



**South Florida
Ecosystem
Restoration
Integrated Delivery
Schedule**

Working Group

16 July 2008

Objectives for Today's Workshop

- Review April Working Group Workshop
- Review May Task Force Workshop
- Discuss the Proposed Projects for Initial IDS Sequencing
- Develop Path Forward for Concurrence of Projects for Initial IDS Sequencing
- Discuss the Proposed IDS Benefits Methodology
- Develop Path Forward for Concurrence on IDS Benefit Methodology

Goal

- To present to Task Force in September 2008 an IDS that includes the sequencing of projects that are most critical for Everglades restoration.
- Task Force's approval of an IDS at September's meeting.

April Working Group Meeting Discussion

- Presented “Finish what’s on our plate” scenario
- WG members agreed that some non-authorized CERP projects should be moved ahead of authorized CERP projects to better meet restoration goals and objectives (most common example was DECOMP)
- Must consider planning and design constraints (e.g., DECOMP not ready until 2013)
- Must consider land acquisition constraints (e.g., IRL-S Natural Areas not ready until 2020+)

May Task Force Meeting Discussion

- The Task Force was provided:
 - Preliminary IDS scenarios
 - Current schedules for planning and design efforts for south Florida ecosystem restoration projects
 - Maps depicting approximate hydrologic benefits for the existing condition, the future with CERP, and the preliminary IDS scenarios
 - Spreadsheet-based tool to interactively modify the preliminary IDS scenarios based on cash flow
- The Task Force discussed the scenarios possible for the IDS
- **The Task Force recommended that further discussion occur at WG, with their staff, to develop the IDS scenarios & associated benefits**

Recent Developments

- Viable projects are underway and/or about to get underway and we need to keep them moving.
- Ongoing negotiations with US Sugar
- IDS more important now, than ever.
- Foundation projects currently under construction and will continue to move forward.

Next Step

- Develop and discuss project sequencing scenarios using the cash flow tool
- Project list based on foundation projects, authorized or near authorized projects, other projects

PROJECT SEQUENCING

Projects for Initial IDS Scenarios Foundation Projects

- **Kissimmee River Restoration**
- **C-51/STA-1 East**
- **Seminole Big Cypress**
- **Modified Water Deliveries to
ENP**
- **C-111 South Dade**

Projects for Initial IDS Scenarios

CERP Projects

- **BBCW Phase 1**
- **Broward County WPAs (C-9, C-11, WCA 3A/3B Features)**
- **C-43 West Reservoir**
- **C-111 Spreader Canal**
- **Decomp (Phases 1, 2, 3)**
- **ENP Seepage Management**
- **Indian River Lagoon-South (C-23/24 STA)**
- **Indian River Lagoon-South (C-44 Reservoir/STA)**
- **Lake Okeechobee (LO, TC/NS, OPEs)**
- **North Palm Beach County Part 1**
- **Picayune Strand Restoration (Miller, Faka, Merritt)**
- **Site 1 Impoundment**
- **Winsberg Farm Restoration**

Project or Project Component	Current Lead For Construction	Restoration Objectives				
		Re-Establish Sheet Flow to Central Everglades	Optimize Water Storage	Improve Water Quality	Restore Northern Estuaries & Lake Okeechobee	Restore/Enhance Wetlands & Natural Areas
Current Federal and State Commitments - Foundation Projects (Notes 1, 2 & 3)						
Critical Restoration Projects (SBC ONLY)	Corps	x	x	x	x	x
C-111 South Dade	Corps	x	x	xx		xx
C51/STA-1 East	Corps	x	x	xx		x
Kissimmee River Restoration	Corps		xx	xx	xx	xx
Modified Water Deliveries to ENP	Corps	xx	x			xx
Current Federal and State Commitments - Accelerated Implementation of Projects that are Included in CERP						
<i>October 2003 Commitments (Note 4):</i>						
Biscayne Bay Coastal Wetlands - Phase 1	SFWMD	x		x		xx
Broward County Water Preserve Areas	Corps	x	xx	xx		xx
C-111 Spreader Canal - Phase 1	SFWMD	xx	x	x		xx
C-43 West Reservoir	SFWMD		xx	x	xx	
EAA Storage Reservoir A-1	SFWMD	x	xx	xx	xx	
IRL-South: C-44 Reservoir and STAs	SFWMD		xx	xx	xx	
Picayune Strand Restoration	Corps		x	x		xx
Site 1 Impoundment	Corps		x	x		x
<i>Other Commitments (Note 5):</i>						
IRL-South: C-23/C-24 North STA	Corps		xx	xx	xx	
IRL-South: C-23/24 North Reservoir	Corps		xx	xx	xx	xx
IRL-South: C-23/24 South Reservoir	Corps		xx	xx	xx	xx
IRL-South: C-23/24 South STA	Corps		xx	xx	xx	xx
North Palm Beach County - Part 1 (Select Features)	SFWMD		xx	xx	x	x
Winsberg Farm Restoration	Corps			x		
Current Federal and State Commitments - CERP Pilot Projects (Note 4)						
Hillsboro ASR	SFWMD		x			
Lake Okeechobee ASR	Corps		x		x	
L-31 N Seepage Management	Corps	x	xx			
Current Federal and State Commitments - CERP Feasibility Studies (These will be reflected as non-construction efforts only on the IDS splash charts.)						
ASR Regional Study			x			
Florida Bay/Florida Keys Feasibility Study						x
Southwest Florida Feasibility Study			x		x	x
Comprehensive Water Quality Feasibility Study				x		
Other Authorized CERP Projects/Project Components						
IRL South-Allapatah			xx	xx	xx	xx
IRL South-North Fork Complex			xx	xx	xx	xx
IRL South-Palmar Complex			xx	xx	xx	xx
IRL South-Cypress Complex			xx	xx	xx	xx
IRL South-C-25 STA & Reservoir			xx	xx	xx	xx
IRL South-Muck Remediation			xx	xx	xx	xx

Integrated Delivery Schedule (Federal Funding Scenario)

Projects		2009-2010	2011-2012	2013-2014	2015-2016	2017-2018	2019-2020	2021-2022
Foundation Projects	Manatee Pass Gates							
	Seminole Big Cypress							
	C-111 South Dade							
	C51/STA-1 East							
	Kissimmee River Restoration							
	Modified Water Deliveries to ENP							
Expedited CERP Projects	Picayune Strand Restoration							
	Site 1 Impoundment							
	IRL-South C-23/24 North Reservoir							
	IRL-South C-23/24 South Reservoir							
	IRL-South C-23/24 STA							
	Winsberg Farm Restoration							
	Broward County Water Preserve Areas							
	Biscayne Bay Coastal Wetlands							
	C-111 Spreader Canal Phase 1							
	C-43 West Reservoir							
Other Authorized CERP Projects	IRL South-Allapatah							
	IRL South-North Fork Complex							
	IRL South-Palmar Complex							
	IRL South-Cypress Complex							
	IRL South-C-25 STA & Reservoir							
	IRL South-Muck Remediation							

PRELIMINARY DRAFT

Notes: Construction Only – A Subset of the IDS
Does not include Herbert Hoover Dike

\$200 M

Next Step

- Develop and discuss conceptual methodology of benefits for projects
- Ultimately, apply the benefits methodology to the project sequencing scenarios

BENEFITS METHODOLOGY

Objectives for the Proposed Benefits Methodology

1. Outline proposed conceptual methodology to address the benefits as requested by Task Force
2. Receive input from the Working Group and Science Coordination Group on the conceptual methodology
3. Conceptual methodology would provide a science-based IDS

Proposed IDS Benefits Methodology

Provides an approach to evaluate IDS scenarios from a scientific point of view

Sequencing projects based on:

- Ecological Lift (benefits)
- Ecological Urgency
- Interdependencies / Incremental Adaptive Restoration (IAR)

Ecological Lift



Interdependencies
/IAR



Sequence
Scenarios/Benefits
Analysis



Science-based
Recommendations
IDS

Ecological
Urgency



Ecological Lift - Defined

- Trend of deterioration of habitat function is reduced or reversed
- Applied at a regional or system-wide level
- Less harmful consequences of extreme events

Ecological Urgency - Defined

- A natural system in decline
- Risk of irreversible damage increases without early intervention
- Difficult to rank urgencies at ecosystem scale because of regional bias

**CENTRAL AND SOUTHERN FLORIDA PROJECT
COMPREHENSIVE REVIEW STUDY
FINAL INTEGRATED FEASIBILITY REPORT
AND
PROGRAMMATIC ENVIRONMENTAL IMPACT STATEMENT SUMMARY**

U.S. ARMY CORPS OF ENGINEERS JACKSONVILLE DISTRICT
SOUTH FLORIDA WATER MANAGEMENT DISTRICT
APRIL 1999

“The recommended Comprehensive Plan contained within this report will, when implemented, restore, protect, and preserve a natural resource treasure – the south Florida ecosystem. The greater Everglades ecosystem is nationally significant and unique in the world. If actions are not taken now, irretrievable loss of this extraordinary resource will occur. The Comprehensive Plan affords the opportunity to reverse the course of declining ecosystem health and leave an Everglades legacy for generations to come.”

PROGRESS TOWARDS RESTORING THE EVERGLADES

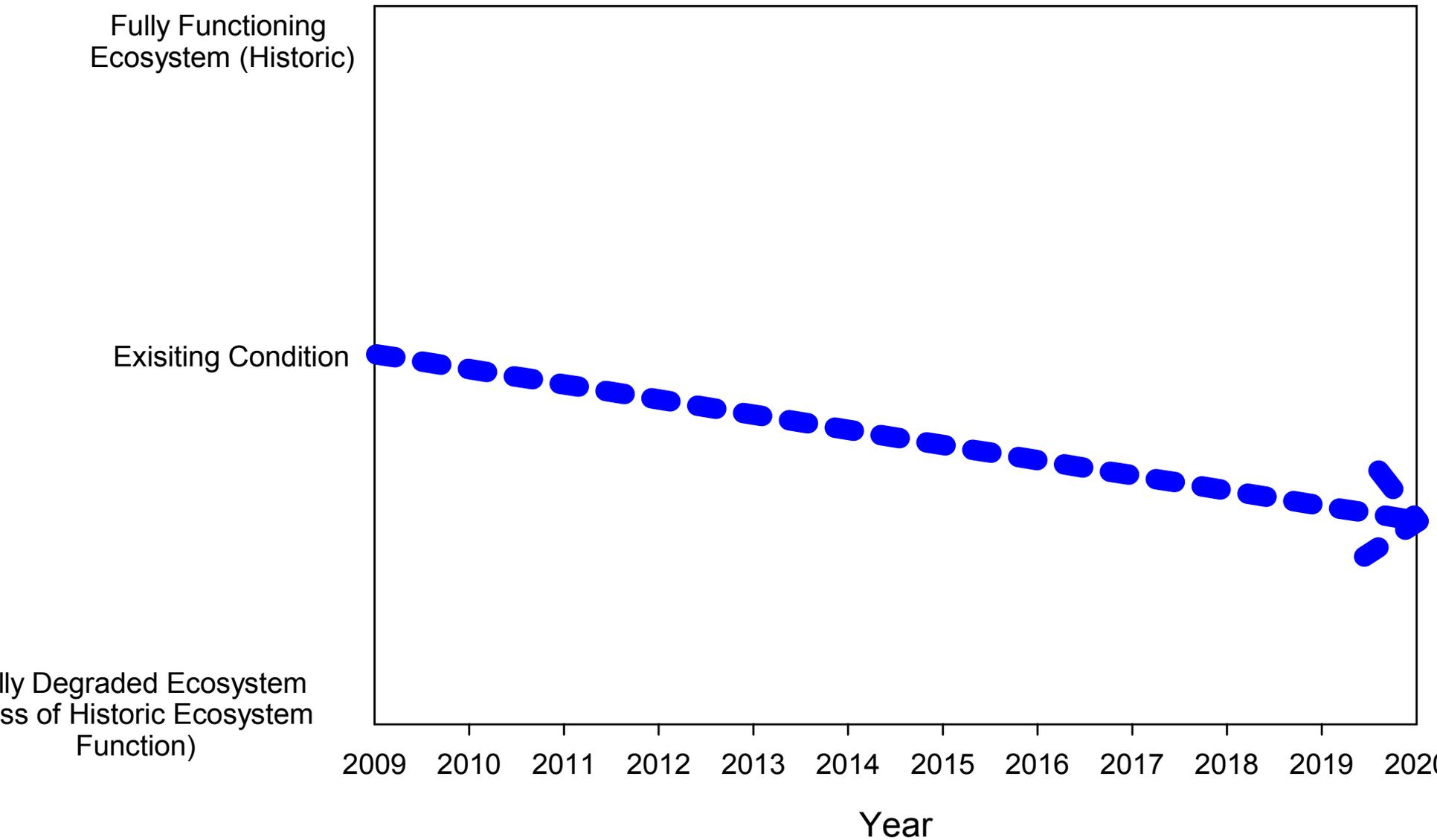
THE FIRST BIENNIAL REVIEW - 2006

NATIONAL RESEARCH COUNCIL OF THE NATIONAL ACADEMIES
2007

“Natural system restoration will be best served by moving the system as quickly as possible toward physical, chemical and biological conditions that previously molded and maintained the historical Everglades.”

“The remaining Everglades landscape will continue to move away from conditions that support the defining ecosystem processes until greater progress is made in implementing CERP and non-CERP projects.”

Conceptual Ecological Urgency of Future Without Projects



Conceptual Ecological Urgency of Future Without Projects

Lake Okeechobee

Chronic phosphorous loading

Decline of littoral shelf plant communities

WQ declines, more frequent algal blooms, increased turbidity and reduced O₂ levels

Decline in sport fish communities

Northern Estuaries (Caloosahatchee, St. Lucie, IRL-S, Loxahatchee, Lake Worth Lagoon)

Continued high and low volume freshwater releases

Heavy sediment loads with water quality degradation

Decline in oyster beds

SAV habitats reduced with loss of nursery habitat and decline of sport fish communities

Conceptual Ecological Urgency of Future Without Projects

Greater Everglades

Increased effects of drought intensity across the terrestrial wetlands

Diminishing prey base fish populations with wading bird declines

Large-scale fire events; continued peat soil and tree island loss

Increased salt water intrusion

Southern Estuaries (Biscayne Bay, Florida Bay)

Long duration high salinity events

Coral reef and sport fishing declines

Altered trophic dynamics with less stable ecological function

More frequent regional die-off events of seagrass and fish populations

Process to Determine CERP Ecological Urgencies

- Convene a series of workshops with scientists representing each of the geographic regions
- Determine criteria for selection of “urgent” needs
- Determine urgencies for each attribute outlined in the Conceptual Ecological Models (CEMs)
- Rank regional “urgencies” for entire system
- Propose to use Decision Support Software to gain consensus on existing conditions, trends and urgencies

Interdependencies/IAR - Defined

- **Interdependencies** - Projects for which achievement of full benefits depend on the successful completion of one or more other projects.
- **Incremental Adaptive Restoration (IAR)** - Recommended by the Committee on Independent Scientific Review of Everglades Restoration Progress (CISRERP), a logical grouping of projects or project components to achieve incremental progress towards restoration while providing new information that will improve the quality of future decisions.

Process to Determine CERP Interdependencies

Objectives of each IAR plan:

- Prioritize the most urgent needs of the system
- Maximize the synergy between project components
- Provide benefits by incrementally:
 1. Enlarging the water pie (storage)
 2. Restoring natural flows
 3. Improving water quality
 4. Providing for other water-related needs

Sequence Scenarios/Benefits Analysis

- Develop scenarios based on the proposed methodology in a collaborative manner
- Qualitatively assess benefits of the different scenarios (preliminary screening)
- Quantitatively determine the science-based recommended IDS scenario (detailed analysis)

Recommended Path Forward

1. Refine and fully develop methodology based upon input from the Working Group and the Science Coordination Group
2. Convene scientific workshops to determine the existing conditions, trends, urgencies and ecological lift
3. Convene IAR workshops to determine project interdependencies
4. Develop project sequence scenarios based on the IAR plans
5. Qualitatively assess benefits of the different scenarios
6. Quantitatively determine the science-based recommended IDS scenario

Conclusion

- WG members coordinate IDS efforts/outcome with Task Force members
- WG members communicate concerns/issues of Task Force members for August WG meeting

Thank You