

Summary
Post Hurricane Irma SCG Sponsored Meeting
September 27, 2017

Welcome and Introductions

Nick Aumen called the meeting to order at 9:15AM. He noted that the meeting was being recorded and welcomed participants (in person, on the phone and via WebEx). Shannon Estenoz noted this meeting was not covered by the Florida Sunshine Law. Susan Gray added they have all been affected in some way and the repercussions will last for a while after hurricane.

All meeting handouts and presentations are available at:
<https://www.evergladesrestoration.gov/scghandouts/>

Purpose of the Meeting

Nick outline the three primary goals of the meeting:

- Communicate the efforts
- Coordinate the efforts
- Collaborate efforts

Meeting Participants

Nick Aumen	Rebecca Gible	Caroline McLaughlin
Susan Gray	Penny Hall	Frank Mazzotti
John Baldwin	Kristen Hart	Jed Redwine
Carrie Beeler	Bob Johnson	Jennifer Rehage
James Beerens	Christopher Kavanagh	Mike Ross
Laura Brandt	Chris Kelble	Dave Rudnick
Joan Browder	John Kominoski	Dan Scheidt
Billy Causey	Caroline McLaughlin	Barclay Shoemaker
Michael Cherkiss	Penny Hall	Brian Smith
Carlos Coronado	Kristen Hart	Donatto Surratt
Andre Daniels	Bob Johnson	Eric Swain
Tom Doyle	Christopher Kavanagh	Joel Trexler
James Erskine	Chris Kelble	Ania Wachnicka
Brad Furman	John Kominoski	Lynn Wingard Mark Zucker

Overview of Products from Past Efforts

Good coordination after Hurricane Andrew. Not a lot of funding, USGS \$50,000 for USGS folks and can be used to leverage dollars. FWS has put out proposals for Irma, Harvey etc. Steve Traxler will incorporate in proposal.

Dave Rudnick- Disturbances are natural, we have added complexity of sea level rise, exotics and hydrologic management. Reviewed some of examples of coordinated publications. Many articles and publications are available at: <https://www.evergladesrestoration.gov/scghandouts/>

Key objectives:

- Assess hurricane effects in context of other drivers of change especially everglades restoration
- Maximize understanding of effects and resilience via long term data analysis
- Identify critical info gaps, hot spots on topics for research and monitoring
- Coordinate and facilitate research and monitoring to maximize efficiency and efficacy
- Maximize cooperation and collaboration especially data and information sharing, analysis and publications

NE Shark slough and Taylor Slough is open. Tylan Dean at NPS will coordinate and is point of contact. Two forms of communication is needed (E.g. cell and radio). They are offering radios to researchers going into park. Access at night is available also but need to coordinate with Tylan. New work in new area would need a new permit but they will be expedited.

Jed Redwine provided an update on ongoing and planned efforts in the Gulf Coast and Florida Bay by the SFWMD, NOAA, FFWCC, ENP and others such as FIU and FAU.

https://www.evergladesrestoration.gov/scghandouts/092717/IRMA_RS_assessment.pdf

He also reviewed the NASA world view imagery available on the Park's website, geo-reference visual images. It is available free of charge to federal employees and he could help those wanting to get access.

NOAA – Chris Keble – 2 cruise

Laura Brandt – went to LOX – fall alligator survey – visual assessment of tree islands, there are minor to moderate impacts. Redo series of monitoring after hurricane Wilma to look at impacts to tree islands- melaleuca and Lygodium. Distribution and abundance of alligators much different to usual fall surveys. Looking to get funding for EDRR for invasive and to look at crocodile and sea turtle. Less damage than Wilma visually looking. We have to go back to revisit. More alligators than spring unusual because of high water. Places where we usually don't see a lot, there were a lot.

Ania Wachnicka - NOAA and SFWMD went to Biscayne Bay – we did all the nutrients assessment. Elevated levels especially Biscayne Bay. Raw sewage by black creek Canal.

Carlos Coronado - SFWMD – WCA 3A and B, not a lot of tree island damage from visual assessment. Conditions do not allow people to go out, need permission to go out.

Mike Ross- Key Largo crocodile refuge hammocks, storm surge there was 9 feet in mangroves. In hammocks we did not see that. Damage to hammocks was localized on very large trees that uprooted and position relative to east winds. West sides of road was defoliated, east side was pretty green. Observation at 33% defoliation. But some large tree damage.

Eric Swain- USGS – point person on hydrological effects of Irma on east coast from Georgia down to keys and Virgin Islands. Open to discuss other possibilities from agencies other than GS. Difficulty getting info from park first few days after hurricane, hopefully we can get back data. Hourly water levels from Irma. Most of data is intact.

Mark Zucker - deployed sensors to evaluate storm surge. We included all active real time gauges. Portal shows all sensors. Bulk of data available. FEMA is asking for more data, so more data will be added.

Kristen Hart – trying to get into big sable creek for terrapins and sea turtles. Giving data to Tortugas folks. We tracked sea turtles through the storm. We can have people looking for pythons where higher detection probability. Take the pythons if you can. Take a pic and report to I've Got One hotline 1-888-IVEGOT1. Active tracking of pythons in southwest FL.

Penny Hall – reviewed FWC's post hurricane Irma activities presentation available at: https://www.evergladesrestoration.gov/scghandouts/092717/FWC_update_hurricane_irma.pdf

USACE, UF and USGS have ability for drone footage. Can fly within 30 miles of MIA and has to follow guidelines.

Joel Trexler- Visited WCA 3A

Chris Kavanagh - Seagrass maps – reddish color rhizomes mixed with grass or large chunks of seagrass flipped over and you are see rhizomes.

Christa – she has a freshwater marsh monitoring update for the SFWMD. We will be using WV 2/3 to monitor before and after. Would like 2A included. Jed- send me where you want, ideally under 10 square miles and we will see if we can do additional tasks.

John Kominoski – FCE LTR – collected water and sediment samples from TS 9, 10 and 11 in FL Bay.

Joan Browder noted BEAM is sampling now, and sampled before.

Bob Johnson- Lake Okeechobee was 16.2 and rising, inflows from Kissimmee 30,000. Outflows to east increasing. Some back pumping to Lake. All conversation above schedules. Very wet. Corps under emergency deviation.

Tom Doyle – surface elevation tables-organic debris etc. that needs to be measured.
Groundwater wells not online that need to get back up.

Susan Gray - SFWMD cannot commit funds, we are at \$22 million and counting for post storm damage. We already do collaboration, maybe capacity to partnerships that we can form. High water impacts are going to linger for a long time.

Drones can't do vegetation imagery. Sensors on drones have different functions.

Barclay Shoemaker - flux stations at a point above canopy that looks at photosynthesis etc.

Jed Redwine - discussions with NASA to fly again from April 2016.

Mike Ross noted that all the effects are not seen today. After hurricane Andrew, pine forests were good, 8 months later, all pine forests were dead. Post hurricane mortality. After Wilma on sugarloaf key, all damage showed itself 6 months later. Species level responses, woodpeckers, woodrats etc.

Frank Mazzotti - invasive wildlife – multiple agencies need to cooperate, identify the geographical boundaries and the multiple permits in those areas. Must keep another python from happening again.

Lynn Wingard- need to see what happened with sediments, soils and peats. We have sites and need to get back there to see what happened. Ongoing efforts of seagrass efforts, same 4 sites every 6-8 weeks. Looking at vegetation and invertebrate fauna. Andre is going out next month.

Dave Rudnick- coastal landscape strongly influenced by storm surge, sea water intrusion etc. peat collapse – not sure why it happens in some places but not others. Landscape view with layered approaches combined with fins scale analysis might give more insight to erosion, smothering of plants etc. LTR is a good starting place. Combining USGS resources will be helpful.

Jeb- worldview imagery. Huge volume of info from 2013 to now. We have it all at FIU.

Chris Keble – ship WQ sampling to Biscayne Bay from Florida Bay. Ibeam samples, is nearshore sampling. A lot of remote sampling going on I will get all of it included.

Billy Causey- office in Key West opened Monday, still in the process of doing restoration clean up.

Assignments and Next Steps

1. Nick Aumen will develop a format and send out, asking for a brief outline detailing what your agency is doing. We will come up with format and process with links etc. Everyone will have one week to complete and send back to Carrie Beeler by Friday, October 6th for posting to SCG website. Possible follow-up meeting in three months or so.

2. Nick Aumen - access issues, FWC and ENP - provide a separate heading on the SCG website to alert everyone of what is open.

3. Nick Aumen - encouraged folks to use the SCG to pull people together. SCG- will do whatever we can within our capacity, we can have workshops etc. we can help facilitate further steps. Tell us any initial ideas.

Other Upcoming Events

Susan Gray noted there will be a Florida Bay update at the next WRAC meeting.

Dave Rudnick will be attending the Coastal & Estuarine Research Federation Conference in November 2017 in Providence, Rhode Island and asked that if anyone finds anything striking, please let him or Fred Sklar know.

Nick Aumen - NCER planned for in August 2018 in New Orleans and GEER 2019 will have post Hurricane Irma sessions