Zoom Format for Public Engagement

- Please use the “Q & A” (Question and Answer) feature on the Zoom toolbar to submit questions throughout the Peer Review Session.
- This Q & A feature is the only means for the public to engage with us during this Peer Review Session.
- Questions from the public will be addressed during the "Public Comment (Q & A)" portions of the agenda.
- Questions from the public will be read out loud and live answers will be provided for all to hear.
- Please indicate who your question is directed to: Panel, SFWMD, or both.
AGENDA

Morning

9:00 – 9:15 AM Introductions and Objectives

9:15 – 10:30 AM SFWMD Presentations
   ▪ Water Reservations Overview
   ▪ EAA Reservoir Background/Purpose
   ▪ Description of Hydrologic Benefits
   ▪ Description of Benefits to Fish and Wildlife
   ▪ Identification of Water to be Reserved

10:30 – 11:00 AM Summary of Peer-Review Panel Assessment of Draft Technical Document

11:00 – 11:45 AM Peer-Review Panel Discussion

11:45 AM – 12:30 PM Public Comment (Q & A)

12:30 – 1:00 PM Lunch Break

Afternoon

1:00 – 1:05 PM Format for Afternoon Session

1:05 – 2:00 PM Collaborative Peer-Review Panel Discussion
   ▪ Development of Final Peer-Review Report Outline and Writing Assignments
   ▪ Development of Outstanding Questions for SFWMD

2:00 – 3:00 PM Public Comment (Q & A)

3:00 – 3:15 PM Wrap Up and Next Steps

3:15 – Adjourn
Public Peer-Review Session for the EAA Reservoir Water Reservation
May 29, 2020

Water Reservation Process

Don Medellin
Applied Sciences Bureau
Water Reservations

Authority: Section 373.223(4), F.S.

Functions and Considerations

- Reserve water for the protection of fish and wildlife or public health and safety
- Prevent use of reserved water by consumptive users
- Required by WRDA 2000 for CERP projects
- May be used as part of an MFL recovery or prevention strategy

Osprey (Pandion haliaetus) with bass (Micropterus sp.) on Merritt’s Mill Pond.
Source: http://nykography.weebly.com

Presenter: Don Medellin
Water Reservations Do Not...

- Prevent use of unreserved water or water already allocated
- Establish an operating regime
- Drought-proof the natural system
- Ensure wildlife proliferation
- Improve water quality
Technical Aspects of Defining Water to be Reserved

- Identify the “reservation waterbody”
- Characterize the hydrology of the waterbody
- Identify water needed for key indicator species
- Identify linkages between hydrology and fish and wildlife
- Define the water needed for the protection of fish and wildlife
Water Reservations Adopted in SFWMD

- Fakahatchee Estuary
- Picayune Strand
- North Fork of the St. Lucie River
- Nearshore Central Biscayne Bay
- Caloosahatchee River C-43 West Basin Storage Reservoir

Cover ~172,074 acres Districtwide

Presenter: Don Medellin
EAA Reservoir Water Reservation

Chapter 40E-10, F.A.C.

For the Protection of Fish and Wildlife

American alligator (*Alligator mississippiensis*)
Source: http://www.photodrom.com

Failed kite nest with apple snail shells
Source: SFWMID http://whqepio2p-k085/wildlife/#/

Slough crayfish (*Procambarus fallax*)
Source: USGS and https://eol.org/pages/14263/media

Wood stork (*Mycteria americana*)
Source: Brandon Kruse/The Palm Beach Post

Presenter: Don Medellin
EAA Reservoir Reservation Waterbody

- **EAA Reservoir Features**
  - 10,500-acre footprint
  - 240,000 acre-feet of static storage
  - Normal full storage water depth 22.6 feet
EAA Reservoir Water Reservation

- Protects water for fish and wildlife
- Will increase flows to northern WCA-3 and ENP
- Supports implementation of CERP
Questions from the Peer-Review Panel
Background and Purpose

Leslye Waugh
Ecosystem Restoration Bureau
Project Purpose

- Purpose of CEPP is to improve the quantity, quality, timing, and distribution of water flows from Lake Okeechobee to the Central Everglades, Everglades National Park, and Florida Bay while maintaining flood control and water supply for existing legal users
  - Decreases damaging discharges to the northern estuaries
  - Increases restoration flows to the Everglades

- The EAA Reservoir is the main storage feature of CEPP, which also includes additional treatment and conveyance features as described in the:
  - Project Implementation Report (2014)
Comprehensive Everglades Restoration Plan (CERP)

- Authorized in the Water Resources Development Act of 2000
- Framework for the restoration of the natural system
- Consists of 68 project components and a variety of water management features
  - Storage
  - Treatment
  - Seepage management
  - Conveyance modifications
- CEPP and the EAA Reservoir Project include multiple components of CERP

Presenter: Leslye Waugh
Central Everglades Planning Project

- Authorized in the WRDA 2016
- CEPP Recommended Plan ALT 4R2
  - CEPP New Water
    - Seepage Barrier, L-31N Levee
  - CEPP North
    - L-6 Canal Flow Diversion
    - L-5 Canal Conveyance Improvements
    - S-8 Pump Station Complex Modifications
    - L-4 Levee Degrade and Pump Station
    - Miami Canal Backfill
  - CEPP South
    - S-333 Spillway Modification
    - L-29 Canal Gated Spillway
    - L-67A Conveyance Structures
    - L-67C Levee Degrade & Gap
    - Blue Shanty Levee, WCA-3B
    - L-29 Levee Degrade
    - L-67 Extension Levee Degrade and Canal Backfill
    - Old Tamiami Trail Removal
    - S-356 Pump Station Modifications
    - Systemwide Operations Refinements

Presenter: Leslye Waugh
CEPP Post Authorization Change Report

- In 2017: Senate Bill 10 was signed into State law
  - Provided direction to SFWMD to expedite planning, design, and construction of the EAA storage reservoir
  - Conducted feasibility study to increase the storage and necessary treatment plus conveyance improvements
- In 2018: SFWMD completed the Post Authorization Change Report for CEPP
  - Modified the A-2 FEB to a deepwater reservoir and necessary stormwater treatment area
  - Authorized in WRDA 2018
Optimized Best Performing Alternative

- Alternative C240A
  - Most cost-effective alternative
  - 240,000-acre-foot reservoir
    - 10,500 acres and ~23 feet deep
  - 6,500-acre stormwater treatment area
  - Multipurpose operations consistent with CERP
    - Environmental benefits and other water-related needs

Presenter: Leslye Waugh

[Map of South Florida Water Management District with highlighted reservoirs and treatment areas]
EAA Reservoir Flows

- Additional 240,000 ac-ft of effective storage
- On average annually, 825,000 ac-ft of water delivered from the EAA Reservoir
- Generally, flows attenuate during the wet season and carry over water into the dry season
- The additional water, above existing conditions, to the Central Everglades (WCA-3A) is 370,000 ac-ft on average annually
Additional flow will have the following ecological benefits to the Central Everglades:

- Improve and/or restore vegetative communities and habitat for fish and wildlife
- Improve natural processes critical for development of peat soils and tree islands
- Improve slough vegetation depths resulting in fewer dryouts
- Provide longer durations hydroperiods
- Additional overland flow to Northeast Shark River Slough will improve the timing, distribution, and continuity of sheetflow across the Everglades ridge and slough landscape

Timing of treated flows south into the Central Everglades with CEPP (C240TSP) compared to existing conditions (EARECB).

Presenter: Leslye Waugh
Questions from the Peer-Review Panel
Description of Hydrologic Benefits

Walter Wilcox
Hydrology and Hydraulics Bureau
A broad range of disciplines use “modeling” in the EAA Reservoir study
- Hydrologic and benefit
- Water quality
- Ecologic

Guiding principle for modeling during the EAA Reservoir planning effort in 2017:

Maintain consistency with the tools used to authorize the Central Everglades Planning Project (CEPP) in 2014.

Modeling tools used in the study have a high degree of acceptability and typically are:
- Calibrated/validated based on historical observation
- Independently peer reviewed
- Approved for use by the United States Army Corps of Engineers (USACE)
CEPP/EAA – Hydrologic Modeling

- RSM is a regional hydrologic model designed to handle Florida’s unique conditions
- RSM has been peer reviewed (twice) and is approved for use by the USACE (certified)
- Model outputs include:
  - Stages/head/ponding
  - Transects, flow vectors, structure flows
  - Water budgets

RSM-GL Model Calibration

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<th>Average (ft)</th>
<th>Std. Deviation (ft)</th>
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Regional Simulation Model (RSM)

Mesh Information:
- Number of cells: 5,794
- Size: ~1 sq. mile

Model inputs:
- Rainfall
- Evapotranspiration
- Topography
- Land cover
- Peat thickness
- Aquifer elevation
- Structures

Period of Simulation:
- 1965 – 2005 climate

RSM-GL
Note: RSM-BN used to simulate Northern Everglades

Presenter: Walter Wilcox
CEPP/EAA – Benefit Modeling

- Use project performance measures to quantify relative benefits (habitat units)
- CEPP methodology reviewed and approved by the USACE’s National Ecosystem Planning Center of Expertise

Habitat Units
USACE methodology for quantifying ecological benefits on the array of alternatives

Step 1:
- Raw performance measure sub-metrics are linearly re-scaled between 0 and 100

Step 2:
- Within each zone, performance measure metrics are combined for each project alternative to produce a net zone benefits score between 0 and 1

Step 3:
- The 0 to 1 benefits score for each zone is multiplied by the acreage of the zone to generate a Habitat Unit value for the zone
  - Northern Estuaries (2 zones)
  - Greater Everglades (9 zones)

Step 4:
- Habitat Unit Lift = Alternative – FWO Project Condition

Indicator Regions and Zones

<table>
<thead>
<tr>
<th>Greater Everglades</th>
<th>Habitat Units</th>
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<tbody>
<tr>
<td>Hydrologic Surrogate for Soil Oxidation</td>
<td>Measure of cumulative drought intensity to reduce exposure of peat to oxidation</td>
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<tr>
<td>Inundation Pattern in Greater Everglades Wetlands</td>
<td>Measure of the number and duration of inundation events used to calculate the percent period of record of inundation</td>
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<tr>
<td>Number and Duration of Dry Events in Shark River Slough</td>
<td>Measure of the number of times and mean duration in weeks that water drops below ground</td>
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<tr>
<td>Sheet flow in the Everglades Ridge and Slough Landscape</td>
<td>Measure of the timing, distribution and continuity of sheet flow across the landscape</td>
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<tr>
<td>Slough Vegetation Suitability</td>
<td>Measure to evaluate the hydrologic suitability for slough vegetation (hydroperiod, drydown, dry and wet season depths)</td>
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</table>

Presenter: Walter Wilcox
CEPP/EAA – Water Quality Modeling

- DMSTA was developed and calibrated to information specific to South Florida to predict phosphorus removal performance of Everglades STAs and storage reservoirs
- Developed for the U.S. Dept. of the Interior and USACE (Walker and Kadlec 2005)
- Extensively used in South Florida since 2001 to analyze STA design, operation, and management
  - Including Central Everglades and Restoration Strategies
- Reviewed and approved CEPP by the USACE’s engineering model certification and Agency Technical Review processes

Dynamic Model for Stormwater Treatment Areas (DMSTA)

http://wwwalker.net/dmsta/

Presenter: Walter Wilcox
CEPP/EAA – Ecological Modeling
Joint Ecosystem Modeling – USGS & DOI

Presenter: Walter Wilcox
Informing the EAA Reservoir Study: Defining the CERP Goal

- Starting point was the original RESTUDY and other programmatic documents by RECOVER
- CERP defined a 360,000-ac-ft storage reservoir and no STA
  - Sent ~300,000 ac-ft avg. annually, above existing conditions, into the Central Everglades (across the “redline”)
  - 1965-2000 Period of simulation
- EAA project identified a 240,000-ac-ft, storage reservoir with an STA
  - Sent ~300,000 ac-ft avg. annually, above existing conditions, for 1965-2000
  - Sent ~370,000 ac-ft avg. annually, above existing conditions, for 1965-2005

Presenter: Walter Wilcox
Improved Conditions in Lake Okeechobee and Northern Estuaries

Stage Duration Curves for Lake Okeechobee

Presenter: Walter Wilcox
EAA Reservoir Project – Enhancing the Authorized Central Everglades Plan
The Natural System Landscape

Landscape Directionality (Current System)

Overland Flow Directionality (Natural System Modeling)

Presenter: Walter Wilcox
Current Condition

Comparison: Overland Flow Vector Maps

With EAA / CEPP

Presenter: Walter Wilcox
Greater Everglades Transect Flow Improvements

Presenter: Walter Wilcox
Comparison: Hydroperiod Maps

Current Condition

With EAA / CEPP

Hydroperiod Class
- 0 to 60 days
- 60 to 120 days
- 120 to 180 days
- 180 to 240 days
- 240 to 300 days
- 300 to 330 days
- 330 to 365 days

Presenter: Walter Wilcox
Greater Everglades Water Level Improvements

Presenter: Walter Wilcox
WCA-3B Water Budgets

(a) WATER CONSERVATION AREA-3B
Run Name: EARECBS
Run Date: November 2, 2017
1985-2005 ANN-AVG (KAC-FT)

(b) WATER CONSERVATION AREA-3B & BLUE SHANTY FLOWWAY
DRAFT
Run Name: RSNOG C240 Run Date: January 14, 2018
1985-2005 ANN-AVG (KAC-FT)

Northern WCA-3B
Normalized Duration Curves for WCA3_3B_3
Elev: 6.62 ft; NGVD29; Cell ID: 281.7

Central WCA-3B
Normalized Duration Curves for WCA3_3B_71
Elev: 6.64 ft; NGVD29; Cell ID: 3008

Presenter: Walter Wilcox
Questions from the Peer-Review Panel
Description of Fish and Wildlife Benefits

Dong Yoon Lee
Applied Sciences Bureau
Predicted Changes in the Central Everglades

- **Restoration**
  - Depth
  - Duration
  - Timing
  - Quantity

- **Fish and Wildlife**
  - Abundance
  - Density
  - Habitat quality

- **Vegetation**
  - Growth
  - Control (exotic)
  - Composition

- **Soil**
  - Oxidation
  - Transport
  - Accretion

- **Landscape**
  - Microtopography
  - Tree island


Presenter: Dong Yoon Lee
### RSM Estimates of Hydropattern (1965-2005)

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**Loss of soil thickness between 1946 and 1996**

(From: Sheidt et al. 2000)


Presenter: Dong Yoon Lee
RSM Estimates of Hydropattern (1965-2005)

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- Loss of soil thickness between 1946 and 1996
  
  (From: Sheidt et al. 2000)

Loss of soil thickness between 1946 and 1996

- Good quality habitat
- An over-drained area
- A high-water area
- A rain-fed compartment

Presenter: Dong Yoon Lee
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Loss of soil thickness between 1946 and 1996

(From: Sheidt et al. 2000)

Presented by: Dong Yoon Lee
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- **An over-drained area**
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Loss of soil thickness between 1946 and 1996 (From: Sheidt et al. 2000)
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<tr>
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<td></td>
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<td></td>
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</tr>
</tbody>
</table>

### Interpretation:
- **3A-NW**: An over-drained area
- **3A-NE**: A high-water area
- **3A-E**: Good quality habitat
- **3A-Central**: A rain-fed compartment

Loss of soil thickness between 1946 and 1996

(From: Sheidt et al. 2000)
## RSM Estimates of Hydropattern (1965-2005)

(Annual average, ft)  | (Seasonal maximum, ft)  | (Annual, day)

<table>
<thead>
<tr>
<th>Region</th>
<th>ECB depth</th>
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Loss of soil thickness between 1946 and 1996

(From: Sheidt et al. 2000)

**Legend**

- **Good quality habitat**
- **An over-drained area**
- **A high-water area**
- **A rain-fed compartment**

**Presenter:** Dong Yoon Lee
## RSM Estimates of Hydropattern (1965-2005)

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- **Good quality habitat**
- **An over-drained area**
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Loss of soil thickness between 1946 and 1996
(From: Sheidt et al. 2000)

**Presenter:** Dong Yoon Lee
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#### Key
- **ECB depth**
- **C240 depth**
- **ECB max. depth**
- **C240 max. depth**
- **ECB hydroperiod**
- **C240 hydroperiod**

Loss of soil thickness between 1946 and 1996 (From: Sheidt et al. 2000)

---

Presenter: Dong Yoon Lee
### Evaluation of Ecological Models

<table>
<thead>
<tr>
<th>Taxa</th>
<th>Function</th>
<th>Model Input Variables</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Prey for snail kites</td>
<td>Water depth, temperature</td>
</tr>
<tr>
<td></td>
<td>Major energy source</td>
<td>Days since dry</td>
</tr>
<tr>
<td></td>
<td>Major energy source</td>
<td>(Not available)</td>
</tr>
</tbody>
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<td>Marl prairie habitat conditions</td>
<td>Hydropattern, continuous dry days</td>
</tr>
<tr>
<td></td>
<td>Ridge and slough habitat indicator</td>
<td>Water depth and its change, hydropower, days since dry</td>
</tr>
<tr>
<td></td>
<td>Keystone species</td>
<td>Water depth and its change, hydropower, habitat</td>
</tr>
</tbody>
</table>

**Presenter:** Dong Yoon Lee
**Existing Condition**

- Emergent, long-hydroperiod wetlands
- Adult (>20 mm)
- 400m-scale
- Model period: 1995 – 2005
- Average rainfall year: April 20, 2000

**Areas of Loss**

<table>
<thead>
<tr>
<th>Areas of Loss</th>
<th>Areas of Improvement</th>
<th>Areal Change (acres)</th>
<th>Annual Change (Δdensity, %)</th>
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**Presenter:** Dong Yoon Lee
**Existing Condition Baseline**
- Emergent, long-hydroperiod wetlands
- Adult (>20 mm)
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- Model period: 1995 – 2005
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**Apple Snail**

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<td>3A-E</td>
<td>3A-N, 3A-C, SRS</td>
<td>+318,000*</td>
<td>+19 to +126 (Avg: +41)</td>
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Presented by: Dong Yoon Lee
### Apple Snail

**Existing Condition Baseline**
- Emergent, long-hydroperiod wetlands
- Adult (>20 mm)
- 400m-scale
- Model period: 1995 – 2005
- Average rainfall year: April 20, 2000

**Lift of population density under C240 relative to the ECB**
- Dry year: April 20, 2004

**Areas of Loss** | **Areas of Improvement** | **Areal Change (acres)** | **Annual Change (δdensity, %)**
--- | --- | --- | ---
3A-E | 3A-N, 3A-C, SRS | +318,000* | +19 to +126 (Avg: +41)


**Presenter:** Dong Yoon Lee
Small Fish

**Existing Condition Baseline**
- Sensitive to local hydrology and productivity
- Small fish (<8 cm)
- Primary sampling unit (count m\(^{-2}\))
- Model period: 1965 – 2005
- Average rainfall year: 1978

**Areas of Loss**
- ENP-C

**Areas of Improvement**
- 3A-N, NE-SRS, S-SRS, C-SRS

**Areal Change (acres)**
- (Not available)

**Annual Change (Δdensity, %)**
- +27 to +361 (Avg: +129)

**Lift of population density under C240 relative to the ECB**

**Presented by**: Dong Yoon Lee
Small Fish

Existing Condition Baseline
- Sensitive to local hydrology and productivity
- Small fish (<8 cm)
- Primary sampling unit (count m⁻²)
- Model period: 1965 – 2005
- Average rainfall year: 1978

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<tr>
<td>ENP-C</td>
<td>3A-N, NE-SRS, S-SRS, C-SRS</td>
<td>(Not available)</td>
<td>+27 to +361 (Avg: +129)</td>
</tr>
</tbody>
</table>

Lift of population density under C240 relative to the ECB

Dry year: 1989

Presenter: Dong Yoon Lee
### Cape Sable Seaside Sparrow (CSSS)

**Existing Condition**
- **Baseline**
  - Short-hydroperiod marl prairies
  - Habitat Suitability Score
  - Model period: 1965 – 2005

: Critical Habitat Areas (subpopulation)

#### Changes of CSSS habitat scores under C240 relative to the ECB

<table>
<thead>
<tr>
<th>Areas of Loss</th>
<th>Areas of Improvement</th>
<th>Areal Change (acres)</th>
<th>Annual Change (%)</th>
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</thead>
<tbody>
<tr>
<td>Shallow-edge of SRS</td>
<td>Other sides of SRS</td>
<td>-13,000*</td>
<td>(Not available)</td>
</tr>
</tbody>
</table>

* Within the CSSS Critical Habitat Areas.

**Presenter:** Dong Yoon Lee
White Ibis

Existing Condition Baseline
- Predicted frequency of bird occurrence
- The abundance of foraging habitat
- 400-m scale
- Mean of March and April
- Model period: 1975 – 2005

<table>
<thead>
<tr>
<th>Areas of Loss</th>
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<th>Areal Change (acres)</th>
<th>Annual Change (Δindex, %)</th>
</tr>
</thead>
<tbody>
<tr>
<td>3A-E</td>
<td>3A-N, Eastern marl prairies</td>
<td>+193,000*</td>
<td>–11 to +25 (Avg: +3.5)*</td>
</tr>
</tbody>
</table>

* The quality of foraging habitat (Foraging depth range of -4.9 ~ +32 cm).

Lift of foraging abundance under C240 relative to the ECB
**Wood Stork**

**Existing Condition Baseline**
- Predicted frequency of bird occurrence
- The abundance of foraging habitat
- 400-m scale
- Mean of March and April
- Model period: 1975 – 2005

**: Past and present colonies

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<tr>
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<tbody>
<tr>
<td>3A-E, 3A-S</td>
<td>3A-N, 3B-E, SRS, shallow wetlands</td>
<td>+161,000*</td>
<td>–17 to +13 (Avg: –2.1)*</td>
</tr>
</tbody>
</table>

• A product of Spatial (abundance) and Temporal (quality) Foraging Index (Foraging depth range of -8.7 ~ +45 cm).  

Presenter: Dong Yoon Lee
American Alligator

Existing Condition Baseline
- Habitat Suitability Index
- Model period: 1966 – 2005

<table>
<thead>
<tr>
<th>Areas of Loss</th>
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<tbody>
<tr>
<td>3A-SE, 3B-N</td>
<td>3A-N, 3A-C, 3B-S, SRS</td>
<td>+80,000*</td>
<td>–2 to +83 (Avg: +20)</td>
</tr>
</tbody>
</table>


Presenter: Dong Yoon Lee
## Summary of Ecological Models

<table>
<thead>
<tr>
<th>Taxa</th>
<th>Function</th>
<th>Potential Benefit of the A-2 Reservoir</th>
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<tbody>
<tr>
<td>Prey for snail kites</td>
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<td>![No change]</td>
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<td></td>
<td>![Moderate improvement]</td>
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<td>Keystone species</td>
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- **Prey for snail kites**
- **Major energy source**
- **Major energy source**

- **Marl prairie habitat conditions**
- **Ridge and slough habitat indicator**
- **Keystone species**

**Presenter:** Dong Yoon Lee
Questions from the Peer-Review Panel
Identification of Water to be Reserved

Don Medellin
Applied Sciences Bureau
Water Identified by the Project

- Water stored within the EAA Reservoir and discharged through S-624, S-625, and S-626
- Water delivered to the Central Everglades
  - WCA-3A and WCA-3B
  - Everglades National Park
- Water required for the protection of fish and wildlife
- Legal protection of water is required to enter into a Project Partnership Agreement with the US Army Corps of Engineers for a 50/50 Cost share
Average annual discharge of 825,000 acre-feet predicted to benefit fish and wildlife

Volume of water discharged from reservoir through structures S-624, S-625, and S-626

Presenter: Don Medellin

EAA Reservoir Outflow to the Lower East Coast Everglades Waterbodies Volume Probability Curve

Percent of time Equaled or Exceeded

Annual Outflow Volume (Ending May/Apr Water Year, kcu-ft)
Protection of Project Waters

Upstream Watershed Evaluation

- Evaluated a small basin within Lake Okeechobee Service Area
- Existing legal users
  - Surface water withdrawals
  - No groundwater withdrawals
- Seven existing legal users draw water from the Miami and New North River canals
- No new allocations or increases in allocations due to the existing LOSA rule

Presenter: Don Medellin
Protection of Project Waters

Water Stored Within Reservoir

- Evaluated to ensure water within the reservoir would be protected from future withdrawals
- Ensure withdrawals surrounding the reservoir do not induce seepage effects on water within the reservoir
- No new allocations or increases in allocations due to the existing LOSA rule
Downstream Watershed Evaluation

- Water discharged from the EAA Reservoir and stormwater treatment areas
- All areas south are within a different Restricted Allocation Area: Lower East Everglades Waterbodies
- Most of these lands are currently under public ownership or contain an flowage easement
  - Water Conservation Areas 1, 2, and 3
  - Everglades National Park
Questions from the Peer-Review Panel
Summary of Preliminary Peer-Review Comments

Don Medellin
Applied Sciences Bureau
Overview of the Peer-Review Process

Purpose:
- Receive a non-biased scientific technical review
- Ensure the scientific approach is solid

Peer-Review Objective:
- Review 1) technical document, and 2) water reservation approach
- Answer several key questions on both categories
- Provide preliminary comments
- Complete a final report

SFWMD Response:
- Complete a Question/Answer matrix to address each question or comment
- Revise the draft technical document

Presenter: Don Medellin
<table>
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| Ponding Depths/Hydroperiods | • What are the targets?  
• Compare Northeast Shark River Slough with other regions to understand type of wetland habitat supported by additional water  
• Two different sets of normalized ponding curves (Indicator Regions and gauge curves) provided somewhat conflicting  
• How do the target depths for the Northeast Shark River Slough relate to currently intact vs. degraded ridge and slough systems?  
• Report indicates ecologically significant increases in annual hydroperiods are not present in Blue Shanty Flow-way despite added water difference from 0.3- to 0.7-foot difference during ponding times  
• Does this plan exacerbate the deep flooding (i.e., ponding problems) in southeast WCA-3A?  
• The depths in south and southeast WCA-3B need to be clarified |
| Future Modeling            | Are there plans to extend the hydrologic simulations beyond 1965-2005?                                                                                                                                                                                                                 |
## Summary of Peer-Review Questions and Comments

### Wildlife/Modeling-Related

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<tr>
<td>Coastal Salinities/Mangrove Movement</td>
<td>• Are there quantitative estimates available on the possible effects on coastal salinities, which can counter mangrove inland movement? Can you use the MANTRA Model?</td>
</tr>
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</table>
| Caple Sable Seaside Sparrow Habitat     | • There is a mixed picture wet marl prairie habitat change and positive versus negative effects on this species. Explain in further detail.  
• Changes in vegetation or timing of water depth during the Caple Sable Seaside Sparrow breeding season is not clear.  
• Possibility of reducing dispersal between different subpopulations? |
| Joint Ecosystem Modeling                | • More detail needed to understand what the models are based on (habitat suitability, average yearly conditions, hydrologic structure, etc.)  
• Consider using the crayfish model developed by the USGS |
| Difference Maps/Ecological Evaluations  | • Synthesizing some of the ecological responses with the hydrological responses was challenging because of differences in evaluation periods. Is there a way to standardize? |
**Summary Peer-Review Questions and Comments**

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<td>Crayfish Suitability Model</td>
<td>• Since crayfish were not modeled is there a possibility of using a crayfish model developed by the USGS (Joint Ecosystem Model program)? If so, what approach?</td>
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<tr>
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<td>• Can examination of altered hydroperiods of the eastern and western marl prairies be used to constitute an additional pair of Indicator Regions for re-evaluation?</td>
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<tr>
<td></td>
<td>• Can a spatial evaluation of the changes in hydroperiod be captured to predict the change in crayfish productivity?</td>
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# Summary of Peer-Review Questions and Comments

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</thead>
<tbody>
<tr>
<td>Water Quality – Phosphorus</td>
<td>• Do not explicitly mention the detrimental effects of phosphorus inflow.</td>
</tr>
<tr>
<td></td>
<td>• Can you explain the potential negative effects associated with increased mobilization of phosphorus due to increased flows?</td>
</tr>
<tr>
<td></td>
<td>• Why won’t the same negative effects of phosphorus release as northwestern WCA-3A occur here?</td>
</tr>
<tr>
<td></td>
<td>• More information on periphyton community change needed</td>
</tr>
</tbody>
</table>
Additional Questions and Comments from the Peer-Review Panel
Public Comment Period

Please use the “Q & A” (question and answer) feature on the Zoom tool bar to submit a question about presentations, the technical document, or peer-review comments.
Lunch Break

The Public Peer Review Session will resume at 1:00 pm
Public Comment Period

Please use the “Q & A” (question and answer) feature on the Zoom tool bar to submit a question about presentations, the technical document, or peer-review comments.
Next Steps

Don Medellin
Applied Sciences Bureau
Next Steps

- May 29 peer review session presentations will be posted on the Water Reservations webpage at https://www.sfwmd.gov/our-work/water-reservations (under EAA Reservoir tab) by June 3, 2020

- SFWMD will finalize the question/answer matrix by June 5, 2020

- Public comments **due Friday, June 12, 2020** (submit to Toni Edwards at tedwards@sfwmd.gov)

- Final peer-review report due June 18, 2020

- Finalize technical document by June 25, 2020

- **Rulemaking Workshop: July 14, 2020**
  Location to be Determined

Presenter: Don Medellin
Additional Information

- Water Reservations webpage (under EAA Reservoir tab)
  https://www.sfwmd.gov/our-work/water-reservations

- SFWMD Web Board (under SFWMD MFL and Water Reservation Categories/Water Reservation for EAA Reservoir)
  http://sfwmd.websitetoolbox.com/

- SFWMD rules webpage
  https://www.sfwmd.gov/rules
Thank You