

**Lake Okeechobee Watershed Project  
Kick-Off Meeting  
Draft Meeting Summary**

Monday July 25, 2016

9:00 AM – 4:00 PM

---

**Participants**

Lisa Aley (USACE)	Jeff Couch (USACE)
Gretchen Ehlinger (USACE)	Peter Russell (USACE)
Robin Moore (USACE)	Brian Dillehay (USACE)
Dave Apple (USACE)	June Mirecki (USACE)
Dave Tipple (USACE)	Zulamet Vega-Liriano (USACE)
Tim Gysan (USACE)	Matt Morrison (SFWMD)
Kim Taplin (USACE)	Patti Gorman (SFWMD)
Eric Summa (USACE)	Kim Taplin (SFWMD)
Lesley Bertolotti (SFWMD)	Mike Magley (USACE)
Matt Alexander (SFWMD)	Jennifer Leeds (SFWMD)
Joyce Zhang (SFWMD)	Leslye Waugh (SFWMD)
Bruce Sharfstein (SFWMD)	Elizabeth Maxwell (SFWMD)
Chris Buzzelli (SFWMD)	Steve Schubert (USFWS)
Megan Jacoby (SFWMD)	Deb Drum (Martin County)
Tzufit Boyle (SFWMD)	Steve Gornak (FWC)
Armando Ramirez (SFWMD)	Ray Scott (FDACS)
Clay Brown (SFWMD)	Lisa Krieger (Lee County)
Andy Bowers (Seminole Tribe of Florida)	Paul Carlisle (Glades County Administrator)
Michelle Diffenderfer (Seminole Tribe of Florida)	Daniel Willis (FDEP – Kissimmee Prairie Reserve State Park)
Amy Casteneda (Miccosukee Tribe)	Shayna Jacques (FDEP – Kissimmee Prairie Reserve State Park)
Gary Ritter (City of Okeechobee)	
Stan Gaither (FDEP)	
Shannan Bogdanov (FDEP)	
Kent Loftin (Seminole Tribe of Florida)	
Stacey Myers (Seminole Tribe of Florida)	

**Participants on the phone**

Chad Kennedy (FDEP)  
Joana Savinon (USACE)  
Liz Raab (FDEP)  
Paul Julian (FDEP)  
Kelli Edson (FDEP)  
Dan Schiedt (USEPA)  
Debby Scerno (USACE)  
Jordan Pugh

## **Opening Remarks**

Dave Tipple (USACE) – welcome to the planning process – purpose of this meeting is to get agency input on this project in the early planning phase

Matt Morrison (SFWMD) – Governing Board has asked to complete this project faster (24 months)

Councilman Bowers (Seminole Tribe of Florida) – understand importance of restoration project – have opportunities under the water compact – work through constraints – will work and cooperate as much as possible

## **Everglades Restoration Program Overview – Matt Morrison (SFWMD)**

- Changing the Lake Okeechobee Regulation Schedule (LORS) or Lake Istokpoga regulation schedules are not an objective of this project. If changes/updates are deemed necessary they will be addressed in a separate planning study
- The Integrated Delivery Schedule (IDS) will provide sequencing of federally cost-shared projects. It was developed with extensive input from agencies and the public.
- It is important for the Lake Okeechobee Watershed (LOW) Project to communicate with the Western Everglades Restoration Project team because these projects impact each other and there is a need to develop an operating plan that works with both projects.
- Why is the Lake Okeechobee Watershed Project next on the IDS?
  - Learned a lot over time – C-43 on Caloosahatchee, C-44 on St. Lucie, CEPP and State Restoration Strategies – have storage, east, west and south – need storage north of the lake to improve undesirable releases to the northern Estuaries
  - Can't solve the dilemma by putting large reservoirs south of the lake – need features that all work together

### **Project Area – ideas for storage**

- Canal network in sub-basins – look at tributaries and look for opportunities to add storage along those tributaries – capture water before it moves into the lake
- Co-locating a reservoir system directly with Lake O – use Lake O and pump water out into a reservoir and allow lake to absorb water, peak up for short duration and then pump down to storage connected to the lake
- Storage north of the lake provides opportunities for improving water quality – one example may be co-locating storage features for hydrology with existing State stormwater treatment areas north or on the rim of lake Okeechobee.

## **Study Overview - Lisa Aley (USACE)**

- Previous LOWP study
- Project area – agriculture, urban infrastructure
- Restart – put on hold in 2007
  - Have planning information to start
  - Not completely reformulating, but have a starting point

### **Initial Problems**

- Degraded water quality north of the lake, within the lake and in the Caloosahatchee and St. Lucie estuaries
- Degraded watersheds north of the lake and lack of functionality (water storage and filtration)

- Undesirable high and low water levels within Lake Okeechobee
- Undesirable high volume discharges to the estuaries

### Agency Presentations

#### Seminole Tribe of Florida – Michelle Diffendorfer

- Big Cypress Reservation – local sponsor for restoration
- Control over 90,000 acres of land
- Invested over \$35 million in CERP
- Brighton Reservation – between Lake Istokpoga and Lake O
  - Lake O set aside as the backup water supply for Brighton
  - Separate set aside in lakeshore basin – different water rights
  - Because of LORS – not getting full water rights
  - Rely on Lake O more for water needs
- Big Cypress Reservation – entitlement for water
  - Delivered from basins, rainfall and Lake O
- Tribal Nations want to look at LORS and Lake I regulation schedule
  - Tribe against LORS – not enough water to preserve tribal rights
  - Need storage
- Both reservations need both projects for water rights
- Tribes should be getting most water from Lake I – most permitted to other users without looking at tribal needs – SFWMD recognized need to tribes to be met from Lake O
- Only matters when there is a water shortage – tribe is getting water from Lake O when water is low
- Brighton getting water from Lake O

#### Miccosukee Tribe – Amy Casteneda

- Lands south of the lake
- Water will be flowing south

#### US Fish and Wildlife Service – Steve Schubert

- Less habitat for amphibians, fish, birds and increased flooding risk
- High flows and high nutrients
- Adverse effects
- This project helps wildlife
- 65% loss of wetlands in the LOW area
- Try to minimize the expected adverse effect – indigo snake , bonneted bat, caracara
- Concerns with loss of upland habitat for Caracara and Grasshopper Sparrow
  - Caracara – plan to convert uplands (pasture habitat) to reservoirs and STAs – loss of 10 or more habitat
  - Grasshopper Sparrow – mostly north of this project area – need to look at opportunities
- Project area is the old project area
  - Caracara nests and birds – water feature with the distribution – BO for this
- Benefits for wood storks, snail kites and panthers

- Everglades Headwaters National Wildlife Refuge – acquire lands for wildlife, wq treatment, hunting
  - 50,000 acres fee-simple and 100,000 acres easements
  - Overlap with LOW project area at southern end of refuge area
  - May be trying to acquire lands in the project area
- Bonneted bat – Avon Park area – difficult to find, occupies dead trees, under ceramic roof tiles, very habitat specific – need a roost area they can get to that are high up, forage over wetlands
  - Critical habitat hasn't been designated yet – need map

#### Florida Fish and Wildlife Conservation Commission – Brent Bachelder

- Looks forward to participating
- Lots of experience in watershed
- Looking for advancement in storage benefits including lake management – lake levels and discharges, and also protection of resources
- Recreation is an important component in the watershed and in the lake and looking to enhance recreational activities
- Agree with FWS
- Agree with constraints presented
- Planning effort – habitat enhancement – restore wetlands – want as much wetland restoration as possible
- Excited for Paradise Run restoration
- Curious about project boundary – why it does not coincide with watershed boundary – opportunities with Kissimmee and Everglades headwaters

#### Florida Department of Agriculture and Consumer Services – Ray Scott

- Lake O important to the ecosystem
- 1970s and 1980s – WQ important issue
- 1988 – Federal lawsuit – focus on wq south of the lake
- Made progress south
- Not as much progress in and north of the lake
- BMAP – central feature to address WQ in the lake
- Critical to keep WQ focus in mind
- Look at water storage features – where placement will yield ancillary wq benefits
- Projects that will compliment BMAP efforts
- Significant issues in quantity and quality
- Quantity – ASR – everything works with 330 ASR wells
  - Utilization of ASR will be 130-140
  - Critical for this project
  - ASR not a standalone – be able to optimize the operation of reservoirs
  - Bleed off excess and refill during low times
  - Keep an eye on ASR – one of best options
- Need to deal with the storage issue – don't see us getting enough storage to deal with a year like this one – but make a big dent in normal volumes sent to the lake with this project

## City of Okeechobee - Gary Ritter

- Upper Chain of Lakes – critical and opportunities for operation features to buffer water when it comes down – like to consider adding
- Huge challenges – water supply issues, FWS have endangered species issues, lots of water coming down and rural communities asking if there will be more land acquisition – land in Fish Eating Creek, land in Indian Prairie,
- Focus on land that is existing in public ownership – look at what is already owned in watershed coupled with ASR – Paradise Run utilizing state owned lands, Taylor Creek/Nubbin Slough area
- Taking land out of rural production hurts the local economy by removing tax base
- Partnership opportunities with Okeechobee Utility Authority – have facilities that could utilize excess water and has ASRs – partner and utilize their facilities

## **Small Group Exercise – Problems, Opportunities, Objectives**

### Group 1

#### Problem statement

- indicator species, muck, exotics, land use changes

#### Opportunities

- alleviate dam safety issues,
- reduce damage flow to estuaries,
- help native species

#### Objectives

– improve wildlife habitat, wetlands

#### Constraints

– affects to disadvantaged communities – take land out of production

### Group 2

Real estate – take land out of Ag, take out of taxable value – look at where we place features

Tribal lands – look at putting storage features on tribal lands

Agriculture – feed the world, need to keep ag and don't want to lose that

Coordination with other projects – state owned lands close to rivers and get those done first with land we already have

Modeling – how we make the water flow, how we restore the wetlands, how we operate the system,

Development – how we address pre and post discharge

Combining reservoirs with ASRs, combine project features

### Group 3

#### Problems

- Monitoring – inadequate in northern watershed to quantify problems
- Not including storage in Kissimmee Chain or Istokpoga
- How do we measure success? Did you do your part?
- Interagency communication

#### Opportunities

- Improve Interagency communication - Prove what the agencies can do to get this done

- Improve monitoring of P inflows to better determine where loadings originate
- Create something new – create fishing, hunting, airboat park, tourism – lose ag, create something new

#### Constraints

- T&E Species – utilization of the features in which fluctuating water levels create attractive nuisance
- Interagency communication – how work together
- Funding – what is the cost
- Effects on tourism, ag, recreation, real estate, industry

#### Objective

- Lower Lake O Stages and Phosphorous Loading

#### Group 4

##### Problems

##### Opportunities

- Storage north of the lake needs to consider STOF water rights – Brighton reservation has limited land, more land at Big Cypress
- ASR on Brighton – test well

##### Objectives

##### Constraints

- Storage options that are too far from STOF and the reservations – water being put on private land instead of in Lake O – water storage needs to be State and Federally owned
- Mistrust on Brighton that State and Feds have not protected their water rights – need to be sensitive to tribal members – the closer the storage is to the reservation the better – more comfort to tribal members – need water to get to them first instead of to private
- Flooding issues on Brighton – look at operations and hydrology and groundwater levels – flood protection needs to be guaranteed
- Water quality – concerns with current WQ program north of the lake (BMAP) – don't see treatment, no wq monitoring – don't treat the water – tribe needs water at a certain water quality

#### Group 5

Coordination is going to be critical

##### Problems

- Real estate and the loss of taxable value in rural areas – look outside the box in rural areas and how they could be compensated
- WQ – problem with legacy P – focus on WQ – Ag BMPs are in place – how do we get to the residual P levels in the soil
- Urban development – spread and stormwater treatment

##### Opportunities

- Septic conversion - people off septic tanks
- Integrate regional w/ local facilities - opportunities of mixing project features and urban development - Look at BMPs complimenting with regional projects
- Utilize lands in public ownership
- opportunities with ASR with project features
- Flowage and conservation easements – wildlife corridors – store water, restore wetlands
- Okeechobee Utility Authority partnership

## Group 6

### Problems

- Water management – high discharge and lake levels important – solve one, solve several
- WQ – ratio of P/N – manage ratio – legacy P
- Species – T&E and other species – recreational, exotic, attempt to capture those affects – look at the whole system, not just the planning footprint

### Opportunities

- Coordination with other restoration activities – DEP – Lake O BMAP Dec 2014 – how those develop should be a win-win – not duplicate efforts or create additional problems – inflow conditions may change

### Objectives

- Operational flexibility – beyond Lake O – modeling take into consideration the entire system

### Constraints

- Maintain flood protection and water supply for everyone including the tribes
- Climate change – how do you model climate change over the next 10-20 years – how do you factor in climate change
- Contaminated soils – could be a constraint

## Debby Scerno

Problems – are there things within the basins that need to be fixed– ecosystem restoration, flooding areas, basins north of the Lake

Word of caution – how and what we can address in terms of water quality – Matt talked about looking for storage north of the lake – not necessary formulate for STAs – ancillary WQ benefits, habitat enhancement, restoration – ecological value and function we can calculate as part of the benefits

## **Small Group Exercise - Management Measures**

### Group 1

Weirs, dam, removal of exotics

Muck removal – in-lake disposal island

ASR – small feature to keep wet

Inter-basin transfer – TMDL – move water around north end of the lake to C-44 and L-8 – could have smaller scale

### Group 2

Lands that are in public ownership

Area 1 – ASR wells

Area 3 – flashy tributary – near an airport – land swap with desirable land closer to lake to have a deep storage feature

Area 5 – lakeside ranch – parcel to have FEB

Area 4 – smaller areas have ASR

In lake project – Moorehaven locks – dredge material stacked up – remove stockpile and let lake refurbish – permitted and ready to go

### Group 3

Multiple measures with one project – wetland restoration coupled with a reservoir

Area 1 – Additional restoration in Kissimmee River north of project area in Pool B and Pool A

Area 2 - Nubbin Slough – restoration projects around the creeks – run through filter marsh and then hits existing STA – use area leveed off and transfer water in and out as a flow-thru basin

Areas 3, 4, 5 - Wetland restoration projects – Fish Eating Creek, Taylor Creek, Istokpoga

Area 6 - Indian Prairie by Lake O – shallow reservoir, keeping it no more than 2-3 ft depth – create wetland restoration – function as a flow thru marsh

Area 7 – create shallow storage and wetland restoration in Pool E between C-38 and C-41A

Area 8, 9 and 10 – ag land wetland restoration – land scape rehydration

Area 11 – structure on Nubbin Slough to hold water higher and allow use of STA

### Group 4

Opportunities for storage and ancillary wq

Regulation schedules for Lake O, Lake I, or others

Above ground storage, wetlands, FEBs

ASR – not needing as much real estate,

Above ground – real estate, water rights

Regulation schedule – not in consideration

### Group 5

Restoration opportunities – Lake O littoral zone opportunities on the eastern portion

2500 acres along Tomato Grade Road STA

Lakeside Ranch – shallow storage of 1800 acres

Martin County owned land – possibility – wetland restoration – smaller footprint

Project boundary – expand to include coastal/estuarine basins – how much storage can we get?

Hard to find large pieces of land for storage

Need partnerships with private land owners – conservation or flowage easement

Dispersed water management – are these future without

### Group 6

Paradise Run – implement ASR north side of the lake

Adjacent to Paradise Run add a deep reservoir – deep, ASR and wetland restoration – good operational tool

Deep storage near Lake O, Lake I, Kissimmee R – need deep storage close to the lake – pull water out of the lake and combine with ASR

Wetland restoration – Fish Eating Creek

East shore of Lake O – littoral shelf

Taylor Creek/Nubbin Slough – flashy – FEB

### Debby Scerno

Need for storage in the basin for the basin itself or for the Lake and Estuaries

Storage needs to be regional

Focus basins in the watershed, not necessarily the water body that the water is flowing into  
Need to restore ecosystems north of the lake

### **Risk Register**

1. Costs
2. Cultural Resources – unanticipated discoveries
3. Tribal consultation – delivery of water – SFWMD answer that may affect the modeling – move forward with or without it. Availability of water entitlement issue with tribes – Mitigate with ASR and things that will give tribes more water. Keep Kim informed and Plan Formulators need to mitigate the risk of the entitlement – communication needs to happen
4. Water quality concept – BMAP – benefit won't be realized until after the project – what should be included in future without project condition?
5. Water quality – state responsibility, how do we deal with the issue – baseline assumptions for future without – dispersed water management (10 year program and have opt out clauses) – how is that treated
6. Florida Bonneted Bat – Critical Habitat designation – not designated yet – could affect feature locations after already sited
7. Can you formulate for endangered species requirements – offset mitigation within the project – balance within the project – part of BA – smart management measure – T&E species are a constraint – don't want to impact them – create or minimize impact
8. Look at areas of high area of risk – where do I want to spend the money – what we don't know, where we have big risks and where to buy down on the risk
9. Reducing discharges to the estuaries – how much storage we can accomplish – boulder zone wells (expensive to build and for O&M) limited use, deep water injection –
10. ASR regional study – to maintain all hydrologic criteria couldn't put 330 wells in, so one option suggested was for limited use
11. Make sure Lox, LOW and WERP meetings are not at the same time

### **Closing Remarks**

Lesley Bertolotti (SFWMD) – looking forward to working with everyone and thank you for participation