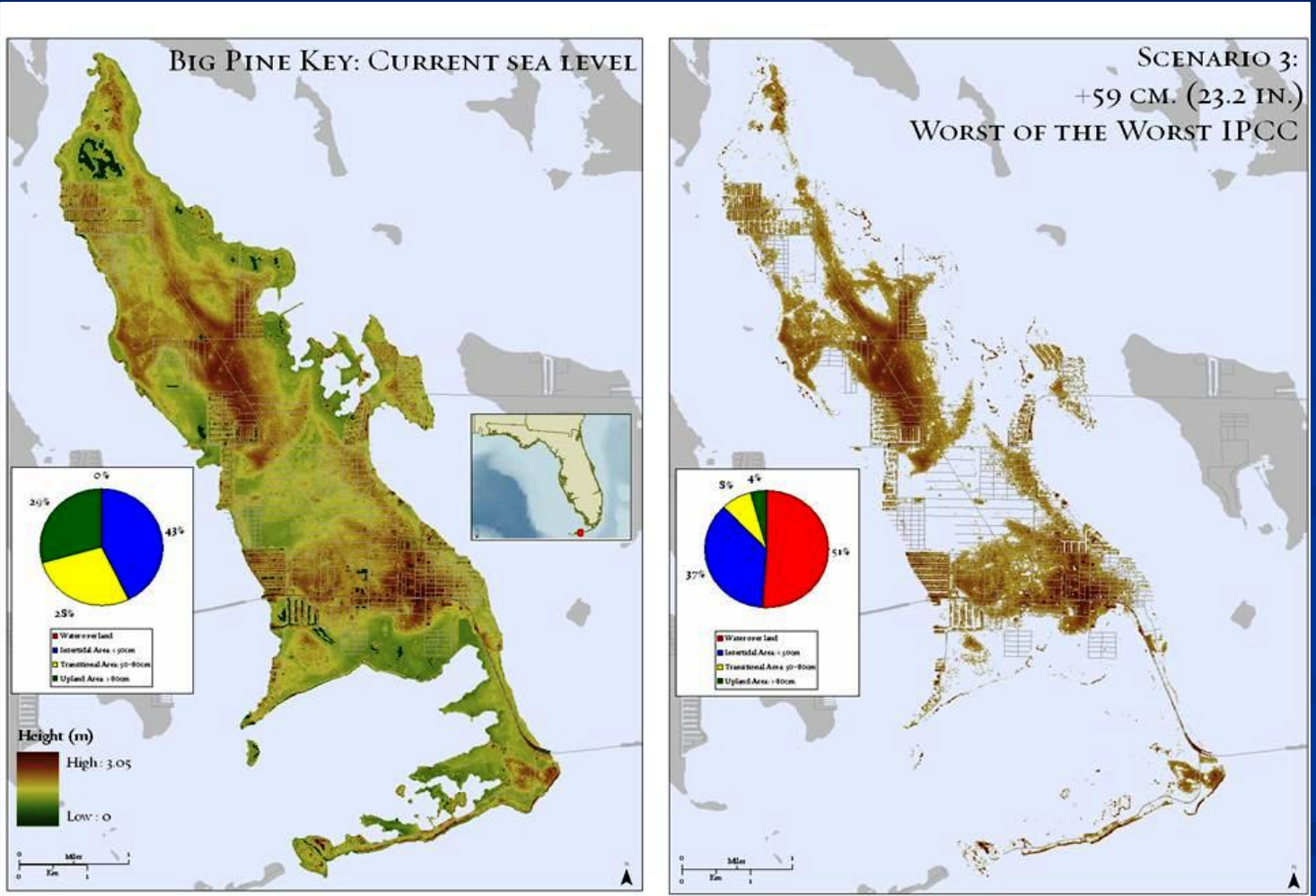

Courtesy of Chris Bergh, The Nature Conservancy

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What Do We Have?

- A Growing Recognition of the Challenge
- A Broadening Dialogue on the Issue
- Science Being Developed to Characterize the Nature of the Challenge
- Restoration to Promote Resistance and Resilience
- The Spotlight on Alaska and Florida

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What Do We Need?

- More Tools to Incorporate Impacts of Climate Change in Everyday Action
- Adaptive Management for Our Refuges
- A New Multi-Species Recovery Plan?
- Better Understanding of Impacts Beyond Sea Level Rise
- Seize the Momentum at Hand

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What Must We Consider?

- The Three Drivers: Climate Change, Land Use, and Restoration
- Setting Priorities – *Taking Action*
- Legal Flexibility
- Critical Habitat and Climate Change
- Captive Breeding – Translocation
- Habitat Creation and Management
- Strategic Habitat Conservation
- Habitat Corridors

Take Home Messages

- In Adversity Is Opportunity
  - *A Restoration Call to Arms*
  - *Improve Species and Habitat Condition to Adapt to Changes*
- Focus on Practical Tools to Make Everyday Evaluations
- A New Way of Thinking About Survival and Recovery
- Interdisciplinary Partnerships More Important than Ever