Exhibit C

WATER CONSERVATION AREA 3 DECOMPARTMENTALIZATION | Physical Model

FACTS & INFORMATION

MAY 2015

The Water Conservation Area 3 (WCA-3) Decompartmentalization (Decomp) and Sheetflow Enhancement Physical Model (DPM) is a field test that will be conducted along a 3,000- foot stretch of the L-67A and L-67C levees and canals in WCA-3A and 3B to determine how best to design and formulate plans for future decompartmentalization of WCA-3, as visualized in the Comprehensive Everglades Restoration Plan (CERP).

The DPM is designed to address scientific, water flow and water management uncertainties that require clarification prior to future planning and construction of Everglades restoration projects, authorized in the Water Resources Development Act of 2000.

PROJECT LOCATION

The DPM is located in Miami-Dade County along the southern end of the L-67A and L-67C canals within Water Conservation Area 3 (WCA-3).

PROJECT COMPONENTS

This project provides for the temporary installation and testing of the following DPM features:

- Installation of 10 60-inch culverts in L-67A Levee (S-152).
- A 3,000 -foot gap in the L-67C Levee with three 1,000-foot backfill treatments; no backfill, partial backfill and complete backfill using adjacent levee material.
- The S-152 structure will have a maximum combined flow of 750 cubic feet per second (cfs), with velocities up to 3 centimeters per second to allow for pulse releases between the L-67A and L-67C levees toward the various backfill treatments in the L-67C gap.
- De-construction will occur at the end of DPM testing period and the project area will be restored to pre-DPM conditions.

PROJECT STATUS

Installation of the DPM was completed in October 2013. The first operational testing period was conducted from November - December 2013, and the second operational testing period was conducted from November 2014 - January 2015.

Access through the L-67A canal will remain open during and after installation. Access through the northern portion of L-67C will be blocked until the model is decommissioned.

FOR MORE INFORMATION

NATALIE GARRETT
USACE project manager
(904) 232-1048
natalie.s.garrett@usace.army.mil

Attachment B

Everglades Law Center
National Parks Conservation Association
Everglades Foundation
Audubon Florida
Sierra Club

March 18, 2016

Melissa Nasuti
U.S. Army Corps of Engineers Jacksonville District
P.O. Box 4970
Jacksonville, FL 32232-0019
Email: melissa.a.nasuti@usace.army.mil

Re: Environmental documents for temporary emergency deviation to alleviate high water levels in Water Conservation Area 3A available for 30-day public and agency review

Via electronic mail

Dear Ms. Nasuti:

We write in response to the request for public comment related to the temporary emergency deviation to alleviate high water levels in Water Conservation Area ("WCA") 3A. We strongly support the temporary emergency deviation. We further advocate for the continued implementation of measures that are consistent with the Modified Water Deliveries plan to expedite critical operational changes needed to realize our shared plan for Everglades restoration, and to move toward true multi-species, ecosystem-based management that allows for more appropriate, sustainable water levels and flows across south Florida ecosystems. We remain opposed to operations which lower S-18C and/or increase S-197 discharges, which are unrelated to the purpose of providing high water relief in WCA 3A, counter to restoration goals, are not reflected in the Modified Water Deliveries plan and which set a dangerous precedent.

As described in the Environmental Assessment ("EA") for the temporary emergency deviation, the emergency operational changes release water from WCA 3A via the S-333 pump station into the L-29 Canal and raise water levels in that canal up to no more than 8.5 feet 1929 NGVD, allowing for flows to Northeast Shark River Slough ("NESRS") to increase. *See* EA at page 1, A-3. In addition, structures along the levees dividing WCA 3A and WCA 3B, S-151 and S-152, provide an additional exit for water from WCA 3A by passing flows to WCA 3B. *See* EA at pages 1-2; A5. According to the EA (at page 4):

> Potential reductions in high water levels and decreased periods of prolonged flooding is expected to provide temporary benefits to vegetation and fish and wildlife resources, including Federally threatened and endangered species such as the Cape Sable Seaside Sparrow (Ammodramus maritimus mirabilis), Wood Stork (Mycteria americana) and Everglades snail kite (Rostrhamus sociabilis plumbeus). Prolonged periods of flooding eliminates foraging and nesting opportunities for wading birds. Moving water south, through ENP will also have the added ecological benefit of improving salinity conditions of Florida Bay.

The EA also acknowledges that moving excess water out of WCA 3A will help avoid "losses in tree islands as a result of high water levels [that] are expected to occur if the proposed action is not taken." EA at page 5 ("Loss of tree islands has the potential to impact cultural resources and culturally important ceremonies practiced by Native American Tribes within the project area.")

These operational changes represent important parts of what has long been proposed to accomplish restoration in the decades-old plans for Modified Waters Deliveries ("ModWaters") and the Comprehensive Everglades Restoration Plan ("CERP"). *See e.g.,* Modified Water Deliveries to Everglades National Park: G-3273 & S-256 Pump Station Field Test Fact Sheet (attached as Exhibit A); March 17, 2005 CRS Report for Congress: Everglades Restoration: Modified Water Deliveries Project at pages 3-4 ("Increased water flow to the Northeast Shark River Slough will increase water supplies in the park and is expected to improve the natural habitat and hydrology of a portion of the Everglades ecosystem.")(attached as Exhibit B); May 2015 Water Conservation Area 3A Decompartmentalization Physical Model Fact Sheet (attached as Exhibit C). By expediting – in this temporary emergency deviation – these long-needed and delayed actions to restore America's Everglades, Florida and the U.S. Army Corps of Engineers are also able to "mitigate for severe economic losses currently being experienced as a result of high water levels" in the central Everglades and Water Conservation Areas.

All indications are, at this point, that these operational changes are working both to reduce high water levels in WCA 3A and to move more water east and south through Northeast Shark River Slough – how water historically flowed and should flow in the Everglades – without adverse effects. With this emergency deviation, we have exceeded the flow capacity of the S-333 structure (1,350 cfs) without going above 8.2 feet in the L-29 canal. This shows the feasibility of moving more water east and south (as restoration would direct most water flows). Especially given the repeated short term water-related crises we have faced over the past few years in south Florida, this success also lends support to the urgency of working to expedite Everglades restoration, a multi-species management approach that recognizes the need to protect and restore all parts of the South Florida ecosystem.

We hope that the successes of this "emergency deviation" show that Everglades restoration, as envisioned in ModWaters and CERP, is the solution to the problems of water extremes in south Florida. We should accelerate our efforts to implement restoration; the temporary emergency deviation shows that increasing flows south and east south of Tamiami Trail – as envisioned in CERP – is feasible and in all of our best interests.

Sincerely,

Ansley Samson
Of Counsel
Everglades Law Center

Dawn Shirreffs
Senior Everglades Policy Advisor
Everglades Foundation

John Adornato III
Senior Regional Director
Sun Coast Regional Office
National Parks Conservation Association

Julie Hill-Gabriel
Director of Everglades Policy
Audubon Florida

Frank Jackalone
Senior Organizing Manager
Sierra Club

Exhibit A

MODIFIED WATER DELIVERIES TO ENP | G-3273 & S-356 Pump Station Field Test

FACTS & INFORMATION

MAY 2015

The G-3273 Constraint Relaxation and S-356 Pump Station Field Test is the critical first step to improve hydrologic conditions for Northeast Shark River Slough in Everglades National Park, while maintaining the multiple congressionally-authorized purposes of the Central and Southern Florida (C&SF) project. The C&SF project purposes include providing flood control; water supply for municipal, industrial and agricultural purposes; prevention of saltwater intrusion; water supply for Everglades National Park; and preservation of fish and wildlife.

The data collected during the incremental field test will be used to develop a comprehensive integrated water control plan for the operation of water management infrastructure associated with the Modified Water Deliveries to Everglades National Park (Mod Waters) and C-111 South Dade projects, while balancing the ecological restoration objectives for these projects.

BACKGROUND

Restoring historic water flows and ecological viability to Everglades National Park is a complex endeavor that requires many projects to work in concert.

The Mod Waters and C-111 South Dade projects provide critical infrastructure that will enable larger quantities of water to flow into the Park. The majority of construction for both these projects has been completed and construction of the remaining components are scheduled to be completed within the next few years.

Currently operational constraints exist to mitigate for potential flooding risks to adjacent residential, commercial and agricultural lands, and impacts to endangered species. The relaxation of the G-3273 constraint and use of S-356 (Increment 1), along with future acquisition of real estate interests south of the Tamiami Trail (necessary for Increment 2) will allow additional operational flexibility within the existing infrastructure.

Since 1985, the G-3273 constraint has served as a trigger to cease S-333 discharges from flowing south into Northeast Shark River Slough when water levels reach 6.8 feet at G-3273 in eastern Everglades National Park. This has been used as a protective measure for residential areas to the east, particulary the 8.5 Square Mile Area.

Since the majority of features for the Mod Waters project have been built, opportunities exist to begin relaxation of the G-3273 constraint and increase water deliveries to Northeast Shark River Slough.

FIELD TEST PURPOSE

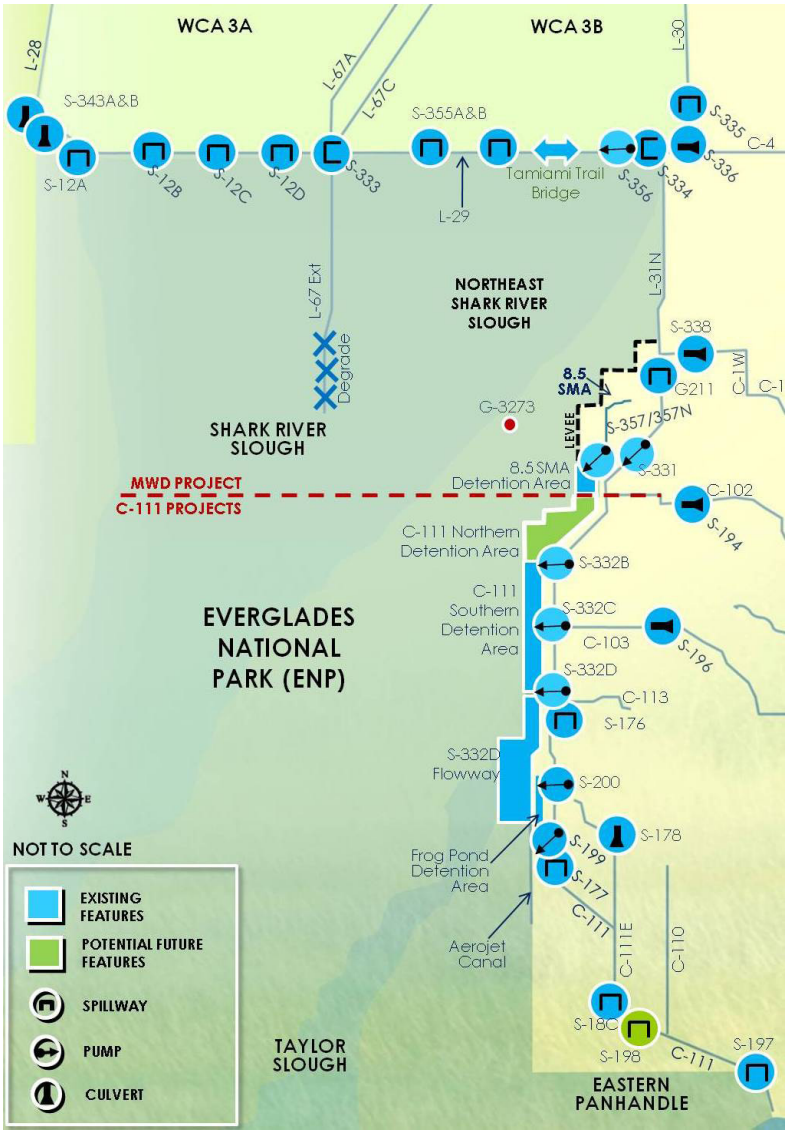
Water management is a key element in restoring historic flows to Everglades National Park and an integrated water control plan is needed to operate infrastructure connected to both the Mod Waters and C-111 South Dade projects.

In order to develop this integrated water control plan, known as the Combined Operating Plan, additional information is needed on how newly-operational project infrastructure integrates with the current water management system, and how to maximize ecological restoration objectives.

Information collected through the Field Test will evaluate the effects of incremental increases in flows to Northeast Shark River Slough in Everglades National Park. This information includes:

- Ecological responses due to increased inflows and changes in distribution of water entering Everglades National Park
- Potential effects on water quality entering Everglades National Park
- Potential effects on changing water levels in Water Conservation Areas (WCA) 3A and 3B
- Potential effects on levels of service for water supply and flood protection in Miami-Dade County
- Potential effects on flood mitigation performance for the 8.5 Square Mile Area Flood Mitigation Project, a component of the Mod Waters project
- Potential effects on water management operations
- Potential effects on cultural resources for future increments.

MODIFIED WATER DELIVERIES TO ENP | G-3273 & S-356 Pump Station Field Test



FIELD TEST STRUCTURES

The following structures and operational constraints will be incorporated into the test:

- The S-333 spillway, which releases water from WCA-3A to the L-29 Canal
- The L-29 Canal that runs parallel to the Tamiami Trail, adjacent to Everglades National Park
- The S-356 Pump Station located alongside the L-29 Canal
- The G-3273 gage in eastern Everglades National Park
- The components of the Mod Waters project, which includes the Tamiami Trail Modifications and 8.5 Square Mile Area Flood Mitigation projects
- The components of the C-111 South Dade project, which includes the Northern and Southern Detention Areas.
- S-197 will be operated as needed to mitigate potential risks to flood protection for areas in south Miami Dade County. S-197 operations will be reassessed once the C-111 South Dade Northern Detention Area is constructed and operable and/or upon completion of Increment 1.

FIELD TEST APPROACH

The field test will be conducted in three increments. During the duration of the first two increments, data will be collected and analyzed; natural, agricultural and urban system responses to project operations will be assessed; and ecological monitoring will be maintained.

INCREMENT 1

The first increment of the field test is scheduled to begin in summer 2015 and is planned for approximately two years, with a minimum duration of one year. It involves:

- Maintaining the maximum operating limit for the L-29 Canal water level at 7.5 feet
- Relaxing the maximum stage constraint (currently 6.8 ft) at the downstream G-3273 gage in Everglades National Park
- Operating the S-356 pump station for control of seepage into the L-31N Canal
- These operations will produce a small but important increase in the net flow of water into Northeast Shark River Slough

INCREMENT 2

The second increment of the field test will be implemented for two years and is scheduled to begin in 2017. It involves:

- Raising the maximum operating limit of the L-29 Canal, up to a maximum of 8.5 feet
- Raising the L-29 Canal above 8 feet will be dependent on the acquisition of additional real estate within the Park and completion of the Northern Detention Area for the C-111 South Dade project

INCREMENT 3

The information obtained from the first two increments will be used in the development of the Combined Operating Plan. This will serve as the water management plan for the southern portion of the Everglades ecosystem and includes:

- Water Conservations Areas 3A and 3B
- Everglades National Park
- South Dade Conveyance System, which includes the Mod Waters and C-111 South Dade projects.

FOR MORE INFORMATION

DONNA GEORGE
U.S. Army Corps of Engineers
donna.s.george@usace.army.mil
904-232-1766

http://bit.ly/MWD_FieldTest

Exhibit B

Order Code RS21331
Updated March 17, 2005

Everglades Restoration: Modified Water Deliveries Project

Pervaze A. Sheikh
Analyst in Environmental and Natural Resources Policy
Resources, Science, and Industry Division

Summary

The Modified Water Deliveries Project (Mod Waters) is a controversial ecological restoration project in south Florida designed to improve water delivery to Everglades National Park. The implementation schedule of Mod Waters is of interest to Congress partly because its completion is required before the implementation of portions of the Comprehensive Everglades Restoration Plan. Concerns have been raised in hearings on the Administration's FY2006 budget request regarding the cost of implementing the project and the U.S. Army Corps of Engineers' authority to fund the project. Further, due to concerns regarding phosphorus pollution in the Everglades, Congress enacted a provision in the FY2004 and FY2005 Interior Appropriations Acts that conditions funding for Mod Waters on meeting state water quality standards. In addition, the use of eminent domain to acquire land for a flood control plan adjacent to the park has been controversial. Several landowners who were unwilling to sell their land obtained a ruling in federal court that prevented further land acquisitions in the area. The Corps appealed this decision, and Congress authorized a plan, which included land acquisition, in the Consolidated Appropriations Resolution for FY2003. This report provides background on Mod Waters and discusses issues relating to its current status, funding, and land acquisition needs. This report will be updated as warranted.

Most Recent Developments

The Modified Waters Deliveries Project (Mod Waters) is being implemented by the Department of the Interior and the U.S. Army Corps of Engineers in southern Florida. (See **Figure 1**.) For FY2006, the Administration has requested a total of $60 million for the project: $35 million through the Corps and $25 million through the Department of the Interior. The President's request for the Everglades has drawn attention because of a proposed change in the funding of Mod Waters. The request called for the Corps to broaden its role by jointly funding the project with the Department of Interior, which previously had solely funded the project. This proposal has raised a question: Is the Corps authorized to receive appropriations to work on the project? The Administration's

position appears to be for the Corps to pay for roughly two-thirds of the remaining $191 million required to complete the project during next four fiscal years (FY2006-FY2009).[1]

A provision in the Consolidated Appropriations Act for FY2005 (P.L. 108-447) conditions funding for Mod Waters on meeting state water quality standards. This provision cites provisions in the FY2004 Interior Appropriations Act, which states that funds appropriated for Mod Waters will be provided *unless* the Secretary of the Interior, Secretary of the Army, Administrator of the EPA, and Attorney General indicate in a joint report (to be filed annually until December 31, 2006) that water entering the A.R.M. Loxahatchee National Wildlife Refuge and Everglades National Park does not meet state water quality standards, and the House and Senate Committees on Appropriations respond in writing disapproving the further expenditure of funds.[2]

To help implement Mod Waters, Congress included a provision in the Consolidated Appropriations Resolution for FY2003 (Division F, Title I, §157 of P.L. 108-7) that authorizes the Corps to implement a flood protection plan (Alternative 6D) for the "8.5 Square Mile Area"(8.5 SMA) as *part* of Mod Waters. Three conditions are specified in the section authorizing implementation of Alternative 6D: (1) the Corps may acquire residential property needed to carry out Alternative 6D if the owners are first offered comparable property in the 8.5 SMA that will be provided with flood protection; (2) the Corps is authorized to acquire land from willing sellers in the flood-protected portion of the 8.5 SMA to carry out the first condition; and (3) the Corps and the nonfederal sponsor may carry out these provisions with funds provided under the Everglades National Park Protection and Expansion Act of 1989 (P.L. 101-229; 16 U.S.C. §410r-8) and funds provided by the DOI for land acquisition for restoring the Everglades.

Background

The Modified Water Deliveries Project was authorized by the Everglades National Park Protection and Expansion Act of 1989 (P.L. 101-229) to improve water deliveries to Everglades National Park and, to the extent possible, restore the natural hydrological conditions within the park. The completion of Mod Waters is expected to be a central part of the Comprehensive Everglades Restoration Plan (CERP; Title VI, P.L. 106-541, the Water Resources Development Act of 2000 [WRDA 2000]).[3]

Mod Waters is expected to consist of structural modifications and additions to the Central and Southern Florida Project (C&SF Project) to improve the timing, distribution, and quantity of water flow to the Northeast Shark River Slough.[4] Increased water flow

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[1] U.S. Dept. of the Interior, News Release, "FY2006 Interior Budget Emphasizes Commitments, Cooperative Efforts, Performance and Fiscal Restraint," Feb. 7, 2005. Accessed March 14, 2005 at [http://www.doi.gov/news/05_News_Releases/050207a].

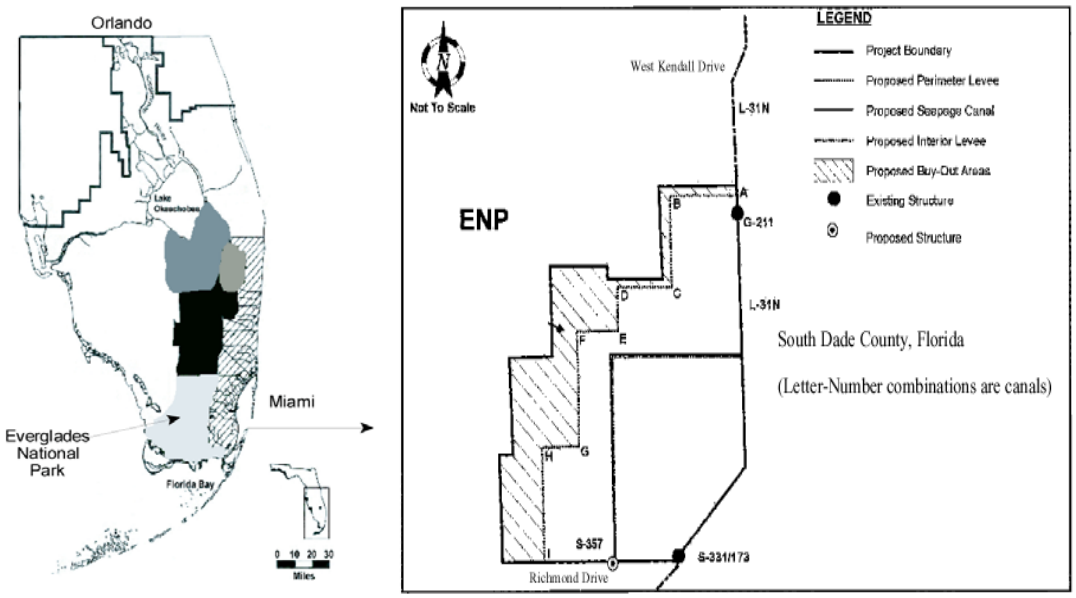
[2] For more information, see CRS Report RL32131, *Phosphorus Mitigation in the Everglades*, by Pervaze Sheikh and Barbara Johnson.

[3] For more information Florida Everglades restoration, see CRS Report RS20702, *South Florida Ecosystem Restoration and the Comprehensive Ecosystem Restoration Plan*, by Nicole Carter.

[4] Originally, the Corps was asked to alter water flow in the Everglades to control flooding, open (continued...)

to the Northeast Shark River Slough will increase water supplies in the park and is expected to improve the natural habitat and hydrology of a portion of the Everglades ecosystem.[5]

Figure 1. The 8.5 Square Mile Area in Southern Florida



Source: Adapted from the U.S. Army Corps of Engineers.

Mod Waters is expected to flood some residential and agricultural areas adjacent to the park. Legislation authorizing this project instructs the Secretary of the Army to determine if residential and agricultural areas within or adjacent to the 8.5 SMA will be flooded from the hydrological changes of Mod Waters (§104(a)). If these areas are under threat of flooding, the law mandates that a flood protection system must be developed for the area (§104(b)). To prevent flooding, several mitigation features have been developed. One of these features is called Alternative 6D, which is a plan for protecting residents in the 8.5 SMA from flood waters resulting from the project (discussed further below).

The importance of Mod Waters goes beyond its expected direct results. Legislation authorizing CERP provides that the Mod Waters must be completed before several CERP projects involving water flows on the east side of the park can receive appropriations (§601(b)(2)(D)(iv) of WRDA 2000).

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[4] (...continued)
land for agriculture, and provide water supplies to urban areas. The cornerstone of this effort was the Central and Southern Florida Project, which was authorized by the Flood Control Project Act of 1948 (ch. 771, 62 Stat. 1171). This project resulted in nearly 1,000 miles of canals, 720 miles of levees, and more than 200 water control structures (e.g., dikes, dams and pumping stations).

[5] For more details, see U.S. Army Corps of Engineers, *Modified Water Deliveries to Everglades National Park and South Dade Canals (C-111) Projects* accessed on March 14, 2005, at [http://www.saj.usace.army.mil/dp/MWDC111.htm].

Issues Surrounding the Modified Water Deliveries Project

Three issues are being debated about the implementation of Mod Waters, including its estimated funding level, the relevance of its completion to overall restoration efforts in the Everglades, and the controversy surrounding land acquisition in the 8.5 SMA.

Funding. Rising project costs for Mod Waters led some critics to question its viability. The original cost of completing Mod Waters was estimated at $81.3 million in 1990.[6] The current estimated cost for completing the project is $398 million.[7] To date, approximately $192 million has been appropriated for constructing and implementing Mod Waters, and $206 million more is estimated to be needed to finish the project (i.e., FY2005-FY2009).[8] Some supporters of Mod Waters argue that changes in the implementation plan, the rising cost of land acquisition, and flood mitigation requirements have led to higher costs. This was reflected, according to some, in the changes in the 1992 General Design Memorandum, which were derived from improved modeling data and the project's need to be compatible with CERP.

Project Delays. Mod Waters was originally estimated to be completed by 1997, yet now some argue it is unclear as to when or even whether the project will be completed. The FY2006 Administration request indicates that funding will be requested through FY2009. Some argue that the delay in implementing Mod Waters jeopardizes implementation of CERP projects, causes further degradation within Everglades National Park, and will set a precedent for delays and deliberation regarding land acquisition activities when CERP projects are being implemented. Section 601(b)(2)(D)(iv) of WRDA 2000 provides that Mod Waters must be completed before appropriations can be made to construct other restoration projects in the east Everglades.

Land Acquisition in the 8.5 Square Mile Area. Implementation of Mod Waters was dependent on acquiring land in the 8.5 SMA. Land acquisition in this area was controversial because there were several unwilling sellers and the Corps had to exercise eminent domain to acquire the necessary lands.

The 8.5 SMA is a region adjacent to Everglades National Park of approximately 5,600 acres with a residential community of approximately 1,500 people. Due to its low topography (ranging from 5.0 to 8.5 feet NGVD[9]) and lack of drainage, parts of the 8.5 SMA frequently flood for several months during the rainy season (typically from May to October). With the implementation of Mod Waters, the Corps expected that most of the 8.5 SMA would flood. The Corps developed a flood mitigation plan in 1992 (the 1992

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[6] U.S. Army Corps of Engineers, *Modified Water Deliveries to Everglades National Park*, General Design Memorandum, Jacksonville District, June 1992.

[7] U.S. Dept. of the Interior, *FY2006 Budget Justification, National Park Servic*e (Washington, DC, 2005).

[8] Of the total amount of funds already spent and estimated to complete Mod Waters, approximately $200 million is for land acquisitions and approximately $198 million is for construction, design, and monitoring, among other things.

[9] NGVD is the National Geodetic Vertical Datum, which is used to assess elevation relative to sea level.

General Design Report and EIS for Modified Water Deliveries to Everglades National Park [1992 Plan]). The 1992 Plan was expected to provide flood control for residents in the 8.5 SMA and allow for the implementation of Mod Waters. However, the 1992 Plan was later deemed "unworkable" by the superintendent of Everglades National Park, who claimed that it would not provide full flood protection for current and future residents in the 8.5 SMA.[10]

The Corps began to devise a new plan for Mod Waters and the 8.5 SMA in 1999, which considered several alternative plans, including the complete buyout of the 8.5 SMA. A new plan, referred to as Alternative 6D, was proposed by the Corps in 2000. This plan includes a perimeter levee, seepage canal, pump station, and storm water drainage for flood protection in the 8.5 SMA. Instead of a complete buyout of the 8.5 SMA, this plan proposed the acquisition of approximately 2,100 acres in the 8.5 SMA (39% of the total area) and the removal of 77 residential tracts (24 tenant-occupied tracts and 53 owner-occupied tracts) in the 8.5 SMA (13% of the total number of "residential areas" in the 8.5 SMA).[11] Properties of the remaining families would receive flood control.[12]

On February 23, 2001, some residents who are unwilling to sell their land in the 8.5 SMA filed a case against the Corps with two complaints. They asserted that the Corps does not have the authority to implement a plan that does not protect the entire 8.5 SMA from flooding, and that the Corps does not have the authority to exercise eminent domain or spend money to acquire their land through condemnation.[13] On July 5, 2002, a district judge adopted an earlier ruling by a federal magistrate that restricted the Corps from veering from its original mandate to protect the entire community from flooding, and prevented the Corps from acquiring land in the 8.5 SMA. The Corps appealed this decision to the U.S. Court of Appeals for the Eleventh Circuit on September 4, 2002, and Congress authorized implementation of the Alternative 6D plan in the Consolidated Appropriations Resolution for FY2003.

Some critics of land acquisition in the 8.5 SMA base their arguments on the same principles used to criticize the acquisition of the entire 8.5 SMA — that the federal government should not exercise eminent domain to remove unwilling sellers and that the federal government is obligated to protect all residential areas from floods under P.L. 101-229. Some critics also argue that there are several unwilling sellers in the area and that if condemnations proceed, delays due to litigation will be inevitable and will eventually

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[10] U.S. House Resources Subcommittee on National Parks and Lands, *Issues Regarding Everglades National Park and Surrounding Areas Impacted by Management of the Everglades*, oversight hearing, April 27, 1999, 106th Cong., 1st sess. (Washington, DC: GPO), Serial No. 106-24.

[11] A residential area contains either a fixed home, mobile home, or travel trailer.

[12] Details of the plan were taken from U.S. Army Corps of Engineers, *Modified Water Deliveries to Everglades National Park* and *Impact of Implementation of Recommended Plan Alternative 6D for the Comprehensive Everglades Restoration Plan*, accessed March 15, 2005 at [http://www.saj.usace.army.mil/dp/MWDC111.htm].

[13] Garcia vs. United States, No. 01-801-CIV-Moore, slip op. (D.S.D. FL. July 5, 2002).

harm the ecosystem.[14] Some supporters of acquiring land in the 8.5 SMA and implementing Alternative 6D argue that if this plan is not implemented, delays may be even longer in implementing Mod Waters and restoring the regional ecosystem, to the detriment of Everglades National Park.

The use of condemnation by the Corps to acquire lands is controversial. Some critics assert that the Corps should not use eminent domain to acquire lands in the 8.5 SMA from unwilling sellers, and that the Corps may not have the authority to use condemnation.[15] The Corps asserts that it has the authority to condemn lands if necessary, and furthermore that there are several willing sellers in the 8.5 SMA.[16]

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[14] Michael Grunwald, "Dispute Stalls Everglades Project," *Washington Post* (July 17, 2002): A21.

[15] A provision in the FY2005 Consolidated Appropriations Law (P.L. 108-447; §329), requires that no funds appropriated for acquiring lands may be expended for the filing of declarations of taking or complaints in condemnation without the approval of the House and Senate Committees on Appropriations. An exception to this provision is funds appropriated to implement the Everglades National Park Protection and Expansion Act of 1989, or to funds appropriated for federal assistance to the State of Florida to acquire lands for Everglades restoration purposes.

[16] The Corps asserts its power for condemnation is authorized under 40 U.S.C. §257 and 33 U.S.C. §591. This authority is extended to practices of flood control under 33 U.S.C. §701 according to the Corps. Personal communication with Barry Vorse, U.S. Army Corps of Engineers, on Sept. 7, 2002.

Exhibit C

WATER CONSERVATION AREA 3 DECOMPARTMENTALIZATION | Physical Model

FACTS & INFORMATION

MAY 2015

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The DPM is designed to address scientific, water flow and water management uncertainties that require clarification prior to future planning and construction of Everglades restoration projects, authorized in the Water Resources Development Act of 2000.

PROJECT LOCATION

The DPM is located in Miami-Dade County along the southern end of the L-67A and L-67C canals within Water Conservation Area 3 (WCA-3).

PROJECT COMPONENTS

This project provides for the temporary installation and testing of the following DPM features:

- Installation of 10 60-inch culverts in L-67A Levee (S-152).
- A 3,000 -foot gap in the L-67C Levee with three 1,000-foot backfill treatments; no backfill, partial backfill and complete backfill using adjacent levee material.
- The S-152 structure will have a maximum combined flow of 750 cubic feet per second (cfs), with velocities up to 3 centimeters per second to allow for pulse releases between the L-67A and L-67C levees toward the various backfill treatments in the L-67C gap.
- De-construction will occur at the end of DPM testing period and the project area will be restored to pre-DPM conditions.

PROJECT STATUS

Installation of the DPM was completed in October 2013. The first operational testing period was conducted from November - December 2013, and the second operational testing period was conducted from November 2014 - January 2015.

Access through the L-67A canal will remain open during and after installation. Access through the northern portion of L-67C will be blocked until the model is decommissioned.

FOR MORE INFORMATION

NATALIE GARRETT
USACE project manager
(904) 232-1048
natalie.s.garrett@usace.army.mil

Attachment C

Audubon Florida
Everglades Foundation
National Parks Conservation Association

April 3, 2015

Melissa Nasuti
U.S. Army Corps of Engineers Jacksonville District
P.O. Box 4970
Jacksonville, FL 32232-0019

Dear Ms. Nasuti,

We appreciate the opportunity to comment on the Corps' *Environmental Assessment and Draft Finding of No Significant Impact: Proposed G-3273 Constrain Relaxation/S-356 Field Test and S-357N Operational Strategy* ("EA and Draft FONSI"). After reviewing the *EA and Draft FONSI*, we have serious concerns about the preferred alternative ("Alternative G") and all the proposed alternatives impacts on Everglades National Park, lower Biscayne Bay, Florida Bay, and the future of Everglades restoration.

Modified Water Deliveries Project of 1989 and C-111 South Dade Project of 1996 pre-dated the Comprehensive Everglades Restoration Plan (CERP) and were conceived as a means to improve the delivery of freshwater to Everglades National Park. In combination with the C-111 Spreader Canal Western Project, a CERP Project that was authorized just last year in the Water Resources Reform Development Act of 2014 legislation, these projects were designed explicitly to benefit the east Everglades and Florida Bay, while minimizing seepage losses to adjacent areas of south Miami-Dade County.

Proposed alternatives represent a step backward in restoration.
With the completion of the 1-mile Tamiami Trail Bridge, the C-111 Spreader, and the progress made in projects such as the Picayune Strand, and C-44/Indian River Lagoon-South, Everglades restoration has made great strides over the past five years. We are also seeing that restoration works. Sadly, the preferred alternative in the *EA and Draft FONSI* takes a step backward from the restoration progress we have made thus far and put us on a trajectory that favors local interests of a few individuals over the regional benefits that Everglades restoration was intended to provide to millions of stakeholders.

The C-111 Spreader project has been operational for nearly three years and is showing signs of hydrologic improvement and ecological benefits in Taylor Slough and northeastern Florida Bay. The C-111 Spreader was advertised to the restoration community and most recently to Congress as a project that would undergo a five-year phased implementation as a means to ramp up project performance through annual

0.1-foot stage increases at the S-18C[1] structure, resulting in even greater ecological benefits to Taylor Slough and Florida Bay. The alternatives proposed provide a false choice between undermining ramp-up of operations at S-18C or draining areas of Taylor Slough that are the focus of hydrological restoration. Neither of these actions is consistent with restoration objectives and should not be included in proposed operational plans.

Alternative G is damaging and misguided.
The preferred alternative (Alternative G) not only precludes us from this phased implementation of the C-111 Spreader, it also reduces overall restoration benefits by diverting more freshwater away from the Everglades through the S-197 into lower Biscayne Bay, causing harm to that already stressed ecosystem.

Alternative G was preferred by FDACS and the SFWMD because it provides farmers in low-lying, flood-prone areas with enhanced flood control. In fact, the preferred alternative favors flood control over restoration. In a letter to the Corps dated July 14, 2014, FDACS claimed that "all agricultural land east of the Everglades National Park (ENP) and the Frog Pond/C-111 project and in the vicinity of the C-111 West Spreader Canal Project" have been impacted by elevated water levels. However, no details on flooding dates, locations, or levels were provided.

In the *Central And Southern Florida Project Comprehensive Everglades Restoration Plan C-111 Spreader Canal Western Project Final Integrated Project Implementation Report And Environmental Impact Statement*, there were safeguards for landowners built into this phased implementation plan to test and monitor the impacts of incremental increases in water stage at S-18C. In fact, as part of regular operations of the spreader project and in response to specific flood control concerns, the report explains that "factors such as antecedent water levels, local storm activity and predicted major storm events would be considered along with the above prescribed monitoring data to identify if the current incremental water level changes would exacerbate flooding."

In the current *EA and Draft FONSI* and in response to flooding claims made by FDACS on behalf of south Dade farmers, no such systematic or quantitative approach was taken to substantiate elevated water claims that were made and yet these claims were used to justify Alternative G as the preferred alternative. Our review of the monitoring data from the area shows no obvious connection between operation of the C-111 Spreader project and increased groundwater levels to the east that may have contributed to flooding in 2013. In fact, high groundwater levels coincide with large rainfall events more than local structure operations. However, because we value farming in the region and its contribution to our economy, we support further investigation and modeling to

[1] Figure D-10 from Annex D of the *Central And Southern Florida Project Comprehensive Everglades Restoration Plan C-111 Spreader Canal Western Project Final Integrated Project Implementation Report And Environmental Impact Statement*

identify the causal factors behind these claims. Such an analysis will be essential as we proceed with Everglades restoration and as sea level continues to rise.

The Corps and SFWMD need to quantitatively assess flood risk.
A primary objective of Increment 1 testing is to relax the G-3273 constraint from 6.8 feet NGVD up to 7.5 feet. By relaxing this constraint, SFWMD officials have argued that farmers will be taking on additional flood risk, mainly because the C-111 South Dade North Detention Area has not yet been constructed. The lack of this detention area, according to water managers, will result in more leakage of water out of the system that may impact South Dade farmers. However, there has been no analysis of data to quantify what the risk to farmers, if any, might actually be.

Assessing the potential for additional risk is reasonable and warranted. First, water levels at G-3273 have exceeded 6.8 feet nearly every year throughout the period of record (> 20 years). Second, the proposed operation of S-356 is very limited during wet periods. Therefore, it possibility that the S-356 would significantly increase flood risk seems remote and some evidence is necessary to support the hypothesis of additional flood risk. An analysis of long-term structure, well, and meterological data in South Dade would elucidate the myriad factors contributing to high groundwater levels in the region and help managers to quantify the farmers' risk of flooding by relaxing G-3273 stages. Moreover, without this analysis, it is not possible to determine if the proposed S-197 operations are commensurate with the presumed increased risk.

In the *Draft EA and FONSI*, we see no technically defensible justification for the amount of S-197 releases needed to compensate for the presumed increased flood risk that farmers would endure with Increment 1 of testing. The language in the *EA and Draft FONSI* is loaded with conditional terms such as "potential flood risks," "may be affected," and "may result in," yet somehow it is concluded that Alternative G "best alleviates this concern." Over the two-year projection period considered (July 2012 to June 2014), the report estimates that Alternative G will increase S-197 discharges by 2,000 to 12,000 acre-ft. These discharges occur almost exclusively in the wet season and wet years when the proposed S-356 operation in Increment 1 is not operational. Clearly, then, the sole reason for including the S-197 operations was to address the unsubstantiated claims of flooding and not to compensate for S-356 operations. The proposed S-197 operations are unrelated to Modified Water Deliveries elements or operations, and unsupported with objective analysis and impede implementation of the promised benefits from the C-111 N Spreader Project.

Proposed alternatives are unacceptable.
In conclusion, we find all of the proposed alternatives, and in particular Alternative G, unacceptable. By ignoring the phased implementation schedule of the C-111 Spreader, these operations would take a step backward from our current path of restoration and would be based on politics rather than science. Although agency staff have verbally

suggested that these proposed changes in S-197 operations will sunset when Contract 8 is in place, the language in the *EA and Draft FONSI* is much less clear. In fact, the document states that managers will revert to the current S-197 operations "if supported by the analysis of data collected during the field test" and "will be reassessed" when the North Detention Area is operable and/or the test is completed. In other words, it is not a definitive sunsetting of these proposed operational changes at S-197 and will likely represent a permanent withdrawal of expected C-111 Spreader benefits.

Our position is that restoration should proceed as planned in the recently authorized C-111 PIR and EIS and that any operational changes at S-197 should be based on rigorous modeling and analysis of data and that operations only be modified as needed through knowledge gained from modeling, monitoring, and assessment of new information following project implementation.

Sincerely,

Tabitha Cale, Everglades Policy Associate
Audubon Florida
4500 Biscayne Blvd, Suite 205
Miami, FL 33137
(305) 371-6399

Dr. Thomas Van Lent, Director of Science and Policy
Everglades Foundation
1800 Old Cutler Road, Suite 625
Palmetto Bay, FL 33157
(305) 251-0001

Cara Capp, Everglades Restoration Program Manager
National Parks Conservation Association
450 N. Park Avenue, Suite 301
Hollywood, Florida 33021
(964) 961-1280

Attachment D

Everglades Law Center, Inc.

Defending Florida's Ecosystems and Communities

331 West Central Ave, Ste. 213
Winter Haven, FL 33881

Phone: (561) 568-6740
evergladeslaw.org

April 4, 2015

Melissa Nasuti
U.S. Army Corps of Engineers Jacksonville District
P.O. Box 4970
Jacksonville, FL 32232-0019
Melissa.a.nasuti@usace.army.mil

RE: Comments on Environmental Assessment (EA) and Draft Finding of No Significant Impact (FONSI) for the Proposed G-3273 Constraint Relaxation/S-356 Field Test and S-357N Operational Strategy.

Dear Ms. Nasuti,

On behalf of **Tropical Audubon Society** we submit theses comments on the Environmental Assessment (EA) and Draft Finding of No Significant Impact (FONSI) for the Proposed G-3273 Constraint Relaxation/S-356 Field Test and S-357N Operational Strategy in Miami-Dade County, Florida.

For the reasons explained below, the draft EA does not comply with the requirements of the National Environmental Policy Act (NEPA). The Corps' selection of Alternative G as its preferred alternative is arbitrary and capricious as it is based on unsupported assertions that doing so is necessary to avoid flooding in local agricultural areas. The Corps further fails to adequately examine the potentially significant environmental impacts associated with sending flows through the S-197 structure. These impacts include diverting significant amounts of freshwater away from Florida Bay and Taylor Slough where it is ecologically needed and impeding the ability of other Comprehensive Everglades Restoration Plan ("CERP") projects to deliver water to Everglades National Park. We urge the Corps to abandon its plans to utilize the S-197 structure and select an alternative that is truly aimed at helping restore the natural system.

I. The National Environmental Policy Act

An Overview

The National Environmental Policy Act ("NEPA") is America's "basic national charter for protection of the environment." 40 C.F.R. § 1500.1(a). NEPA ensures that federal agencies "will have available, and will carefully consider, detailed information concerning significant environmental impacts" and that such information "will be made available to the larger [public] audience." *Robertson v. Methow Valley Citizens Council*, 490 U.S. 332, 349 (1989).

To this end, NEPA requires federal agencies to prepare a detailed Environmental Impact Statement (EIS) for any "major federal action significantly affecting the quality of the human environment." 42 U.S.C. § 4332(2)(C). To determine whether the environmental impact of a proposed project is significant enough to warrant the preparation of an EIS, the agency will often prepare an Environmental Assessment (EA). An EA is "a concise public document that briefly provides evidence and analysis for determining whether to prepare an EIS or a finding of no significant impact." 40 C.F.R. § 1508.9. *See also* 33 C.F.R. § 230.10. The Eleventh Circuit has held that when an EA is performed on a project, the Corps must take a "hard look" and "must make a convincing case" for a Finding of No Significant Impact and decision not to perform an EIS. *Hill v. Boy,* 144 F.3d 1446 (11th Cir. 1990). If "substantial questions as to whether a project…may cause significant degradation of some human environmental factor," an EIS must be prepared. *Idaho Sporting Congress v. Thomas*, 137 F.3d 1146, 1149 (9th Cir. 1998).

When NEPA Requires the Preparation of an EIS

The Council on Environmental Quality ("CEQ") has promulgated regulations to guide agencies in determining whether a proposed project will have "significant" impacts to the environment. *See* 40 C.F.R. § 1508.27. Whether an action will have a "significant" impact on the environment, thus warranting the preparation of an EIS, requires considerations of both "context" and "intensity." "Context" means that the significance of an action must be analyzed in several different contexts (i.e. national, regional, and local significance of the action). "Intensity" refers to the severity of the impact.

Courts have held that a plaintiff need not show that significant effects will in fact occur, but if a plaintiff raises substantial questions whether a project *may* have a significant effect, an EIS must be prepared. *Idaho Sporting Congress*, 137 F.3d at 1150 (emphasis in original). As the court in *Klamath Siskiyou Ctr. V. Boody*, 468 F.3d 549, 562 (9th Cir. 2006) observed, "this is a low standard." *Id.*

The following sections raise substantial questions that the Proposed Action may have a significant impact on the environment and impede the restoration of America's Everglades.

II. THE EA VIOLATES NEPA

The draft EA runs afoul of NEPA because it fails to provide sufficient support for the Corps' decision to select Alternative G as its preferred alternative, and fails to adequately consider and analyze the environmental effects and alternatives to the proposed action.

A. The Corps' Selection of Alternative G as the Preferred Alternative is Arbitrary and Capricious.

The fundamental flaw in the Corps' selection of Alternative G is that it is based on conjecture and false assumptions. The Corps seems to assume that (1) there are increased groundwater levels in nearby agricultural areas, (2) these groundwater levels are the result of restoration activities and other water management operations, (3) that mitigating for increased groundwater levels is the responsibility of the Corps under the CS&F Project, and (4) the Corps must use S-197 to mitigate for these potential flood control risks. As we discuss below, the Corps fails to provide adequate support for any of these assumptions and therefore its selection of alternative G as the preferred alternative is arbitrary and capricious.

1. There is no evidence of increased groundwater levels in nearby agricultural areas and that the alleged increases in groundwater levels are the result of water management operations.

The Corps appears to rely largely on letters from SFWMD and FDACS to support its decision of selecting Alternative G as the preferred alternative.

Letters from the Florida Department of Agriculture and Consumer Services ("FDACS") contain sweeping assertions that the "agricultural economy in Miami-Dade has been repeatedly harmed by elevated water levels that adversely impact growers due to the lack of operational integration between the WCAs, ENP, and the SDCS, including the C-111 structures. The areas of negative impact include all agricultural land east of ENP and the Frog Pond/C-111 project and in the vicinity of the C-111 West Spreader Canal Project."[1] However, FDACS fails to provide any data or proof of causation that these operations have any role in adverse impacts to agricultural lands. In fact, FDACS fails to establish that any adverse impacts have actually occurred in agricultural land, whether or not those impacts were caused by these projects. There is no data or modeling in the EA or the appendices establishing that there are in fact elevated water levels, much less that operations are "repeatedly harming" farmers in Miami-County. There is also no discussion or quantification of the alleged level of harm that has occurred.

2. The Corps fails to point to any specific data demonstrating that flows from the S-197 are necessary for flood control.

The EA states that alternatives G and E include "increased flood control releases from the S-18C and S-197" to "mitigate for potential risks to flood protection area… "[2] The EA

[1] EA Appx. D FDAC Letters, July 14, 2014 Letter to Melissa Nasuti from Rebecca Elliot.
[2] EA at p. 2-2

does not contain any data, however, to support the notion that flows from the S-197 are necessary for flood control. No analysis is included or referenced in the EA to show increased flood impacts by not utilizing the S-197 structure.

To the extent that the Corps believes that the S-197 flows are necessary to avoid increased groundwater levels in agricultural lands, there is no data supporting the Corps' position. Moreover, the CS&F project has five authorized purposes: flood control, water supply, prevention of saltwater intrusion, water supply for ENP and protection of fish and wildlife. There is no explanation as to why minimizing groundwater levels even falls within the authorized purpose of "flood control" under the Central and Southern Florida Project, particularly if these flows are being used in a similar manner as the South Miami-Dade agricultural drawdowns to enable agricultural interests to plant their crops earlier in the season. In fact, by diverting water away from Taylor Slough and Florida Bay, the Corps is acting in contravention of the C&SF purposes of supplying water to Everglades National Park and protecting fish and wildlife.

NEPA demands more than just conclusory, self-serving statements that use of the S-197 structure is necessary to avoid flooding in local agricultural areas. The Corps must provide a reasoned explanation for why flooding would occur without this operational component. *Seattle Audubon Soc'y v. Mosely*, 798 F.Supp. 1473, 1482 (W.D. Wash. 1992) ("[t]he agency may not rely on conclusory statements unsupported by data, authorities, or explanatory information."); *Earth Island Inst. v. U.S. Forest Service*, 442 F.3d 1147, 1160 (9th Cir. 2006) (An agency has acted arbitrarily and capriciously when it fails to make a reasoned decision based on an evaluation of evidence).

3. If there is a lack of data the Corps must do its homework in the face of scientific uncertainty.

"[T]he very purpose of NEPA's requirement that an EIS be prepared for all actions that may significantly affect the environment is to obviate the need for []speculation by insuring that available data is gathered and analyzed prior to the implementation of the proposed action." *Foundation for N. Am. Wild Sheep v. U.S. Dep't of Agric.*, 681 F.2d 1172, 1179 (9th Cir. 1982).

The CEQ regulations require three mandatory obligations on the Corps in the face of uncertainty: (1) a duty to disclose the scientific uncertainty; (2) a duty to complete independent research and gather information if no adequate information exists (unless the costs are exorbitant or the means of obtaining the information are not known); and (3) a duty to evaluate the potential, reasonable foreseeable impacts in the absence of relevant information, using a four-step process. 40 C.F.R. § 1502.22. As one federal appeals court explained, the regulations require the "disclosure and analysis of the costs of uncertainty [and] the costs of proceeding without more and better information." *Southern Oregon Citizens Against Toxic Sprays, Inc. v. Clark*, 720 F.2d 1475, 1478 (9th Cir. 1983). "Section 1502.22 clearly contemplates original research if necessary" and "NEPA law requires research whenever the information is significant. As long as the information is…essential or significant, it must be provided when the costs are not

exorbitant in light of the size of the project and the possible harm to the environment." *Save Our Ecosystems v. Clark*, 747 F.2d 1240, 1244 n.5 (9th Cir. 1984). Therefore, the Corps has a high burden of obtaining and analyzing this information in assessing which alternatives to pursue.

The Corps' failure to complete independent research and gather information if no adequate information exists and evaluate the potential, reasonable foreseeable impacts in the absence of relevant information violates NEPA. *See Cabinet Res. Group v. U.S. Fish and Wildlife Serv.*, 465 F.Supp.2d 1067, 1100 (D. Mt. 2006) (finding that agency's failure "to attempt any assessment of the importance of the missing information calls into question the validity of the [agency's] conclusions about the impacts of the proposed action" and setting aside the EIS).

There is a complete lack of data or analysis to support any claims of flooding caused by C-111 operations. The FDAC letters urging the proposed operations do not provide reference to any data or analysis to support the request. Moving forward with Alternative G fails on this basis.

4. The Corps must examine the relevant data and articulate a satisfactory explanation for its action including a rational connection between the facts found and the choice made.

This is a central tenant of federal administrative law under the Administrative Procedure Act.[3] At this point the decision is based on mere speculation. This is similar to what the Corps did in 2007-2008 when it reversed its initial plans to eliminate the south Miami-Dade agricultural drawdowns as part of BBCW Phase 1 without any data and analysis linking the elimination of the drawdowns to flooding in agricultural areas. In 2011, the Everglades Law Center submitted requests under the Freedom of Information Act to the Corps and U.S. Fish & Wildlife Service, requesting information relating the annual agricultural drawdowns, including possible adverse effects from their elimination. As we explained in our May 27, 2014 letter to the Corps regarding the drawdowns, the documents received in response to that request provided no information indicating that the Corps or any other government agency has to date modeled or otherwise systematically evaluated the effects of eliminating the drawdowns.[4]

The Corps has not presented any information regarding review of data that would demonstrate its operations have caused increased flooding to agricultural interests in the region. There is no data with respect to flooding that can establish a rational connection between such flood claims from agriculture and the selection of alternative G.

With respect to listed species, such as the endangered smalltooth sawfish, recovery depends in part on action to "[m]inimize the disruption of natural/historic freshwater

[3] *Motor Vehicle Mfrs. Ass'n v. State Farm Mut. Auto. Ins. Co.*, 463 U.S. 29, 43 (1983).
[4] *See* Letter from Jason Totoiu, Everglades Law Center, to Colonel Alan M. Dodd, U.S. Army Corps of Engineers, May 27, 2014.

flow regimes including timing, quality, and quantity and maintain or restore water quality."[5] The proposed project could disrupt natural/historic freshwater flows diverting freshwater from where it is need in Taylor Slough and Northeast Florida Bay. Other species including the American Crocodile, the Roseate Spoonbill designated as threatened in the State of Florida and the Reddish Egret listed as a Species of Special Concern in Florida are impacted by salinity water quality in Florida Bay, as are economically valuable game fish like red drum, spotted sea trout, common snook and gray snapper. Data that evidences connection between the health of these species and the quality, quantity, timing and delivery of freshwater to Florida Bay should be reviewed. The preferred alternative should have a rational connection between the freshwater needs of these species and their habitat and the amount of water being delivered to Taylor Slough and Northeast Florida Bay.

B. The Draft EA Fails to "Rigorously Explore and Objectively Evaluate" All Reasonable Alternatives.

NEPA requires a "detailed statement" of "alternatives to the proposed action." 42 U.S.C. § 4332(2)(c). The alternatives analysis should address "the environmental impacts of the proposal and the alternatives in comparative form, thus sharply defining the issues and providing a clear basis for the choice among options by the decisionmaker and the public." 40 C.F.R. § 1502.14. This analysis must "rigorously explore and objectively evaluate all reasonable alternatives." 40 C.F.R. § 1502.14(a) (emphasis added).

The purpose of this section is "to insist that no major federal project should be undertaken without intense consideration of other more ecologically sound courses of action, including shelving the entire project, or of accomplishing the same result by entirely different means." *Environmental Defense Fund v. Corps of Engineers*, 492 F.2d 1123, 1135 (5th Cir. 1974). The Council on Environmental Quality describes the alternatives requirement as the "heart" of the environmental impact statement. 40 C.F.R. § 1502.14. While an agency is not obliged to consider every alternative to every aspect of a proposed action, reviewing courts have insisted that the agency "consider such alternatives to the proposed action as may partially or completely meet the proposals goal." *Natural Resources Defense Council, Inc. v. Callaway*, 524 F 2d. 79, 93 (2d Cir. 1975).

The "touchstone" of a court's inquiry in reviewing the sufficiency of an EIS is whether the "selection and discussion of alternatives fosters informed decision-making and informed public participation." *California v. Block*, 690 F.2d 753, 767 (9th Cir. 1982). The Corps must engage in a much more rigorous analysis which provides a clear basis for choice among options by the decision-maker and the public. 40 C.F.R. § 1502.14. In addition, once a broad range of alternatives are identified with varying degrees of environmental impacts, the Corps must devote substantial treatment to each alternative considered in detail including the proposed action so that reviewers may evaluate their comparative merits. 40 C.F.R. § 1502.14(b).

[5] http://www.nmfs.noaa.gov/pr/pdfs/recovery/draft_smalltoothsawfish.pdf at p. viii.

The Corps has failed to "rigorously explore" and "objectively evaluate" all reasonable alternatives to the project. The EA does not include sufficient review of an alternative that would proceed with testing of the MWD and C-111 structures without modifying the C-111 Spreader Canal Western Project operations. The EA does not rigorously explore or objectively evaluate an alternative that would proceed with the phased implementation of the C-111 Spreader Canal Western Project while undertaking needed investigations to determine its effects. We encourage the Corps to go back to the drawing table and develop and rigorously review an alternative that would do just this.

Alternative F does not require changes in the S-197 operation and relaxes 3273. Unlike Preferred Alternative G, Alternative F does not siphon water off the South Dade Conveyance System. These aspects of Alternative F are scientifically sound. However, Alternative F would not increase the stages of 18C and therefore the system would not realize the benefits of increased freshwater into the spreader, as the Modified Water Deliveries Project was sold to Congress. The Corps failed to consider a more ecologically sound course of action, which would have involved analyzing an alternative similar to Alternative F that would also raise the stages of 18C as planned.

The Corps' analysis of Preferred Alternative G relies on anecdotal references to increased flooding on agricultural land without any data to demonstrate any increased flood risk. There must be a formal analysis of data to demonstrate whether any increased flooding occurred in the first place and if so, to analyze the cause of the flooding. There is no evidence in the discussion of Alternative G looking at whether the proposed changes are commensurate with increased risk. The Corps did not and cannot show a "clear basis" for its choice in selecting Alternative G as the preferred alternative because it does not have the data or analysis to justify its decision to provide additional flood control to agricultural land.

C. The Draft EA Fails to Analyze the Proposed Project's Direct, Indirect, and Cumulative Impacts.

"NEPA imposes procedural requirements designed to force agencies to take a 'hard look' at [the] environmental consequences" of their actions. *Earth Island Inst. v. United States Forest Serv.*, 351 F.3d 1291, 1300 (9th Cir. 2003). "This includes considering all foreseeable direct and indirect impacts. *Id.* *See also* 40 C.F.R. § 1508.25 (c).

This draft EA fails to consider a wide range of foreseeable direct and indirect impacts on the area's resources. In addition, many of the Corps' discussions on direct and indirect impacts are based on false assumptions. The Corps must correct these and other deficiencies and provide a thorough and well-reasoned discussion of all direct, indirect and reasonably foreseeable environmental impacts.

1. Direct Impacts

The EA fails to account for direct impacts of the Proposed Action on an ecosystem that is the focus of a multi-billion dollar restoration project. As the court in *National Parks Conservation Ass'n v. Babbitt*, 241 F.3d 722 (9th Cir. 2001) explains:

> The purpose of an EIS is to obviate the need for speculation by insuring that available data are gathered and analyzed *prior* to the implementation of the proposed action…The [agency] proposes to increase the risk of harm to the environment and then perform its studies…This approach has the process exactly backwards. Before one brings about a potentially significant and irreversible change to the environment, an EIS must be prepared that sufficiently explores the intensity of the environmental effects it acknowledges…The point is…that the 'hard look' must be taken before, no after, the environmentally-threatening actions are put into effect.[6]

Thus, the Corps must perform these studies now and "cannot avoid NEPA responsibilities by cloaking itself in ignorance." *Fritiofson v. Alexander*, 722 F.2d 1225, 1244 (5th Cir. 1985).

Alternatives in the EA would lower levels at the S-18C even though the CERP, C-111 Spreader Canal project calls for incrementally raising water levels at the S-18C by one-tenth of a foot per year. The first two years of operation of the C-111 Spreader Canal Western Project have provided restoration benefits to Taylor Slough and Northeast Florida Bay. The Corps ignores the value of these benefits by selecting a preferred alternative that would backtrack and divert water away from where it is ecologically needed in Florida Bay and Taylor Slough. The EA notes the incompatibility of alternative G with the plan in the C-111 project to incrementally raise water levels in the S-18C. The Corps moved forward in selecting Alternative G as the preferred alternative without fully accounting for these impacts and discounting the adverse affects on the ecosystem because the "discharges would be temporary and spatially limited to nearshore areas within the southern estuaries."[7] The Corps uses its classification of the discharges as temporary to justify the adverse impacts to the ecosystem from alternative G. However, the "[f]ield test duration is planned for approximately two years," which is not that temporary. The loss of restoration benefits for an ecosystem already on life-support could occur within the planned two-year time period of the Proposed Action. Additionally, the EA does not require that the adverse impacts from utilizing the S-197 to siphon water from Taylor Slough and Florida Bay will end within two year. "[O]perating criteria for S-197 will be reassessed once construction of the C-111 South Dade NDA is constructed and operable, and/or upon completion of the Increment 1 field test."[8] The EA leaves the possibility open that the potential adverse impacts will be ongoing and permanent.

2. Indirect Impacts

[6] *Id.* at 733 (emphasis added) (internal citations omitted). *See also,* 40 C.F.R. §§ 1500.1(b), 1502.5, 1506.1.
[7] EA at p. 2-15
[8] EA at p. 15.

The draft EA fails to adequately address the indirect impacts of this project. Under the CEQ regulations, an agency must consider the direct, indirect, and cumulative impacts on the environment when determining whether a federal action is "significant." 40 C.F.R. §§ 1508.8, 1508.27(b).

> An EA must analyze "indirect effects," which:
>
> are caused by the action and are later in time or farther removed in distance, but are still reasonably foreseeable. Indirect effects may include growth inducing effects and other effects related to induced changes in the pattern of land use, population density or growth rate, and related effects on air and water and other natural systems, including ecosystems. 40 C.F.R. § 1508.8(b).

The ecosystems in the Florida Bay and Taylor Slough may be significantly affected by the diversion of significant amounts of freshwater away from these areas where it is ecologically needed. The changes in salinity levels in these areas may impact multiple species. The EA fails to account for potential impacts to the Reddish Egret and Roseate Spoonbill, two species protected in Florida. Both species depend on top minnows, which may not be sufficiently abundant to provide the food supply these birds need without necessary freshwater flows from Taylor Slough. Additionally, game fish there are vital to the economy surrounding the Florida Bay including: red drum, spotted sea trout, common snook and gray snapper. These species need estuarine conditions with low to moderate salinity for their juveniles to be able to forage. The diversion of water from Taylor Slough and Florida Bay under alternative G could impact these species that depend on a lower saline estuarine environment. Further analysis of the impacts of the Proposed Action to these species is warranted.

The EA fails to adequately explain the potential impacts of the proposed project on recreational users, including boaters, fishermen, snorkelers, kayakers, divers, birders and others. These potential impacts include reduced use and enjoyment in addition to economic impacts to the businesses that depend on recreational users. A study funded by the Monroe County Tourist Development Council, The Nature Conservancy, Florida Keys Initiative, and NOAA found that natural resource based activities in Florida Bay and the Florida Keys accounts for total annual user value of $910 million.[9] The potential impacts of the Proposed Action to game fish that are such a significant part of recreational and economic activity in Florida Bay were not considered in the EA, except to give a finding of no effect. Game fish species that could be impacted by the diversion of freshwater from Florida Bay include the red drum, spotted sea trout, common snook and gray snapper. Additionally, food sources for the Roseate Spoonbill and Reddish Egret could be impacted by diversion of freshwater from Florida Bay under Preferred Alternative G. This could impact the experience of recreational users viewing bird populations in the area.

[9] "Linking the Economy and Environment of Florida Keys/Florida Bay" http://sanctuaries.noaa.gov/science/socioeconomic/floridakeys/pdfs/visnonmarkexecsum9596.pdf at p. 4.

In addition to not identifying and discussing Preferred Alternative G's potential impact to recreational users, the EA does not address Alternative G's potential impacts to businesses that depend on recreational users of these resources. These businesses include charter boats, bait and tackle shops, marinas, guide services, dive shops, as well as local businesses that provide gas, food and services to recreational users.

3. Cumulative Effects

NEPA requires federal agencies to take a "hard look" at the cumulative effects of the proposed action. *See Florida Wildlife Federation v. United States Army Corps of Eng'rs*, 401 F.Supp.2d 1298 (holding that the agency failed to take a "hard look" at the cumulative effects of the proposed action in its EA). To accomplish this, the Corps must not only catalogue past, present and future projects but also *assess* the cumulative environmental impacts of those projects with the proposed project and *analyze* the additive cumulative impact of all these actions. *See City of Carmel-By-The-Sea*, 123 F.3d at 1160 (rejecting cumulative impacts analysis that referred generally to other past projects and did not discuss the additive impacts of foreseeable future projects). Further, NEPA requires that a cumulative impacts analysis provide "some quantified or detailed information" because without such information, neither the courts nor the public can be assured that the agency took the necessary hard look at the project. *Neighbors of Cuddy Mountain v. United States Forest Service*, 137 F.3d 1372, 1379 (9th Cir. 1998) (stating that "very general" cumulative impacts information violates NEPA).

Preferred Alternative G may have significant cumulative impacts by impeding the function of other CERP projects in the area. The Proposed Action could reverse benefits from the C-111 spreader canal by diverting needed freshwater from Taylor Slough and Northeast Florida Bay. The cumulative impact of this action when considered in the light of decades of unfavorable saline conditions in Florida Bay demonstrate the possibility that restoration efforts could be significantly compromised by the proposed action. The Corps did not analyze these potential impacts. Instead, the Corps' cumulative impact references were based only on the overall beneficial impact of CERP projects.[10]

D. The Draft EA Does Not Adequately Discuss Climate Change and Sea Level Rise.

The EA fails to consider the project in the context of climate change and sea level rise.

Global average sea level rose by roughly eight inches over the past century, and sea-level rise is accelerating in pace.[11] Global average sea level rose at an average rate of 3.3 ± 0.4 mm per year between 1993 and 2006,[12] compared with 1.6 ± 0.2 mm per year between

[10] EA at p. 4-63.
[11] Karl, T. R., J. M. Melillo, and T. C. Peterson. 2009. Global Climate Change Impacts in the United States, Cambridge University Press.
[12] Rahmstorf, S. 2007. A semi-empirical approach to projecting future sea-level rise. Science 315:368-370.

1961 and 2003.[13] Although the Intergovernmental Panel on Climate Change's ("IPCC") Fourth Assessment Report projected a global mean sea-level rise in the 21st century of 18–59 cm (7 to 23 inches), the IPCC acknowledged that this estimate did not represent a "best estimate" or "upper bound" for sea-level rise because it assumed a negligible contribution from the melting of the Greenland and west Antarctic ice sheets.[14] Recent studies documenting the accelerating ice discharge from these ice sheets indicate that the IPCC projections are a substantial underestimate.[15] Studies that have improved upon the IPCC estimates have found that a mean global sea-level rise of at least 1 to 2 meters is highly likely within this century.[16] Rahmstorf (2007) used the tight, observed relationship between global average temperature rise and sea-level rise over the recent observational record (~120 years) to project a global mean sea-level rise of 0.5 to 1.4 m by 2100. Other studies estimate a global mean sea-level rise by 2100 at 0.75 to 1.90 m,[17] 0.8 to 2.0 m,[18] 0.8 to 1.3,[19] and 0.6 to 1.6 m.[20] Moreover, studies that have reconstructed sea level rise based on the geological record, including oxygen isotope and coral records, have found that larger rates of 2.4 to 4 m per century are possible.[21]

NEPA guidance from the Council on Environmental Quality states that climate change effects should be considered in the EIS for projects that are designed for long-term utility and located in areas that are considered vulnerable to specific effects of climate change within the project's timeframe.[22]

One of the tremendous benefits provided by Everglades restoration is combatting salt water intrusion resulting from sea level rise. By pulling water from the marshes of the

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[13] Domingues, C. M., J. A. Church, N. J. White, P. J. Gleckler, S. E. Wijffels, P. M. Barker, and J. R. Dunn. 2008. Improved estimates of upper-ocean warming and multi-decadal sea-level rise. Nature 453:1090-1094.

[14] IPCC. 2007. Climate Change 2007: Synthesis Report. An Assessment of the Intergovernmental Panel on Climate Change. Available at www.ipcc.ch.

[15] Hansen, J., M. Sato, R. Ruedy, K. Lo, D. W. Lea, and M. Medina-Elizade. 2006. Global temperature change. Proceedings of the National Academy of Sciences of the United States of America 103:14288-14293; Pritchard, H. D., R. J. Arthem, D. G. Vaughan, and L. A. Edwards. 2009. Extensive dynamic thinning on the margins of the Greenland and Antarctic ice sheets. Nature 461:971-975; Rignot, E., I. Velicogna, M. R. van den Broeke, A. Monaghan, and J. T. M. Lenaerts. 2011. Acceleration of the contribution of the Greenland and Antarctic ice sheets to sea level rise. Geophysical Research Letters 38, L05503.

[16] Rahmstorf 2007; Pfeffer, W. T., J. T. Harper, and S. O'Neel. 2008. Kinematic constraints on glacier contributions to 21st-century sea-level rise. Science 321:1340-1343; Vermeer, M., and S. Rahmstorf. 2009. Global sea level linked to global temperature. Proceedings of the National Academy of Sciences of the United States of America 106:21527-21532; Grinsted, A., J. C. Moore, and S. Jevrejeva. 2010. Reconstructing sea level from paleo and projected temperatures 200 to 2100 AD. Climate Dynamics 34:461-472; Jevrejeva, S., J. C. Moore, and A. Grinsted. 2010. How will sea level respond to changes in natural and anthropogenic forcing by 2100. Geophysical Research Letters 37:L07703.

[17] Vermeer and Rahmstorf. 2009.

[18] Pfeffer et al. 2008.

[19] Grinsted et al. 2010.

[20] Jevrejeva et al. 2010.

[21] Milne, G. A., W. R. Gehrels, C. W. Hughes, and M. E. Tamisiea. 2009. Identifying the causes of sea-level change. Nature Geoscience 2:471-478.

[22] Nancy Sutley, Chair, Council of Environmental Quality, Memorandum for Heads of Federal Departments and Agencies, Draft NEPA Guidance on Consideration of the Effects of Climate Change and Greenhouse Gas Emissions, (February 18, 2010).

Southern Everglades and draining Taylor Slough in Everglades National Park into lower Biscayne Bay, Alternative G may eliminate these sea level rise mitigation benefits.

One of the glaring gaps in information in the Corps' analysis of Alternative G, is that the Corps assumes any flooding or increased flooding in the region results from "lack of operational integration between the WCAs, ENP and SDCS."[23] However, the Corps has not evaluated whether any the allegedly increased flooding on farmland in the area is connected to sea level rise, a factor wholly distinct from any potential impacts from water management operations. CERP restoration projects are not a mechanism to provide flood control relief for the impacts of sea level rise. In fact restoring freshwater flows as planned for Everglades restoration, is one of the best defenses that exists for South Florida to reduce and delay the impacts of sea level rise.[24]

III. THE CORPS MUST PREPARE AN EIS DUE TO THE PRESENCE OF A NUMBER OF SIGNIFICANCE FACTORS

CEQ has promulgated regulations to guide agencies in determining whether a proposed project will have "significant" impacts to the environment, thus warranting the preparation of an EIS. *See* 40 C.F.R. § 1508.27. The CEQ regulations set forth several factors for the Corps to consider when evaluating intensity, including, but not limited to:

> • Unique Characteristics of the geographic area such as proximity to park lands, wetlands, or ecologically critical areas;
>
> • Whether the action is related to other actions with individually insignificant but cumulatively significant impacts;
>
> • The degree to which the action may establish a precedent for future actions with significant effects or represents a decision in principle about a future consideration.
>
> • The degree to which the action may adversely affect an endangered or threatened species or its habitat that bas been determined to be critical under the Endangered Species Act of 1973.
>
> 40 C.F.R. § 1508.27 (emphasis added).

All of these "significance factors" are present here and as explained below, the Corps must prepare an EIS.

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[23] EA at p. 1-11.

[24] Everglades National Park, South Florida Natural Resources Center, Dan Kimball, Superintendent Everglades National Park and Erik Stabenau, Ph.D., Oceanographer, Everglades National Park, "Climate Change: Discussion on South Florida Resources at Risk" http://www.miamidade.gov/planning/library/presentations/2014-03-07-climate-change-south-florida-resources-at-risk.pdf at slide. 11.

A. The Geographic Region is Unique As the Project Occurs Within Everglades National Park.

On December 6, 1947, Congress declared the Everglades a national park. In 1976, the Everglades was accepted as a biosphere reserve. In 1979, Everglades National Park was listed as a World Heritage Site by the United Nations Educational, Scientific, and Cultural Organization (UNESCO). Finally, in 1987, the Everglades was designated as a Ramsar site (Wetland of International Significance).[25]

Everglades National Park contains a unique mixture of vast subtropical wetlands, coastal marine ecosystems, and temperate wildlife species found nowhere else in the United States. Everglades National Park provides a refuge for over 20 rare, endangered, and threated species including the Florida panther, snail kite, American crocodile, and manatee. Furthermore, it provides an important foraging and breeding habitat for over 400 species of birds. This makes Everglades National Park the most significant breeding ground for wading birds in North American and a major corridor for migration.[26]

UNESCO has placed Everglades National Park on its endangered list due to water flow issues.[27] The stated purpose of this project is to increase water deliveries to Everglades National Park for the benefit of natural resources. Consequently, any actions that change the hydrology of the Everglades should prioritize the unique environmental concerns of this delicate ecosystem and closely evaluate any possible significant impacts.[28]

B. The Proposed Action May Have Cumulatively Significant Impacts.

The Congressionally authorized goals of this project include the preservation of and supply of water to Everglades National Park.[29] However, the proposed alternatives may impede the ability of ongoing CERP projects to deliver necessary benefits to the Everglades National Park. These include the C-111 Spreader Canal Western Project, which was fast-tracked by the South Florida Water Management District and authorized by Congress[30] in order to restore important functions in the Everglades, including pre-drainage water quantity, hydroperiods and hydropatterns, and salinity levels.[31]

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[25] *Everglades National Park*, UNESCO, (March 6, 2015), http://whc.unesco.org/en/list/76
[26] *Id.*
[27] United States. Army Corps of Engineers. Jacksonville District. *Environmental Assessment and Draft Finding of No Significant Impact. Proposed G-3273 Constraint Relaxation/S-356 Field Test and S-357N Operational Strategy*. Miami Dade County, Fla. U.S. Army Corps of Engineers, 2015. Web. 6 Mar. 2015 www.saj.usace.army.mil/Portals/44/docs/Planning/EnvironmentalBranch/EnvironmentalDocs/G-3273relaxS356testS357N_op_EA_AppD_feb2015.pdf at 3-29.
[28] *Everglades National Park*, UNESCO, (March 6, 2015), http://whc.unesco.org/en/list/76
[29] United States. Army Corps of Engineers. Jacksonville District. *Environmental Assessment and Draft Finding of No Significant Impact. Proposed G-3273 Constraint Relaxation/S-356 Field Test and S-357N Operational Strategy*. Miami Dade County, Fla. U.S. Army Corps of Engineers, 2015. Web. 6 Mar. 2015 www.saj.usace.army.mil/Portals/44/docs/Planning/EnvironmentalBranch/EnvironmentalDocs/G-3273relaxS356testS357N_op_EA_AppD_feb2015.pdf at 1-4.
[30] *Id.* at 1-12.
[31] *C-111 Spreader Canal*, Comprehensive Everglades Restoration Plan (CERP), March 3, 2015, http://www.evergladesplan.org/pm/projects/proj_29_c111.aspx

In its first two years, the C-111 Spreader Canal Western Project has shown promising increases in the amount of water being delivered to the Taylor Slough and Northeast Florida Bay. This has resulted in improved salinity levels and increased growth of submerged aquatic vegetation. The C-111 Spreader Canal Western Project's goal is to raise water levels in the S-18C by one-tenth foot per year.

The EA notes that two of the proposed alternatives, E and G, are not necessarily compatible with the C-111 South Dade Project and the C-111 Spreader Canal Final Western Project. Notably, flood control measures proposed in alternatives E and G are predicted to reverse the phased implementation of the C-111 Spreader Canal Western Project by lowering water levels in the C-111 canal and diverting water to Biscayne Bay.[32] These flood control measures propose the release of 500 cfs from the S-197 canal in order to mitigate potential flooding in agricultural areas.[33]

The EA identifies alternative G as the Preferred Alternative, identifying Alternative G as including "increased flood control releases from S-18C and S-197… to mitigate for potential risks to flood protection areas within South Dade which may be affected by [water management factors].[34] However, the EA does not provide support for the assertion that water management factors have any causational relationship to allegedly increased flooding in flood protection areas.

The aforementioned detrimental effects to the environment and ongoing restoration efforts are swept aside because the 1) the adverse effects to Manatee Bay and Barnes Sound's salinity levels will be temporary and spatially limited; 2) assessment of the impacts on C-111 South Dade Project and C-111 Spreader Canal Eastern Project has been deferred to the planned CERP C-111 Spreader Canal Easter Project PIR; 3) incremental increases at S-18C are not expected to be implemented by SFWMD during the duration of the Increment 1 field test; and 4) the operating criteria for S-197 will be reassessed once construction of the C-111 South Dade NDA is constructed and operable, or upon completion of the Increment 1 Field Test.[35]

The EA fails to establish that above rationale is sufficient to proceed with alternative G. First, the EA does not provide any support for its assertion that detrimental effects to the salinity in Manatee Bay and Barnes Sound will be temporally and spatially limited. It notes that "significant impacts are not expected," but does not support this assertion

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[32] United States. Army Corps of Engineers. Jacksonville District. *Environmental Assessment and Draft Finding of No Significant Impact. Proposed G-3273 Constraint Relaxation/S-356 Field Test and S-357N Operational Strategy*. Miami Dade County, Fla. U.S. Army Corps of Engineers, 2015. Web. 6 Mar. 2015 www.saj.usace.army.mil/Portals/44/docs/Planning/EnvironmentalBranch/EnvironmentalDocs/G-3273relaxS356testS357N_op_EA_AppD_feb2015.pdf at 2-15.

[33] *Id*. at 2-16.

[34] EA at p. 2-15.

[35] United States. Army Corps of Engineers. Jacksonville District. *Environmental Assessment and Draft Finding of No Significant Impact. Proposed G-3273 Constraint Relaxation/S-356 Field Test and S-357N Operational Strategy*. Miami Dade County, Fla. U.S. Army Corps of Engineers, 2015. Web. 6 Mar. 2015 www.saj.usace.army.mil/Portals/44/docs/Planning/EnvironmentalBranch/EnvironmentalDocs/G-3273relaxS356testS357N_op_EA_AppD_feb2015.pdf at 2-15.

with any data or scientific study.[36] Second, the fact that the impacts of the flood control measures on these restoration projects has not yet been assessed cannot prove that their selection is justified; in fact, it proves the opposite. Finally, the fact that these measures are temporary and could be changed does not negate their potential immediate impact on the environment and restoration efforts. We dispute whether calling these measures temporary is appropriate in relation to the Proposed Action under Alternative G, as "the field test duration is planned for approximately two years".[37] Significant ecological damage can occur in a two-year period. The EA does not give a definite end time to the operations of S-197 defined in preferred Alternative G. The EA states that "operating criteria for S-197 will be reassessed once construction of the C-111 South Dade NDA is constructed and operable, and/or upon completion of the Increment 1 field test."[38] There is no certain end date for operations diverting water from Taylor Slough and Florida Bay and therefore nothing guarantees that the impacts will be temporary, even if two years could qualify as temporary.

Ultimately, the EA's selection of alternative G favors agricultural concerns over environmental concerns, expressly against the mandate of the SFWMD. The ostensible "flood control" measures included in the proposed action may reverse the ongoing restoration efforts of various CERP projects.

C. The Proposed Action May Establish A Precedent for Future Actions.

The proposed action may establish a precedent for future actions by establishing a policy that restoration activities must be compromised due to the specter of an increase in ground water levels and unsupported claims of impacts to local agricultural areas.

D. The Proposed Action May Adversely Affect Endangered Species and Designated Critical Habitat.

1. The Project May Adversely Affect Endangered Species including the Smalltooth Sawfish and American Crocodile.

The Corps issued a no effect determination for many species including the smalltooth sawfish and American crocodile. However, we do not agree that the Proposed Action would have no affect on these species. Young crocodiles need to grow to a certain weight in order to survive their first winter in order to regulate their temperature when in colder weather. Young crocodiles require freshwater to metabolize food and grow. Freshwater that is so vital to young crocodiles in the early stages of their lives could be diverted from their habitat under preferred Alternative G. We urge the Corps to reconsider its determination of no impact to American crocodiles.

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[36] *Id.* at 2-16.
[37] Draft FONSI at p. 1.
[38] EA at p. 2-15.

Additionally, the federally listed endangered smalltooth sawfish claims Florida Bay as critical habitat. The main food source for smalltooth sawfish is mullet, which require freshwater. The Proposed Action could divert significant amounts of freshwater from Northeast Florida Bay and impact the abundance of mullet in the area. This in turn could reduce the food source for smalltooth sawfish and damage their habitat. We urge the Corps to reconsider its determination of no impact to the smalltooth sawfish.

2. The Corps Must Engage in Consultation with the U.S. Fish & Wildlife Service and National Marine Fisheries Service Regarding the Project's Impacts to the American Crocodile and Smalltooth Sawfish.

If a federal project may affect a listed species, the action agency must engage in "consultation" with the Services under Section 7 of the ESA. Section 7 is the central enforcement provision that operates to prohibit federal agencies from authorizing, funding, or otherwise carrying out any action that is likely to "jeopardize" the continued existence of an endangered species or result in the destruction or adverse modification of the species' critical habitat. 16 U.S.C. § 1536(a)(2).

The Corps initiated informal consultation with USFWS to determine the proposed action's impacts on Federally listed threated and endangered species in the project area. On August 22, 2014, the Corps requested from USFWS a list of federally threatened and endangered species in the project area.[39] The USFWS provided the list on September 11, 2014 and updated the list on December 17, 2014.[40] Then, the Corps underwent effects determinations for all of the listed species.

Despite the fact that Everglades is a known habitat for numerous rare, threatened, and endangered species, the Corps posited that there is no anticipated adverse effect on any threated and endangered species by the proposed action.[41] The EA does note that proposed action may affect, but is not likely to adversely effect, the following species and their associated critical habitat: Cape Sable seaside sparrow, Everglade snail kit, Florida bonneted bat, the Deltoid spurge, Small's milkpea, and Tiny polygala.[42]

On January 6, 2015, the Corps initiated informal consultation with the USFWS to request their concurrence with the "may affect, but not adversely effect" determination.[43] The Complete Initiation Package included explanations of effects determinations for each of the listed species in the project area. However, the analysis focuses on lack of crocodiles found near the S-197 structure skirting the issue that the

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[39] United States. Army Corps of Engineers. Jacksonville District. *Environmental Assessment and Draft Finding of No Significant Impact. Proposed G-3273 Constraint Relaxation/S-356 Field Test and S-357N Operational Strategy*. Miami Dade County, Fla. U.S. Army Corps of Engineers, 2015. Web. 6 Mar. 2015 www.saj.usace.army.mil/Portals/44/docs/Planning/EnvironmentalBranch/EnvironmentalDocs/G-3273relaxS356testS357N_op_EA_AppD_feb2015.pdf at 4-66.
[40] *Id.*
[41] *Id.* at 4-41
[42] *Id.*
[43] *Id.*

freshwater diverted away from Florida Bay is the threat to young crocodile populations.[44] Likewise, the analysis of smalltooth sawfish fails to account for impacts to its food supply and how the lack of freshwater flow into sawfish habitat may impede the species' recovery.[45]

According to the EA, these effects determinations were determined based 1) on the short duration of the field test and 2) on the generally beneficial nature of this action.[46] The analysis undertaken by the Corps is insufficient to make any effects determinations. The short duration of the field test does not speak to any effects on species that will occur during the test.

The threshold for triggering formal consultation under the ESA is "very low" and "any possible effect…triggers formal consultation requirements."[47] The Service has explained, "[t]he threshold for formal consultation must be set sufficiently low to allow Federal agencies to satisfy their duty to 'insure' under Section 7(a)(2) [that their actions do not jeopardize the species or adversely modify critical habitat]. The Corps must undergo formal consultation with the USFWS.

Conclusion

"NEPA emphasizes the importance of coherent and comprehensive up-front environmental analysis to ensure informed decision making to the end that the agency will not act on incomplete information, only to regret its decision after it is too late to correct." *Marsh v. Oregon Natural Resources Council*, 490 U.S. 360, 371 (1989). An EIS is required of an agency in order that it explores, more thoroughly than an EA, the environmental consequences of a proposed action whenever "substantial questions are raised as to whether a project *may* cause significant [environmental] degradation." *Blue Mts. Biodiversity Project*, 161 F.3d at 1216 (quoting *Idaho Sporting*, 137 F.3d at 1149).

As evidenced by these comments, the draft EA and FONSI fail to meaningfully evaluate alternatives to the proposed action and the action's direct, indirect, and cumulative impacts. Moreover, substantial questions have been raised as to whether this project may cause a significant impact on the environment and negate the benefits of ongoing ecosystem restoration efforts. Therefore, the Corps must prepare an EIS for this project before a decision is made and it is otherwise too late.

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[44] *Id.* at 40.
[45] *Id.* at 11.
[46] United States. Army Corps of Engineers. Jacksonville District. *Environmental Assessment and Draft Finding of No Significant Impact. Proposed G-3273 Constraint Relaxation/S-356 Field Test and S-357N Operational Strategy*. Miami Dade County, Fla. U.S. Army Corps of Engineers, 2015. Web. 6 Mar. 2015 www.saj.usace.army.mil/Portals/44/docs/Planning/EnvironmentalBranch/EnvironmentalDocs/G-3273relaxS356testS357N_op_EA_AppD_feb2015.pdf at 4-41.
[47] 51 Fed. Reg. 19, 949-19,950 (June 3, 1986).

Thank you for the opportunity to comment on this proposal. Please make these comments part of the official record for this project. Also, please send me all future notices, announcements, EAs, EISs, and decision notices for this project.

Sincerely,

Jason Totoiu
Executive Director

Julie Dick
Staff Attorney

Counsel for Tropical Audubon Society

Attachment E

(http://www.everglades

Evaluation of the South Florida Water Management District's Plan to Increase Freshwater Flows to Florida Bay

OCTOBER 7, 2016 BY THE EVERGLADES FOUNDATION

By Dr. Rajendra Paudel, Hydrologist, The Everglades Foundation and

Dr. Stephen Davis, Wetland Ecologist, The Everglades Foundation

Why does Florida Bay need more fresh water?

Florida Bay is the ultimate recipient of freshwater flow from the Everglades, which was historically fed by rainfall and spillover from Lake Okeechobee. After the construction of the Central and South Florida Project, instead of freshwater flowing south from the Lake into the Everglades, most Lake water considered "excess" is dumped to the Caloosahatchee River (to the west) and St. Lucie River (to the east) where it is damaging the ecology and economy of the communities surrounding these estuaries. Because lake water has been diverted and the remnant Everglades dammed, not enough water reaches the Everglades. As a result, Florida Bay is starved for freshwater needed to maintain a healthy salinity balance for seagrass and the numerous species of fish, shellfish, birds, marine mammals, and sea turtles that depend on this critical habitat. Today, the fate of Florida Bay is entirely dependent on local rainfall and therefore very susceptible to droughts.

During the summer of 2015, a drought in South Florida led to several months with no freshwater flow to Florida Bay through Shark River Slough and Taylor Slough of Everglades National Park. This produced high salt ("hyper-salinity") conditions in the upper central region of Florida Bay where these two drainage basins converge and triggered the beginning of a massive seagrass die-off that continued to expand through the first half of 2016 (see Figure 1).

What solutions does the South Florida Water Management District propose to increase the flow of freshwater into Florida Bay?

In response to public outcry over the seagrass die-off and recognizing the fact that more freshwater flow into the bay is needed to resolve the problem, the South Florida Water Management District (SFWMD) recently presented a plan "that will become a major part of saving the bay[1]." The proposal has some complex elements, but the principal features are:

1. Completion of planned and under-construction components of the South Dade Project and the Modified Water Deliveries Project;
2. Lowering of canal stages near Everglades National Park;
3. Adding new pumps in the Frog Pond and use them to pump water directly from canals into Everglades National Park;
4. Modifying infrastructure along the boundary of Everglades National Park to allow introduction of water from canals directly into the Park's marshes.

The plan was announced in July 2016 by the SFWMD, though the development of the main elements came out of the South Dade Investigations[2], which focused primarily on improving flood protection in the L-31N basin along the eastern boundary of Everglades National Park. The July 2016 proposal was put forth as a means of doubling flow into the headwaters of Taylor Slough, which is one of the important contributors but not the sole contributor of freshwater inflow to Florida Bay. The claim is that increasing flow to Taylor Slough will increase flows to Florida Bay, thereby promoting recovery of seagrass beds badly damaged in 2015[3].

The SFWMD provided Everglades Foundation with the Regional Simulation Model (RSM) inputs of their plan, thus allowing us to run the model and conduct an independent analysis of the results. We considered all details of the plan to understand where the additional water is coming from, where the water is going, when the water is delivered, and how much of that water is making it into Florida Bay. This provides a technical basis for the conclusions.

How much flow increased and where?

The modeled results of the SFWMD plan indicate that flows near Taylor Slough Bridge, just downstream of where the plan pumps water into the marshes, nearly doubles, with an average increase of more than 20,000 acre-ft per year (or 6.5 billion gallons; see Figure 2)

We analyzed the water budget, which accounts for all of the flows of water that cross a defined boundary. That way, internal flows like recirculation of water at the S-332 structures are fully accounted for. Roughly speaking, on average, about 17,000 acre-ft per year comes from intercepting the seepage leaving from Everglades National Park to the developed areas, and about 4,000 acre-ft comes from increasing the seepage out of Everglades National Park; that is, about 80% of the water in this plan is coming from seepage that is moving eastward that has already left Everglades National Park. About 20% of the water is from increasing the seepage out of Everglades National Park. SFWMD's plan would decrease the drainage of water from the canals to the South Dade Agricultural Area with increased pumping at the S-332s (Figure 3). However, lowering canal stages in L-31N also extracts water out of Everglades National Park above the headwaters of Taylor Slough.

One contention posited at public meetings by the SFWMD is that the increased flows in Taylor Slough come from diverting damaging flows at S-197, the southernmost structure in C-111 that releases water into Biscayne Bay. Structure flows indicate that S-197 discharges decrease by about 4,000 acre-ft per year on average in their plan, far less than the quantities of water that are pumped into Taylor Slough. Therefore, the source of the additional flow in Taylor Slough is likely decreased beneficial seepage towards Biscayne Bay, not a decrease in harmful canal discharges to Barnes Sound.

How much water gets to Florida Bay?

The proposed plan increases the pumping at S-200 and S-199; however, a substantial fraction of water returns back towards the C-111 canal (13,000 acre-ft between S-177 and S-18C, and 12,000 acre-ft between S-18C and S-197 canal sections). If one looks at the flows approaching Florida Bay (the total of transects T23B and T23C in Figure 3), flows increase from 238,000 acre-ft per year to 256,000 acre-ft per year, about an 8% increase in total flows. These new operations will send approximately 2,000 acre-ft less water to Florida Bay across transect T23C in the Panhandle region. Overall, there is a shift of about 6,000 acre-ft of water from the Panhandle region and S-197 to the Taylor Slough (T23B) transect. In the SFWMD proposal, 42% of the flow is in the western section, while the base is about 37%. While the net increase is very modest, the distribution of flow is shifted westward, which is a definite benefit.

In summary, SFWMD's proposal increases a net annual average flow by about 18,000 acre-ft (an 8% increase) of water across Taylor Slough and Eastern Panhandle (see Figure 3 for T23B and T23C transects). However, it doesn't increase net flows into Shark River Slough which are essential to freshening the western margin of Florida Bay in dry years.

Does Florida Bay improve during droughts?

As for the SFWMD contention that this will improve seagrass habitat, one important consideration is when does the water get to Florida Bay? Specifically, the question is does the freshwater come under dry conditions, or on top of already wetter conditions? Figure 4 is a flow duration curve of the total flows across Transects 23B and C. The interpretation of these results is that nearly all of the increase in flows come during wetter conditions. That is, flows will be higher in typical or above-average wet seasons and above-average dry seasons, but there is little change during below-average wet seasons and typical or below-average dry seasons.

Protect the Everglades, not sugar farmers | Editorial (http://www.evergladesfoundation.org/breaking-news/protect-the-everglades-not-sugar-farmers-editorial/)

Eve Samples: Buy the land south of Lake Okeechobee — don't buy the excuses (http://www.evergladesfoundation.org/breaking-news/eve-samples-buy-the-land-south-of-lake-okeechobee-dont-buy-the-excuses/)

Moreover, if one looks at a drought situation, this conclusion is confirmed. While no two droughts are exactly alike, the 1989 dry season is an important comparison to 2015, as the 1989 drought contributed to a seagrass die-off in Florida Bay. In Figure 5, we see that the changes in flows are extremely small. Therefore, there is no basis to conclude that this plan will improve drought conditions, like the 2015 drought.

In summary, while the plan has some modest flow benefits during wet conditions, it will not likely change flows during dry years. That's because the source of the water is, ultimately, the marshes of Everglades National Park. During droughts, those marshes are dry and do not supply additional water. The plan does not create "new water" by carrying water from a wet period to a dry period. Rather, the plan redistributes the water during wet periods, the only time that water is available in the presently managed state of the Everglades.

What about water quality?

Since the L-31N/C-111 canal stages are lowered in the proposed plan, it will alter the exchange of flows between canal and the agricultural fields and therefore the phosphorus loadings. There is a proposed connection of the S-200 high-head canal to L-31W to push water towards the headwaters of Taylor Slough which could ultimately change the phosphorus loading rates into Taylor Slough. Figure 6 shows that flows from the agricultural areas to the canals increase at low flow rates, but decrease at high flow rates, though generally, the changes represent small quantities of water. To determine the water quality impacts, we would need further information about the water quality characteristics as a function of flow. The SFWMD has contended that there is no water quality problem; we do not have sufficient information to make a determination.

A second water quality issue is related to direct surface water discharges from canals into marshes along the L-31W canal. The plan as proposed has point discharges, and these point flows will result in localized disruptions to flora and fauna, as they are entirely inconsistent with natural Everglades flow patterns. Therefore, the plan does contain water quality issues that need to be addressed.

Does the proposed plan restore Florida Bay?

In our opinion, no. The freshwater needs of Florida Bay are much greater than what is made possible through these proposed actions. Although SFWMD's plan may produce a modest increase in additional water to the bay, some of this benefit comes from a re-distribution of water that is already in the Everglades. Much of the "new" water seems to originate from less water reaching the South Dade agricultural fields and flowing toward Biscayne Bay. Further, by focusing solely on Taylor Slough, this effort neglects the significance of Shark River Slough in benefitting Florida Bay. There are several published studies[4] that have demonstrated the significance of flows from Shark River Slough in freshening western Florida Bay both historically, at present, and in a restored Everglades. The SFWMD and U.S. Army Corps of Engineers recognized these conclusions in their 2002 *Florida Bay and Florida Keys Feasibility Study*[5], stating that "[Florida] Bay salinities and nutrient loadings are impacted by the quantity and quality of coastal transport and the distribution of flows from Shark River Slough, Taylor Slough and lower C-111".

How can we deliver more freshwater to Florida Bay?

Following a similar Florida Bay seagrass die-off in 1987 and a series of bay-wide algae blooms that persisted into the mid-1990s, the Comprehensive Everglades Restoration Plan (CERP) was authorized in 2000 to restore the flow of freshwater in South Florida. CERP represents the Master Plan for re-building lost storage capacity into the remaining Everglades ecosystem so that harmful discharges to the Caloosahatchee and St. Lucie estuaries can be reduced while simultaneously sending that freshwater south to meet the needs of the Everglades and Florida Bay. Implementation of CERP will greatly increase the flow of freshwater into Shark River Slough and Taylor Slough/Panhandle region, which are both essential in delivering inflows to Florida Bay (see Figure 1).

Several restoration projects are planned or awaiting implementation to increase flows into Florida Bay. Operating the C-111 Spreader Canal Western Project (C-111SC), a CERP project that has been constructed but still awaiting implementation, will "improve the quantity, timing and distribution of water delivered to Central Florida Bay via Taylor Slough"[6]. Fully implemented, the C-111SC will increase total flow volumes by 52% during average year across transects those were slightly north of the T23B and C transects[7]. Although it is not easy to make direct comparison between the models used for C-111SC and this plan, it highlights the benefits of the C-111SC in delivering more water to Florida Bay. The Central Everglades Plan, which is pending congressional authorization, will deliver an annual average of 210,000 acre-ft of new water south from Lake Okeechobee. Another major

CERP project to restore the flow of freshwater to Florida Bay is the EAA Reservoir Project, deemed a high priority when the CERP plan was completed and will also dramatically increase the flow of "new" freshwater from Lake Okeechobee to the south—benefitting the Everglades and salinity conditions across Florida Bay.

These solutions for restoring Florida Bay as well as other near-term operational strategies should have been investigated and prioritized based on cost benefits through an open process involving all stakeholders. It is quite possible that other more efficient and beneficial operational strategies could have been developed for Florida Bay while providing a consistent level of flood protection for the South Dade Agricultural Area. In sum, SFWMD's proposal is not a stand-alone restoration plan, and to make a meaningful difference in the state of the bay, much more water is needed—especially during dry years.

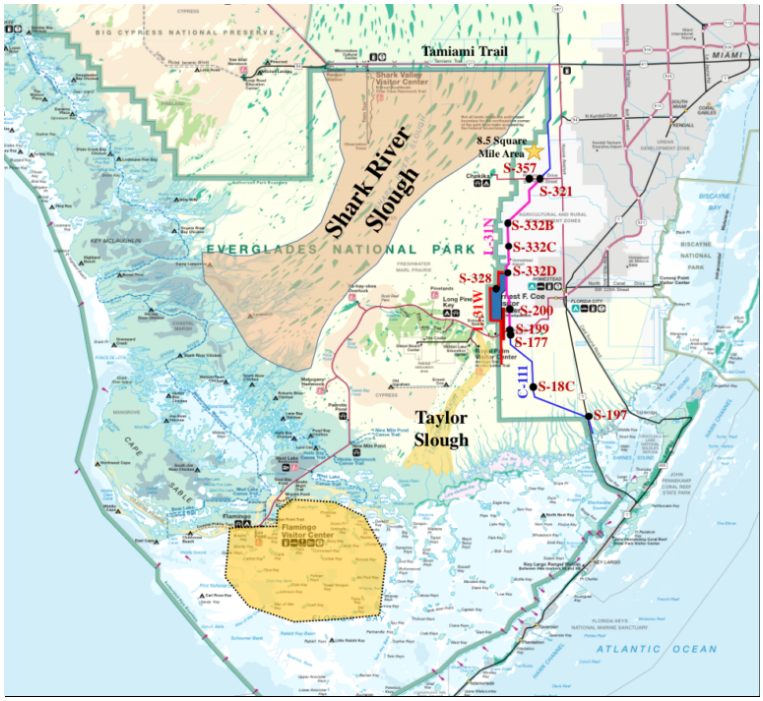


Figure 1: Everglades National Park map, highlighting major structures, canals, Shark River Slough, Taylor Slough, and approximate area of seagrass die-off in 2015. Shark River Slough represents the largest volume of freshwater flow through the park.

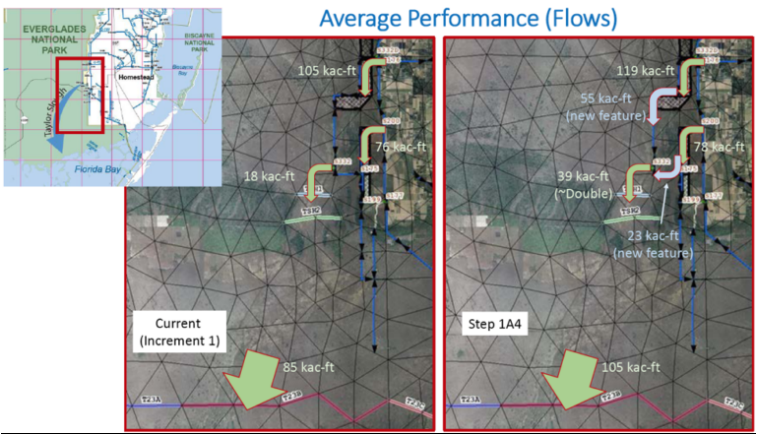


Figure 2: Model simulated average annual overland flows through structures and across transects for current conditions (left) and proposed plan (right) for a period from 1965 to 2005. Reference: July 7, 2016, SFWMD presentation, "Modeling Florida Bay Options."

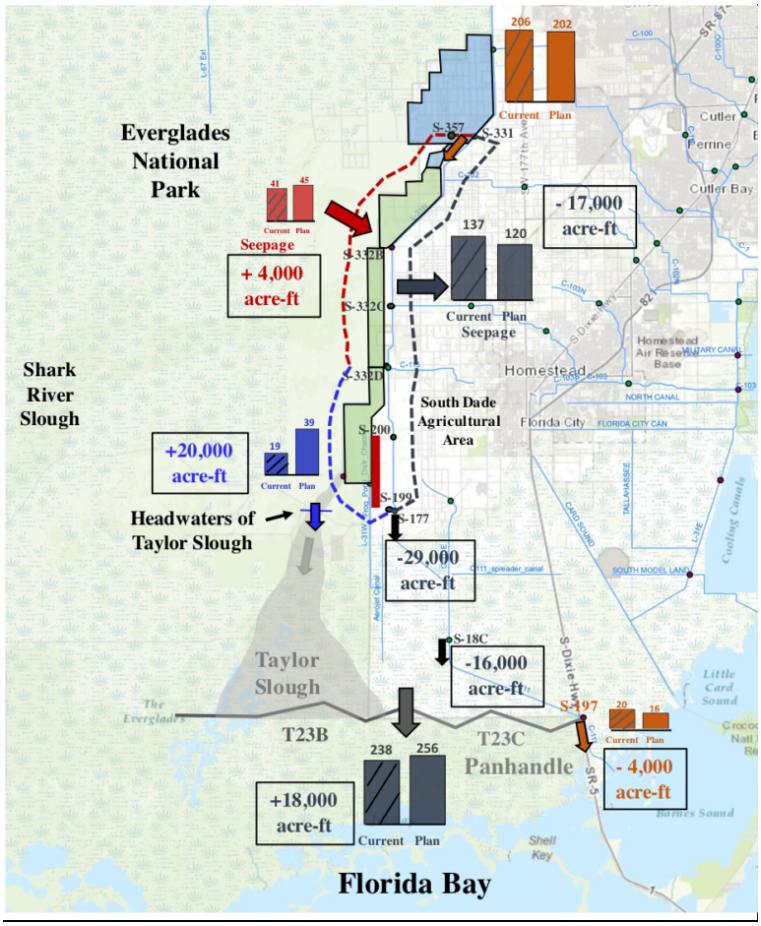


Figure 3: Map showing key structures, canals, and the area of Taylor Slough affected by SFWMD's proposed fixes. The bar charts represent net annual average flows (1000 acre-ft) across transects including flows through S-331+S-357 and S-197 structure.

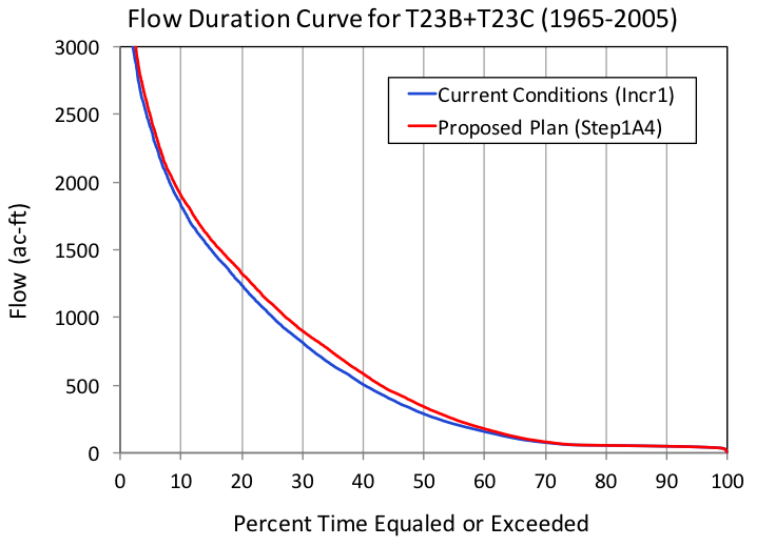


Figure 4: Flow duration curves for daily flows across T23B + T23C transects in the Current condition (blue) and the SFWMD's Proposed plan (red).

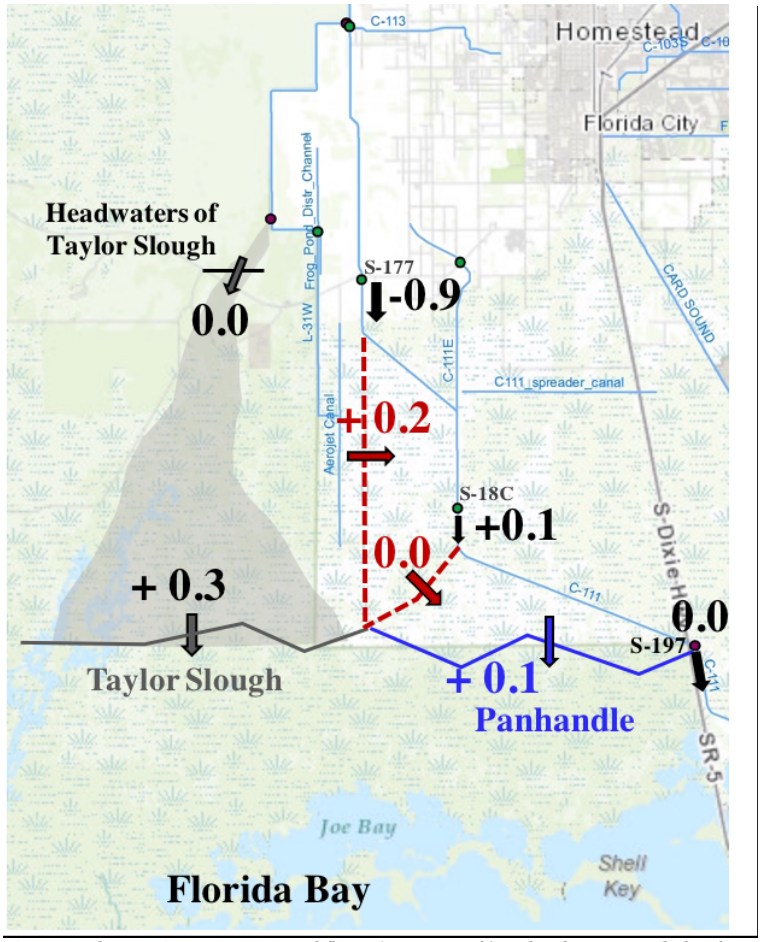


Figure 5: Changes in average annual flows (1000 acre-ft) under the proposed plan from a dry season of a dry year (Nov. 1, 1989 to May 31, 1990).

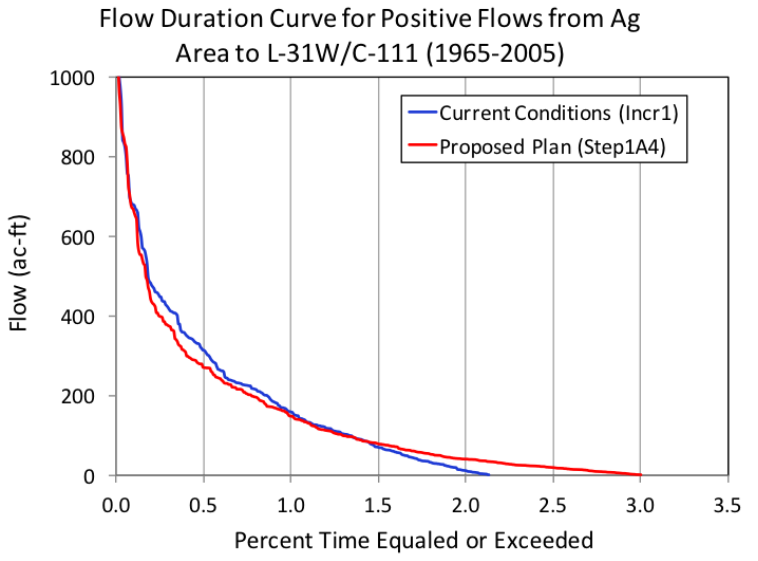


Figure 6: Flow duration curves for daily flows from agricultural areas to L-31N/C-111 canal in the Current condition (blue) and the SFWMD's Proposed plan (red). Note that the flows represent only positive flows towards canal across transect shown in Figure 3.

[1] SFWMD July 14, 2016 "Moving Water Into Florida Bay" Press Release

[2]http://my.sfwmd.gov/portal/page/portal/xweb%20about%20us/miami%20dade%20service%20center#s_dade_investigation (http://my.sfwmd.gov/portal/page/portal/xweb%20about%20us/miami%20dade%20service%20center#s_dade_investigation) Accessed October 4, 2016.

[3] www.sfwmd.gov/floridabay (http://www.sfwmd.gov/floridabay) Accessed October 4, 2016. "This is an immediate first step to help reduce salinity levels in the bay and promote the recovery of seagrasses killed during a severe drought in 2015, providing critical relief now while larger Everglades restoration projects are built and completed."

[4] T.J. Smith et al. 1989. *Bulletin of Marine Science*. Vol. 44, pp 274-282; J.D. Wang 1998. *Estuarine Coastal and Shelf Science*. Vol. 46, pp 901-915; J.N. Boyer et al. 1999. *Estuaries*. Vol. 22, pp 417-430; F.E. Marshall et al. 2009. *Estuaries and Coasts*. Vol. 32, pp 37-53.

[5] South Florida Water Management District and U.S. Army Corps of Engineers. 2002. Florida Bay & Florida Keys Feasibility Study. 69 pages.

[6]Page 19 of the U.S. Fish & Wildlife Service Coordination Act Report, Annex A of the CEPP Project Implementation Report.

[7] Table 14 of Volume 2 –Annexes A-B, Central and South Florida Project CERP C-111 Spreader Canal Western Project, Final Integrated PIR and EIS.

18001 Old Cutler Road, Suite 625
Palmetto Bay, Florida 33157
Phone: (305) 251-0001
info@evergladesfoundation.org
(mailto:info@evergladesfoundation.org)

champion-school-recognition-program/online-training/)

Program Documents (http://www.evergladesfoundation.org/education/everglades-champion-school-recognition-program/documents/)

FLORIDA DEPARTMENT of STATE

RICK SCOTT
Governor

KEN DETZNER
Secretary of State

Gina Paduano Ralph, Ph.D.
Environmental Branch Chief, Planning Division
Department of the Army
Jacksonville District Corps of Engineers
P.O. Box 4970
Jacksonville, Florida 32232-0019

January 31, 2017

RE: DHR Project File No.: 2016-5159B (2015-1617), Received by DHR: December 19, 2016
RE: Increment 1.1/1.2

Dr. Ralph:

Thank you for providing our office with an opportunity to review and comment with regards to the implementation of Increment 1.1/1.2. Based on our previous consultation with Corps' staff and the data provided by the Corps at this time, we concur with the Corps' determination of no adverse effect to historic properties listed or eligible for listing in the National Register of Historic Places. We note that monitoring of water levels will continue and the additional information collected will inform future water management plans and ensure an opportunity to revisit the no adverse effect determination, if necessary.

I appreciate the effort by Corps' staff to personally update our office on the monitoring of water levels and provide the necessary information and analysis to evaluate the effect of Increment 1.1/1.2 on historic properties. If you have any questions, please contact me by email at *Jason.Aldridge@dos.myflorida.com*, or by telephone at 850.245.6344 or 800.847.7278.

Sincerely,

Jason Aldridge
Deputy State Historic Preservation Officer
for Compliance and Review

UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE
Southeast Regional Office
263 13th Avenue South
St. Petersburg, Florida 33701-5505
http://sero.nmfs.noaa.gov

January 23, 2017 F/SER47:KG/pw

(Sent via Electronic Mail)

Colonel Jason A. Kirk, Commander
U.S. Army Corps of Engineers, Jacksonville District
P.O. Box 4970
Jacksonville, Florida 32232-0019

Attention: Melissa A. Nasuti

Dear Colonel Kirk:

NOAA's National Marine Fisheries Service (NMFS) reviewed the Supplemental Environmental Assessment and Proposed Finding of No Significant Impact (EA/FONSI) dated December 2016 entitled *G-3273 Constraint Relaxation/S-356 Field Test and S-357N Revised Operational Strategy: Increment 1 Plus (Increment 1.1/ 1.2)* and the corresponding public notice dated December 8, 2016. The U.S. Army Corps of Engineers proposes to modify its operation of canal structures to ensure flood mitigation within the 8.5 SMA (Square Mile Area) and to continue working towards operating the features of the C-111 Canal in manners that deliver restoration flows to Northeast Shark River Slough in Everglades National Park, western Miami-Dade County[1]. The Jacksonville District finds the proposed operational changes would not impact essential fish habitat (EFH) or federally managed fisheries (EA/FONSI Section 4.25.23). As the nation's federal trustee for the conservation and management of marine, estuarine, and anadromous fishery resources, the NMFS provides the following comments and recommendations pursuant to authorities of the Fish and Wildlife Coordination Act and the Magnuson-Stevens Fishery Conservation and Management Act (Magnuson-Stevens Act).

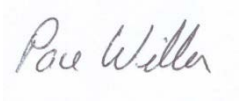
The project should benefit wetlands, along with fish and wildlife habitat, in Everglades National Park, including Taylor Slough and Shark River Slough. Wetlands in Northeast Shark River Slough, the Rocky Glades, and the western marl prairies should also benefit from the new operations strategy by partially restoring more natural hydroperiods that lead to more ecologically appropriate vegetation communities. Consequently, the NMFS has no objection to the proposed modifications to the C-111 operation strategies, detention areas, and associated features.

Thank you for the opportunity to provide these comments. Please direct related questions or comments to the attention of Mr. Kurtis Gregg, NOAA NMFS at 400 North Congress Avenue,

[1] A similar EA/FONSI dated May 2015 entitled *G-3273 Constraint Relaxation/S-356 Field Test and S-357N Operational Strategy* describes current operation of the subject canal features.

Suite 120, West Palm Beach, Florida, 33401. He may be reached by telephone at 561-249-1627 or by e-mail at Kurtis.Gregg@noaa.gov.

Sincerely,



/ for

Virginia M. Fay
Assistant Regional Administrator
Habitat Conservation Division

cc: COE, Melissa.A.Nasuti@usace.army.mil
F/SER4, David.Dale@noaa.gov
F/SER47, Jocelyn.Karazsia@noaa.gov, Kurtis.Gregg@noaa.gov

United States Department of the Interior
NATIONAL PARK SERVICE
Everglades and Dry Tortugas National Parks

40001 State Road 9336
Homestead, Florida 33034

In Reply Refer to:
L54

JAN 23 2017

Jason A. Kirk, Colonel
District Commander
U.S. Army Corps of Engineers
701 San Marco Boulevard, Room 372
Jacksonville, Florida 32207-8175

Dear Colonel Kirk;

We appreciate the opportunity to comment on the Army Corps' Supplemental Environmental Assessment (EA) and Proposed Finding of No Significant Impact for the G-3273 Constraint Relaxation/S-356 Field Test and S-357N Revised Operational Strategy: Increment 1 Plus (Increment 1.1/1.2), Miami-Dade County, Florida, dated December, 2016. We recognize the challenge of producing this document under a short deadline. This supplemental document acknowledges many of the complex considerations that are required to manage the land and water resources in a region as large and diverse as Water Conservation Area-3, Everglades National Park, and the South Dade Conveyance System. This action continues our joint efforts to implement the ENP Modified Water Delivery and C-111 South Dade projects, with the next step of incremental testing to optimize water deliveries, particularly to Northeast Shark River Slough and Taylor Slough, as directed in the 1989 Everglades National Park Protection and Expansion Act.

The National Park Service is highly supportive of the incremental field testing approach, and we agree that this approach supports the stated project purpose: to improve water deliveries into the park and, to the extent practicable, take steps to restore the natural hydrological conditions within the park. National Park Service policy seeks to establish effective land stewardship through persistent communication, negotiation, and analysis, that brings all parties into a shared dialogue that leads to mutual acceptance of how a large landscape like this can be effectively managed.

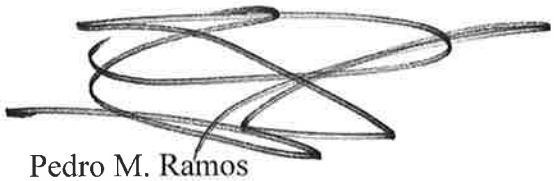
The foundation of our support for the proposed changes in this phase of the incremental testing, particularly the modified operations in Northeast Shark River Slough, Taylor Slough, and the C-111 basin, is that most of these changes are expected to be temporary, revisited during each future increment, and are supported by effective monitoring. It is our desire that this planned extension of increment 1 (1.1/1.2) be as brief as possible, while recognizing current limitations related to real

estate acquisitions and the need to complete construction of the remaining 8.5 Square-Mile Area and C-111/South Dade features.

Our key concern with the proposed actions in this EA, beyond the duration of the tests, is the water lost by progressive lowering of L-31N and C-111 canal operational stages over many miles along the Everglades National Park boundary, which raises concerns over the potential impacts on the adjacent marshes. While much of this water is pumped westward into the C-111 detention areas, the seepage return flows from the Everglades can be significant, particularly during the dry season when the pumps are turned off. Similarly, the lowering of operational stages in the southern end of the C-111 canal system and the expected increased flows at S-18C and S-197 are concerning, since this represents a lost opportunity to further hydrate the marshes in Taylor Slough. We have worked closely with the Corps and SFWMD to develop an expanded hydrologic, ecological, and water quality monitoring program to evaluate these proposed actions (particularly related to the SFWMD's planned Florida Bay Initiative). As we move forward, it is important that we clearly document the benefits and impacts of the planned canal operational changes and new surface water inflows to ENP, particularly how these changes might affect freshwater flows to central Florida Bay.

Thank you for providing the opportunity to comment on this Environmental Assessment, for your continuing efforts to plan and execute the important non-CERP and CERP programs, and for accepting the unique role of the National Park Service as stewards of these wild and natural areas of southern Florida.

Sincerely,



Pedro M. Ramos
Superintendent

SUBJECT: MFR/Meeting Minutes – *Increment 1.1/1.2 Consultation Meeting*, 22 November 2016, 10:30 – 12:30

ATTENDEES: Kim Taplin (USACE), Victoria Menchaca (STOF), Bradley Mueller (STOF), Anne Mullins (STOF), Meredith Moreno (USACE), Paul Backhouse (STOF)

PURPOSE: To continue consultation for the Increment 1.1/1.2 Deviation to the Modified Water Deliveries Project between the Seminole Tribe of Florida (STOF) Tribal Historic Preservation Office (THPO) and the U.S. Army Corps of Engineers (USACE)

Kim Taplin began by thanking the STOF for inviting the USACE to the Big Cypress Reservation to discuss the Increment 1.1/1.2 Deviation to the Modified Water Deliveries Project. A hard-copy of the presentation was provided to the STOF staff. Meredith Moreno began the presentation by providing the purpose of the meeting; to provide general background information on the steps leading up to Increment 1.1/1.2 including the Interim Operational Plan (IOP), Everglades Restoration Transition Plan (ERTP), the ERTP Biological Opinion (BO), Increment 1, the Emergency Deviation, and the Emergency Deviation Recovery Period; and to gain an understanding on effects to cultural resources and tree islands within Water Conservation Area 3 (WCA3) and Everglades National Park (ENP). A timeline of the Water Control Schedules, beginning with IOP, was provided. IOP controlled the system from 2002 to 2012. When consultation for ERTP began, IOP was used as the baseline or existing condition. The Everglades Depth Estimation Network (EDEN) viewer and the daily water level percentiles by month also use IOP as a baseline. The ERTP Programmatic Agreement was signed in September 2012 and the ERTP water control schedule has been in operation from 2012 to the present. The Increment 1 Deviation began in October 2012 and was active until February 2016 when the Emergency Deviation was initiated. The Emergency Deviation ended in May 2016 when the Recovery Period began. The Recovery Period will be in place until December 2016 at which time the system will revert back to Increment 1. Increment 1.1/1.2 will have to be in place by March 2017 pursuant to the Biological Opinion.

Paul: Was Section 106 complete on IOP?

Meredith: I do not believe there was any Seminole Tribe consultation complete in 2002 for IOP.

Paul: From a Tribal perspective we are not included in this timeline. The lack of previous consultation was an impetus for the Tribe's involvement in the ERTP Programmatic Agreement.

The new Increment 1.1/1.2 Deviation is a result of the July 2016 BO issued by the US Fish and Wildlife Service (Service) on ERTP. Within the BO, reasonable and prudent alternatives (PRAs) were outlined to ensure that the Cape Sable seaside sparrow (Sparrow) is not put in jeopardy.

Brad: Can you provide an overview of the system before we continue.

Meredith/Kim: Currently, management of the system is governed by the Increment 1 ERTP deviation. Water discharges from the north travel south through Water Conservation Area before being held in the L-29 Canal. The canal is currently held at 7.5 feet NGVD. Water flows through the S-343A/B and S12A structures from July 15 through October 31 until they are closed for the Sparrow on November 1 through July 14. Water flows through the S-12B structure from July 15 through December 31 until it is closed for the Sparrow on January 1 through July 14. The Increment 1 water control schedule is similar to ERTP except that more water is flowing into Northeast Shark River Slough (NESRS) due to the relaxation of the G-3273 gauge restriction from 6.8 to 7.3 feet NGVD. In addition to the ERTP constraints on water releases,

the IOP water control schedule closed the S-12C structure. Water levels were lowered in WCA 3 and raised in NESRS by the implementation of ERTP compared to IOP. Increment 1 further lowered water levels in WCA 3 and added more water to NESRS compared to ERTP. Because of the PA we need to compare the current Increment 1.1/1.2 evaluation to IOP as the existing condition or baseline.

Paul: IOP is not a natural water regime to use as a baseline. The Tribe supports restoration to a natural regime. When consulting during ERTP the Tribe did not receive this level of detail about the system. We were told that ERTP would lower water everywhere, but we have seen areas where the water is higher.

Kim: Where is the water higher?

Paul: Shark River Slough

Kim: The purpose of Mod Waters is to reduce the impoundment of water within WCA 3 and allow more water to flow into ENP as it did historically, so there should be lower water levels within WCA 3 and higher water levels within NESRS.

The July 2016 Biological Opinion RPAs mandate that the Corps implement a number of features into the new control plan. Specifically the RPAs require an expanded closure period for the S-12A/B, S-343A/B, and S-344 structures with a caveat that if the water exceeds a certain threshold in WCA 3 the Corps can open the structures regardless of the time of year. The RPAs also require expedited restoration with NEPA for Increment 1.1/1.2 to be finished by March 2017 and NEPA for Increment 2 to be in place by March 2018. The Corps has also added its own objectives into the Increment 1.1/1.2 operation strategy. The reason or the split between 1.1 and 1.2 is that the L-29 canal will remain at 7.5 feet NGVD during construction of the C-111 South Dade project (Increment 1.1) and will not be raised to 7.8 feet NGVD until after construction (Increment 1.2). The Corps is also incorporating the lessons learned from the Emergency Deviation to maintain the congressional mandate of flood protection/mitigation south of the L-29 Canal. Additionally, the Corps is using Increment 1.1/1.2 to provide supplemental flows to Taylor Slough to help facilitate recovery of the Florida Bay from the recent hyper-salinity events.

Since October 2015 the system has been operated using the Increment 1 water control plan. Under Increment 1 the S-343A/B, S-344, and S-12A structures are closed from November 1 to July 14. The S-12B structure is closed from January 1 to July 14 and the L-29 canal is held at 7.5 feet NGVD. Under the proposed Increment 1.1/1.2 water control plan all these structures will be closed from October 1 to July 14 and the L-29 canal will be held up to 7.8 feet NGVD.

Based on the changes in the water control plan, the Corps needs to determine effects to cultural resources as a result of the additional closure of the S-12 structures (which may slightly increase water levels in WCA 3 under certain conditions) and the raising of the L-29 canal stage (which will allow more water to flow into NESRS may mitigate any additional water in WCA 3). There will also be a high water criteria in the new Increment 1.1/1.2 water control strategy that will allow the opening of the S-12 structures regardless of the season if water in WCA 3 is too high.

To determine effects to cultural resources I used the existing EDEN data on tree islands and site information on the Florida Master Site File (FMSF). There are 394 previously identified tree islands in WCA 3 and ENP and 112 previously identified archaeological sites associated with these tree islands, including 5 sites with known burial resources. An additional 165 previously identified cultural resources have been identified with the project area that are not associated with the EDEN network of tree islands. A total of 10 of these sites are also known to contain burial resources. Although the majority of archaeological sites identified on the FMSF were identified using aerial photography and have not been ground-truthed. So how to do we use

this data to determine effects to tree islands/cultural resources? Due to the PA, the Corps needs to compare the Increment 1.1/1.2 deviation to IOP, but I have also have the data to compare the effects to those observed during ERTP and Increment 1.0. To make this comparison I have used the engineering hydrologic modeling that shows projected water levels at different gages throughout ENP and WCA 3 under various water control plans, including ERTP, Increment 1, and Increment 1 with the S-12 closures and the L-29 canal stage at 7.5 feet NGVD. However, there are data gaps that exist. Increment 1 with the S-12 closures and the L-29 canal stage at 7.8 feet was not modeled. Additionally the hydrologic modeling period was from 1965 to December 31, 2005 and we need to compare the new deviation to IOP was lasted from July 1, 2002 to October 18, 2012. This gives us a 2.5 year overlap for comparison.

The first thing I had to do was create a subset of tree islands/cultural resources to focus the modeling on. I used the tree islands monitored by EDEN to gage effects because we know the maximum ground elevation of each tree island and the observed maximum water elevations at each tree island during the modeling period (1965 – 2005) and during IOP (2002 – 2012). Based on this data, there are 66 tree islands that have not been overtopped by water during the IOP period, only 38 have not been overtopped since 1965; however, since we are comparing to IOP the 66 tree islands that have not been overtopped since IOP were evaluated. The second step was to map the 66 tree islands and the hydrologically modeled gages and associate each tree island with the closest gage. Next, I had to find what the water elevation would be at each gage as a result of Increment 1.1/1.2 and compare to its corresponding tree island. In order to do this I had to pull out the period we are interested in (IOP from July 1, 2002 to December 31, 2005). Then I found the observed water elevations at each gage during this period and what the hydrologic model predicted the levels to be under Increment 1 with the S-12 closure and the L-29 canal at 7.5 feet NGVD (model run DSS-INCR1B). Finally I averaged each month to find the projected minimum, maximum, and median water level at each gage that we can expect as a result of the S-12 closures. This method did not work for the tree islands in ENP because the canal stage of 7.8 feet NGVD was not modeled. However, we have information on what happened to the tree islands in ENP based on the Emergency Deviation when the canal rose to 8.3 feet NGVD. For WCA 3, the modeling represents the maximum water levels we can expect, the observed results should be lower as a result of raising the L-29 canal stage and implementation of the high water criteria.

Based on the modeling we can say that ERTP brought water down water levels in WCA 3 significantly compared to IOP, Increment 1 brought down water levels further compared to ERTP, and Increment 1.1/1.2 will raise water levels a maximum of between 0.01 to 1.57 inches in WCA 3 compared to Increment 1.0 (without taking into consideration the raising of the L-29 canal stage and the high water criteria which will lower water). When compared to IOP, Increment 1.1/1.2 lowers water levels in WCA 3 from 1 foot to 5 inches. When compared to ERTP, Increment 1.1/1.2 does nothing to water levels in northern WCA 3 and may raise water levels up to 1.24 inches in southern WCA 3. Overall water levels are still well below the IOP levels, within the 50^{th} to 75^{th} percentile range on EDEN, and tree islands that do not seasonally overtop will not be overtopped as a result of Increment 1.1/1.2.

Paul: These charts are missing the historic water levels.

Meredith: I agree that it would be preferable to have the historic water levels, but without the results of the ERTP environmental report this is the best way to show you what is happening in the system.

Paul: We understand that water levels are lower than what they have been but we don't want to tell Tribal Council that we are good with the project because water levels will be lower, but still don't know what the natural water level was.

Kim/Meredith: Understood, this is the best available data that we have, but the results are based on modeling. These are the projected maximum water levels based on climate we have experienced in during the period of 1965-2005, but it does not account for Mother Nature creating conditions we haven't seen before, such as the unprecedented rainfall this past dry season. We wanted to provide you with all the data we had so you could have a better understanding of our best simulations of expected effects with implementation of the planned deviation to the ERTP water control plan.

Brad: That is good to hear, we are often told something is going to happen with no detail, and then something else happens.

Paul: Can we potentially have further investigation that includes the historic water levels? The ERTP environmental report contains five chapters of what the Everglades used to be, but wasn't collaborative or useful to determining historic levels.

Meredith: Yes, I think future analysis should include the historic water levels but for now we have to use IOP as a baseline because of the ERTP PA.

In the modeling effort of effects to cultural resources, I had to use a different approach in ENP. We expect water levels to rise in NESRS as a result of the L-29 canal being raised from 7.5 feet NGVD to 7.8 feet NGVD. Unfortunately this canal stage was not hydrologically modeled, and the gages that we have data from are too far apart to relate to some of the tree islands. However, we do have observed data from the Emergency Deviation when the canal stage rose to 8.3 feet NGVD. So in order to see what will happen at the tree islands in ENP, I determined through EDEN the days when the L-29 canal stage was at or near 7.8 feet NGVD (between 7.76 – 7.84 feet NGVD) and then I found the observed water elevation at all the tree islands in ENP on those days. In April and July the L-29 canal did not reach an elevation of 7.8 feet NGVD, so we are missing these months, but we can extrapolate the probable water elevation during this time based on the previous and following months. Note that these are the maximum water levels, I cannot provide a range of water levels like we saw in WCA 3, but we will be able to see if anything will overtop. As a result of the analysis we can see that the maximum water levels under Increment 1.1/1.2 are generally consistent with the maximum IOP water levels. Most of the projected maximum water levels are within the 50^{th} to 75^{th} percentiles when compared to IOP and the tree islands that do not seasonally overtop will not be overtopped as a result of Increment 1.1/1.2.

Paul/Brad: Do you have a sense if the islands are going to degrade because of the water? What is the biological opinion?

Kim/Meredith: No, tree islands have degraded in ENP from a lack of water. The biologists agree that more water is required in ENP to recreate historic levels and stop tree island loss.

Brad: McVoy says that fluctuating water levels actually helps tree islands and that holding water levels steady is not good.

Kim/Meredith: Correct, the Corps is trying to mimic the historic ebb and flow that we should see dependent on the seasonal rainfall. You can see the seasonal curve in water levels in the WCA 3 modeling, but in ENP all I can show is the maximum.

Paul: We understand that most tree island loss has been in NESRS but we still need a natural system baseline. It is hard to be supportive or object without that. We appreciate all the analysis that has been provided but we are a long way from determining the natural state. We don't want to make such a large

decision without having all the information. We have been down this road before, we were told that during ERTP the water levels would go down everywhere.

Kim: The purposes of Everglades Restoration is to be able to move water more naturally within the system, out of Water Conservation Area 3 (impoundment) and into Northeast Shark River Slough within ENP where water historically used to flow. This incremental operational change is towards that goal.

Due Outs:

Meeting notes to be provided by the Corps.
Corps to provide summary of Increment 1.1/1.2 at 12 December meeting.
Corps to provide timeline slide that was presented in the current meeting at the 12 December meeting.

POC: Meredith Moreno

Archaeologist
Planning Division, Environmental Branch
Jacksonville District, US Army Corps of Engineers
Meredith.A.Moreno@usace.army.mil
Office: 904-232-1577
Mobile: 904-861-9967

Subject: Potential 90th percentile exceedance of water levels at tree islands within ENP.

Project: Increment 1.1/1.2 Operational Strategy.

Purpose: As a result of an Everglades Restoration Transition Plan (ERTP) consultation meeting on December 6, 2016 between the Seminole Tribe of Florida (STOF) Tribal Historic Preservation Officer (THPO) and the U.S. Army Corps of Engineers (Corps), the STOF-THPO requested the Corps conduct additional modeling to determine at which tree islands water levels may exceed the 90th percentile of water levels experienced under the Interim Operations Plan (IOP) as determined on the Everglades Depth Estimation Network (EDEN) with regards to implementation of the Increment 1.1/1.2 Operational Strategy. While the IOP period does not represent the baseline of water levels that tree islands have been subjected to historically, IOP serves as the baseline for comparison until such time as a determination of a more appropriate historic water level is made in accordance with the provisions of the ERTP Programmatic Agreement.

Scope: Exceedance of the 90th percentile is only projected to potentially occur as a result of raising the stage of the L-29 Canal to 7.8 feet National Geodetic Vertical Datum (NGVD) during implementation of Increment 1.2 [90th percentile computations are based on the daily median water-levels at a given tree island for all the days of that month during the IOP period (July 1, 2002 – October 18, 2012)]. Water levels at tree islands within Water Conservation Area 3 and Everglades National Park (ENP) are not expected to exceed the 90th percentile as a result of Increment 1.1 operations. The probability of water levels exceeding the 90th percentile is only heightened in ENP as a result of Increment 1.2 operations; therefore, additional modeling is only required at tree islands within ENP. Modeling focused on months within the wet season (July 1 through November 30) where operations would potentially affect exceedance of the 90th percentile. Any exceedance of the 90th percentile during the remainder of the year would likely be a result of rainfall and not implementation of the Increment 1.1/1.2 operational strategy. Based on the current construction schedule for C-111 South Dade Contract 8, the earliest opportunity to consider incremental raising of the L-29 Canal above 7.5 feet NGVD is expected between July and October 2017, coincident with the 2017 wet season.

Analysis: Observed data collected from 2002-2016 was utilized to predict anticipated water levels that would result from implementation of Increment 1.2. The baseline IOP water elevations collected from the EDEN network were compared to the water elevations observed at the 58 monitored tree islands within ENP when the L-29 Canal was at or near 7.8 feet NGVD. Based on historic data, the L-29 Canal has reached an average stage of 7.8 feet NGVD during the period of July through November from 2002 to 2016 at total of 47 times. The L-29 Canal did not reach an average stage of 7.8 feet NGVD during July 2002 to 2016 and has therefore been omitted from the analysis. Data from the remaining months (August through November) was averaged and graphed for each of the 58 tree islands in ENP to determine if the maximum predicted water elevations would exceed previously observed water levels.

Results: The results of the analysis represents the maximum height of water levels that may occur as a result from implementation of Increment 1.2. The results do not indicate the duration of time water levels may be expected to stay above the 90th percentile at each tree island. It should also be noted that due to the G3273 gage restriction that was in place prior to Increment 1.0, water levels in ENP represented by the IOP baseline are artificially low.

Based on the additional analysis, 16 tree islands may experience maximum water levels above the 90th percentile as result of implementation of Increment 1.2 (Table 1). Attachment A details the results of modeling at all 58 monitored tree islands in ENP and Attachment B presents a graphic representation of the modeling compared to the maximum, minimum, median, and 90th percentile of water levels experienced at each tee island.

Table 1. Tree islands that may exceed the 90th percentile by month (highlighted in Attachment B).

Tree Island	August (inches above 90th percentile)	September (inches above 90th percentile)	October (inches above 90th percentile)	November (inches above 90th percentile)
Black		0.12		
Chekika	1.32	0.84		
Grossman		0.6		
Irongrape		0.48		
SS-59		0.12		
SS-61		0.12		
SS-63		0.12		
SS-67		0.24		
SS-69	0.24	0.72		
SS-81INT		0.12		
SS-85		0.12		
SS-86		0.12		
SS-92		0.48		
SS-93	2.16	0.84		0.24
SS-95		0.84		
Vulture		0.12		

Summary: A total of 16 tree islands may experience maximum water levels above the 90th percentile as result of implementation of Increment 1.2; however, the frequency and duration of total days above the 90th percentile is unknown. Any exceedance of the 90th percentile may also be a result of heavy rainfall, and the incident would need to be analyzed with consideration to weather events at the time of exceedance. September represents the month where exceedance of the 90th percentile is most likely; however, the average exceedance is only 0.375 inches higher than the 90th percentile threshold. Overall, the analysis determined that maximum water levels at tree islands within ENP were generally consistent with the maximum water levels observed during IOP and tree islands that have not been subject to seasonal inundation historically will not be inundated as a result Increment 1.1/1.2.

POC: Meredith Moreno Archaeologist
Planning Division, Environmental Branch
Jacksonville District, US Army Corps of Engineers
Meredith.A.Moreno@usace.army.mil
Phone: 904-232-1577, 904-861-9967

SEMINOLE TRIBE OF FLORIDA
TRIBAL HISTORIC PRESERVATION OFFICE
AH-TAH-THI-KI MUSEUM

TRIBAL HISTORIC
PRESERVATION OFFICE

SEMINOLE TRIBE OF FLORIDA
AH-TAH-THI-KI MUSEUM

30290 JOSIE BILLIE HIGHWAY
PMB 1004
CLEWISTON, FL 33440

THPO PHONE: (863) 983-6549
MUSEUM PHONE: (863) 902-1113
FAX: (863) 902-1117

THPO WEBSITE: WWW.STOFTHPO.COM
MUSEUM WEBSITE: WWW.AHTAHTHIKI.COM

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February 3, 2017

Ms. Gina Paduano Ralph, Ph.D.
Environmental Branch Chief, Planning Division
Department of the Army
Jacksonville District Corps of Engineers
P.O. Box 4970
Jacksonville, FL 322322-0019

Subject: Increment 1.1/1.2 Request for Consultation
THPO #: 0028534-16

Dear Ms. Ralph,

Thank you for contacting the Seminole Tribe of Florida – Tribal Historic Preservation Office (STOF-THPO) regarding the Increment 1.1/1.2 project. The proposed undertaking does fall within the STOF Area of Interest. We have reviewed the documents you provided and completed our project assessment in order to determine if the undertaking would affect any areas important to the Tribe. We have determined that we have no objections to the project at this time. However, in the event the proposed changes result in any unanticipated impacts we expect to be notified by the Corps and for consultation to resume. Thank you and feel free to contact us with any questions or concerns.

Respectfully,

Bradley M. Mueller

Bradley M. Mueller, MA, Compliance Supervisor
STOF-THPO, Compliance Review Section
30290 Josie Billie Hwy, PMB 1004
Clewiston, FL 33440

Office: 863-983-6549 ext 12245
Fax: 863-902-1117
Email: bradleymueller@semtribe.com
Web: www.stofthpo.com