Invasive Species: Next Steps

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The Everglades' Non-Native Taxa

- 50 Plants (Cat. I Invasive)
- 34 Invertebrates
- 12 Mammals
- 4 Amphibians
- 38 Reptiles
- 11 Birds
- 20 Fishes

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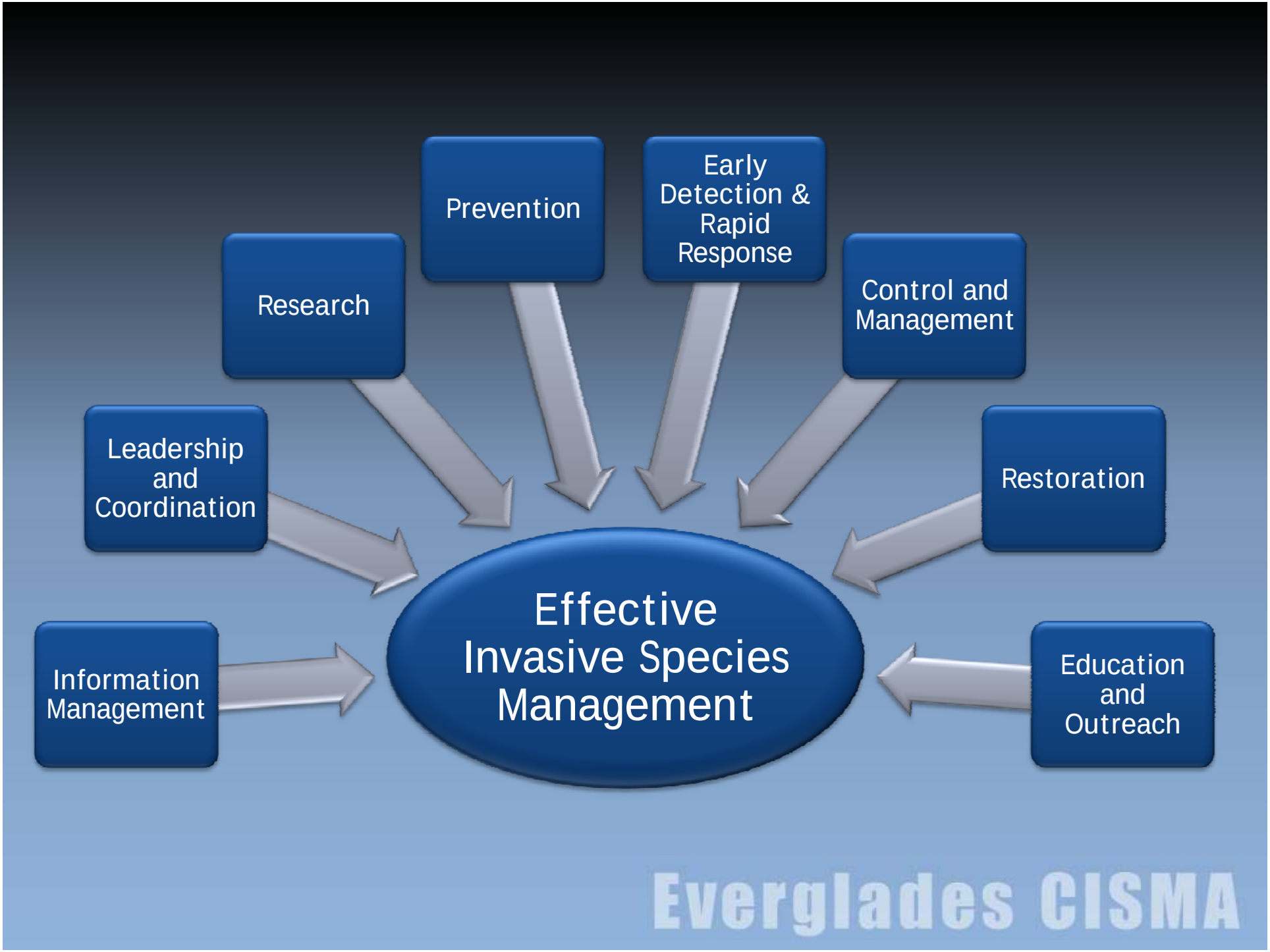
Relevance to Everglades Restoration

Species	Potentially Impacted Performance Measures
Old World Climbing Fern Brazilian Pepper Melaleuca	•Freshwater Vegetation Mosaics •Ridge And Slough Community Sustainability
Waterhyacinth, waterlettuce	•Lake Okeechobee Vegetation Mosaic
Nile monitor	•Juvenile Crocodile Survivorship •Juvenile Alligator Survivorship
Invasive fishes	•Regional Populations Of Fishes, Crayfish, Grass Shrimp and Amphibians •Lake Okeechobee Fish Population Density, Age Structure and Conditions
Giant Constrictors	•Wading Bird Nesting Patterns

Invasions Up, Resources Down

- At state and federal level, we still lack comprehensive prevention regulations.
- Current early detection, rapid response efforts are unsustainable
- Some regional priorities lack sufficient, sustained resources
- Accomplishments could be reversed if current resources are not maintained


Prevention
Early Detection & Rapid Response
Research
Control and Management
Leadership and Coordination
Restoration
Effective Invasive Species Management
Information Management
Education and Outreach
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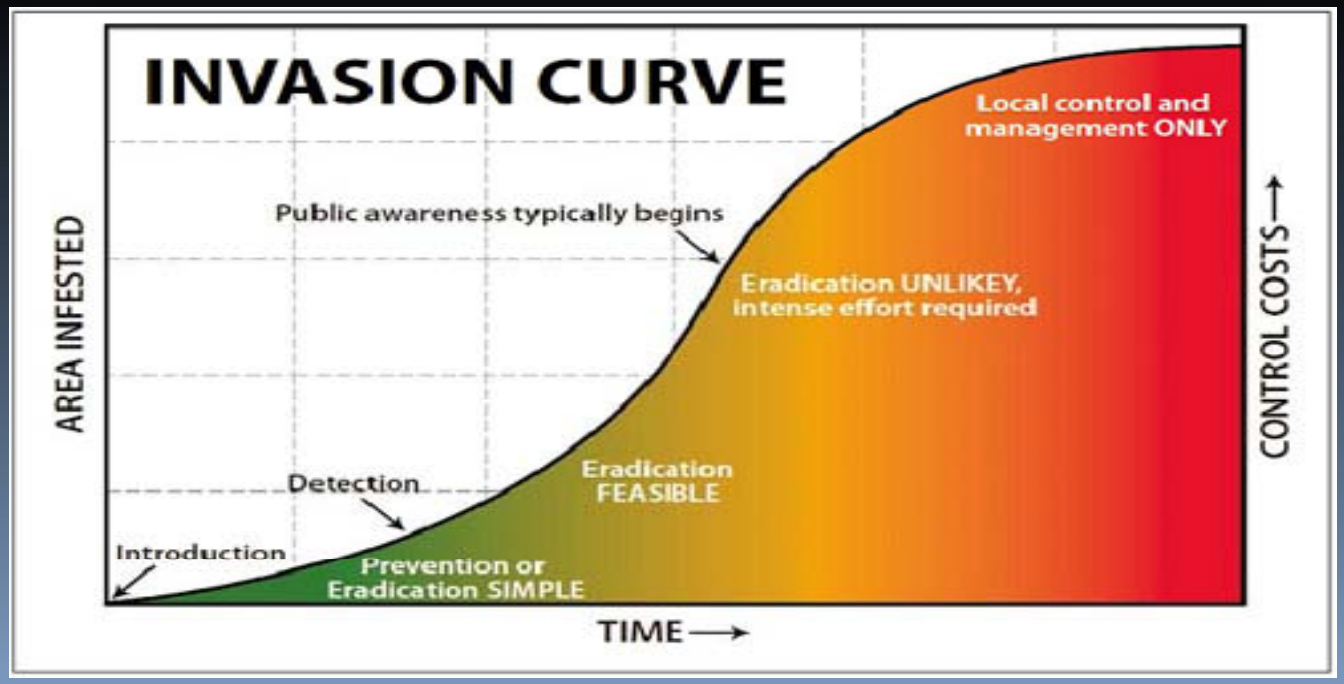


Prevention

- Pre-Import Regulations (e.g. Lacey Act)
- Education & Outreach
- Interception
- Most cost effective

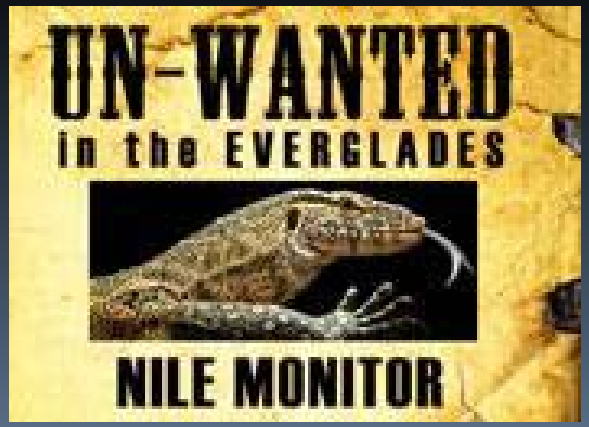
EDRR

- Attempt to eradicate or contain
- Moderate cost, low impact, short term

Control

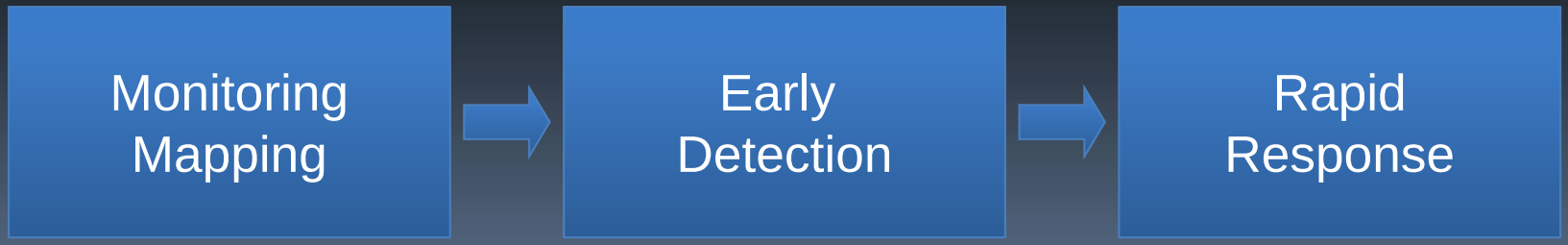
- Manage species at lowest feasible levels
- Long-term impact & highest cost financially and ecologically

Prevention



- Risk Analysis and Screening
  - Achievements
    - Assessment tools are developed
    - Proposed legislation (HR669)
  - Next Steps
    - Continued refinement and development of assessment tools
    - Adoption of comprehensive federal prevention at the border
- Public awareness
  - Achievements
    - Several regional and state-wide outreach programs (Don't Let It Loose), USACE Billboard campaign, FWC Pet Amnesty Day
  - Next Steps
    - Highly visible educational efforts that target the public statewide

Early Detection & Rapid Response



Early Detection

- Achievements
  - **Regional sketchmapping, python survey teams, common geodatabase (EDDMaps, ECOSTEMS), web-based reporting system, web-based training modules.**
- Next Steps
  - **Increase and standardize regional monitoring efforts**
  - **Use existing staff resources to create opportunistic monitoring network**

Rapid Response

- Achievements
  - **Ad-hoc efforts to contain and eradicate newly detected species (sacred ibis, northern African python, Gambian pouched rat)**
- Next Steps
  - **Designate full-time EDRR coordinator (permanent)**
  - **Develop mechanism to share resources across fence lines**
  - **Formalize inter-agency strike team, develop training programs**

Success Stories

- Long-term control of floating aquatic vegetation
- Biological Controls
  - *Alligatorweed*
  - *Melaleuca*
  - *Submerged aquatic vegetation (grass carp)*
- Improved plant control technologies
- Early eradication efforts for Gambian Pouched Rat, kripa (mangrove invader), Sacred Ibis
- Maintenance Control of Melaleuca in WCA's/Big Cypress National Preserve/Lake Okeechobee

Melaleuca Management: A Role Model

- Sustained funding
- Regulatory support
- Regional coordination

- Applied research & technology solutions
- Aggressive education and outreach initiatives

Gambian Pouched Rat: An EDRR Success Story

- FWC designates as prohibited nonindigenous species; CDC bans importation
- Monitoring and control initiated in 2005
- Ad-hoc effort without dedicated resources; nine agencies involved
- Now considered eradicated
- Total $350,000
  - $65.7 million to eliminate 400,000 nutria for the Coastwide Nutria Control Program, Louisiana

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A Coordination Success Story

- Formalized coordinating group focused on invasive species management
- Cooperative effort of many agency, organizations, and tribal biologists and land managers
- Primary objectives:
  - Regional EDRR
  - Regional monitoring/mapping
  - Information and technology exchange
  - Education and outreach
  - Identify financially-efficient strategies

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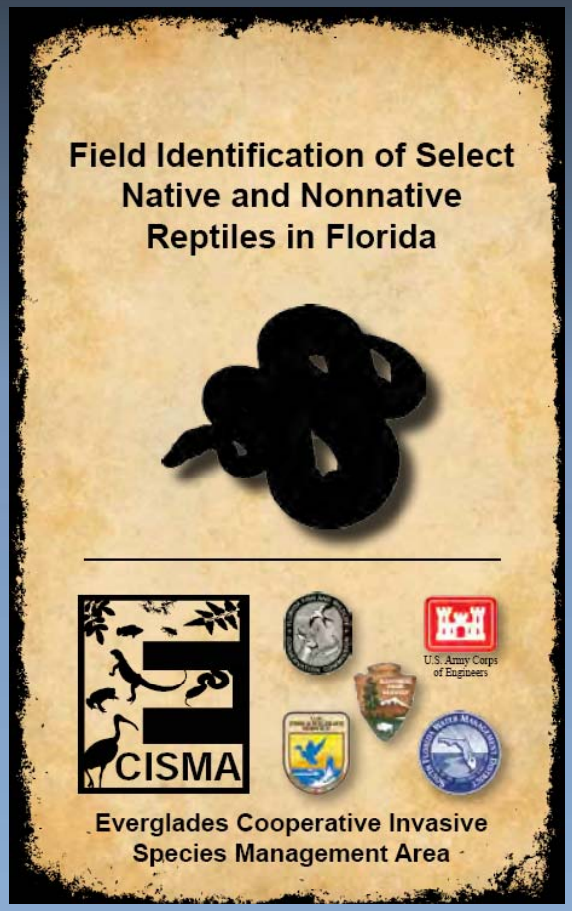
A Coordination Success Story

- Successes
  - Eradication efforts: Sacred ibis, Kripa (mangrove invader), Northern African python, Nile monitor, tegu
  - EDRR plan
  - EDRR web reporting system
  - Regional invasive plant mapping (DASM)
  - Annual invasive species summits
  - Training and outreach efforts



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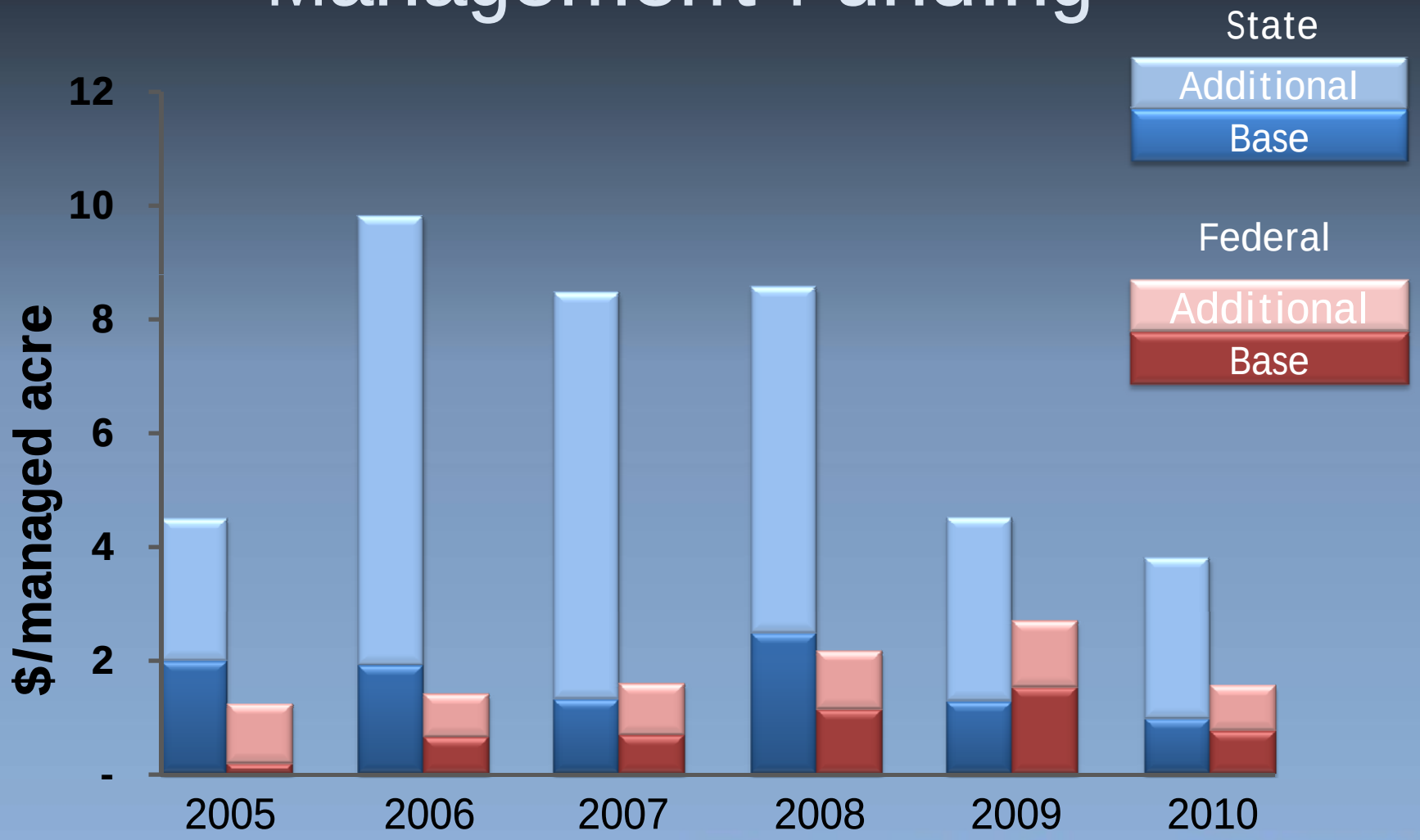
Major Constraints to Success

- Inadequate preventative regulation
- Impediments to interagency resource sharing
- No sustainable, region-wide rapid response mechanisms
- Inadequate or inconsistent resources for existing invasions

State & Federal In vasive Plant Management Funding



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Current and Future Conditions of Melalueca

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Regional Priorities

Burmese Python (Research/Control/ Containment)

Asian swamp eel/African jewel cyclid (Research/Monitoring)

Nile Monitor/Tegu (EDRR)

Lygodium (Control)

Melaleuca (Control)

N. African Python (EDRR)

Kripa (Eradication)

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Recommendations

- Recommend that Task Force promote federal prevention initiatives
  - Nonnative Wildlife Invasion Prevention Act
- Facilitate development of training and resource sharing mechanisms across agencies, particularly for EDRR
  - Workshop to determine if National Interagency Fire Management Program can be model for regional EDRR program
- Promote establishment of Everglades EDRR Coordinator
  - Develop and direct a sustainable EDRR team with contributions from all stakeholders
  - Identify critical research needs for EDRR implementation
- Endorse promotion of invasive species as higher priority in restoration budget processes.
  - Base funding currently insufficient to deal with established exotics