



Finding of No Significant Impact

Hydrologic Restoration Management Plan

Big Cypress National Preserve

Florida

Introduction

In compliance with the National Environmental Policy Act of 1969 (NEPA), the National Park Service (NPS) prepared an Environmental Assessment to examine actions and potential environmental impacts associated with the Hydrologic Restoration Management Plan (Plan) at the Big Cypress National Preserve (Preserve). The purpose of this Plan is to provide an overall framework for making drainage infrastructure in the Preserve “sheet flow neutral,” allowing the natural topography – not canals or levees – to dictate natural water flow. Replumbing existing infrastructure to become sheet flow neutral would help to revitalize the natural hydrologic processes within the swamp preserve and downstream delivery points, while also enhancing the visitor experience. Water is vital to the ecological function and public enjoyment of the Preserve. Its natural hydrologic regime has been negatively impacted by drainage infrastructure inside and adjacent to the Preserve. The Plan is needed to provide a framework for managers to use to update an outdated and aging water management infrastructure that negatively impacts the hydrology of the swamp ecosystem.

This Finding of No Significant Impact (FONSI) is the decision document for the Hydrologic Restoration Management Plan Environmental Assessment (EA) dated October 2021. The EA and FONSI were prepared in accordance with the NEPA, as amended [42 United States Code (USC) 4332(2) (C)]; the 2020 implementing regulations of the Council on Environmental Quality [40 Code of Federal Regulations (CFR) 1500-1508]; the Department of the Interior NEPA regulations (43 CFR Part 46); and NPS Director’s Order (DO) 12: Conservation Planning, Environmental Impact Analysis and Decision-making (DO-12) and the accompanying NPS NEPA Handbook. Attached to this document is the NPS determination that the Selected Alternative will support the hydrologic restoration at the Preserve and no impairment to Preserve resources will result (Appendix A). The NPS will implement the Selected Alternative, Alternative C – Preferred Alternative, as presented in the EA and summarized below.

The statements and conclusions reached in this FONSI are based on documentation and analysis provided in the EA and associated decision file. To the extent necessary, relevant sections of the EA are incorporated by reference through listing the applicable page number in the EA.

Selected Alternative

The NPS selected Alternative C – Preferred Alternative as the Selected Alternative based on the analysis presented in the EA. The Selected Alternative is described in Section 2.5 of the EA. Other alternatives considered included Alternative A – No Action and Alternative B – Proposed Action (see below section, Other Alternatives Considered).

Alternative C includes programmatic Tier 1 and Tier 2 type sheet flow restoration projects. Tier 1 projects focus primarily on land-development-centric disruptions associated with historical logging, farming, and residential and commercial developments. Tier 2 projects focus primarily on transportation-centric disruptions, such as the more than 100 miles of paved and gravel (limestone) roads located within and adjacent to the Preserve (EA, pg. 7). Programmatic refers to similar Tier 1 and Tier 2 projects that are not yet specifically identified, but for which similar restoration methods would be applied to achieve restoration goals. Similar projects that fit the Tier 1 and Tier 2 descriptions in the EA (Section 2.1) will be addressed under this programmatic approach.

Tier 1 and Tier 2 projects are primarily addressed using passive water management tools. Except for routine maintenance, passive water management tools do not require additional inputs or operational control after restoration (EA, pg. 8). These tools include:

- Plugging Canals and Ditches – a plug can be composed of various materials, including concrete, earthen, and/or sheet piling of various dimensions.
- Filling in Canals and Ditches – returning a previously excavated channel to natural grade. Materials would consist of fill. Preferentially, the fill is taken from nearby sources when feasible.
- Culverting Roadbeds – installation of conveyance points under a roadbed using a variety of culvert types (e.g., box, round, elliptical).
- Breaching Impounding Structures such as Roads, Levees, Trams, and Berms – removal of fill to create conveyance points.
- Fill Removal – removal of elevated fill pads to match adjacent grades.
- Vegetation Management – manipulating vegetation to restore managed flows.
- Maintenance activities to maintain plugs, culverts, and breaches.
- In some areas, restoration work could include the addition of minor bridging or elevated boardwalks to maintain sheet flow and prevent erosion, as well as provide visitor access and educational opportunities.

In every case, the goal is to return the impediment or a portion of the impediment to wetland grade to minimize or eliminate the impact on the natural hydrologic regime (EA, pg. 9).

Examples of Tier 1 and Tier 2 projects are identified in Tables 1 and 2, respectively (EA, pgs. 11-13).

Table 1: Examples of Tier 1 Proposed Projects						
Project Name	Major Corridor	Existing Issue	Proposed Solution	Benefits		
				Saltwater Intrusion	Wet Season Sheetflow	Dry Season Water Table
Deep Lake Ditch	SR 29	An open channel connects Deep Lake to the SR 29 Canal	Completely fill or plug ditch	---	---	Yes
Diagonal Canal Infilling	Birdon Road	The canal accelerates drainage of water out of the Preserve to tide	Completely fill in or plug the canal	Yes	Yes	Yes
Loop Canal Plugs	Loop Road	The 24-mile canal is almost entirely unplugged along its entire length	Add more/better plugs in canal	---	---	Yes
Halfway Creek Canal Replumb	Halfway Creek Canal	The canal accelerates drainage of water out of the Preserve to tide and exacerbates saltwater intrusion	Plug the canal at one or multiple locations	Yes	Yes	Yes
Crooked Culvert Canal Replumb	Loop Road	Crooked Culvert Canal accelerates drainage of water south	Add a series of plugs or completely infill the canal	---	Yes	Yes
Littoral Shelf Enhancement	Preserve	Vertical walls of borrow ponds usually lack banks	Modification of perimeter of borrow pit to create a seasonally flooded wetland			
Disturbed Lands Removal	Preserve	There is a variety of disturbed lands (e.g., fill pads, agricultural fields, ditches, berms) in the Preserve	Wetland reclamation of disturbed sites	---	Yes	---
Elevated Trail Removal/Modification	Preserve	There are several elevated trails that alter water flow in the Preserve	Removal or periodic breaching of trams	---	Yes	---

Table 2: Examples of Tier 2 Proposed Projects						
Project Name	Major Corridor	Existing Issue	Proposed Solution	Benefits		
				Saltwater Intrusion	Wet Season Sheetflow	Dry Season Water Table
Lower Wagonwheel Replumb	Lower Wagonwheel Road	The canal drains directly into SR 29 canal, thus causing a loss of water out of the Preserve	Add more/ better plugs in canal	---	Yes	Yes

Table 2: Examples of Tier 2 Proposed Projects

Project Name	Major Corridor	Existing Issue	Proposed Solution	Benefits		
				Saltwater Intrusion	Wet Season Sheetflow	Dry Season Water Table
Birdon Replumb	Birdon Road	The canal accelerates drainage of water out of the Preserve to tide	Increase conveyance under road and add more/ better plugs in canal	Yes	Yes	Yes
Monroe Prairie Plugs	Loop Road	Loop Canal accelerates drainage of surface water and groundwater out of Monroe Prairie	Add a series of plugs in prairie (adjacent reach of canal)	---	---	Yes
Turner River Headwaters Replumb	Turner River Road	The canal and roadbed divert and restrict water flow to the headwaters of the Turner River	Increase conveyance under road and add more/ better plugs in canal	---	Yes	Yes
Deep Lake Strand Headwaters	Turner River Road	The canal and roadbed restrict entry of surface water into Deep Lake Strand	Increase conveyance under road and add more/ better plugs in canal	---	Yes	Yes
Upper Wagonwheel Replumb	Upper Wagonwheel Road	The road is under-culverted, causing pooling to the north and restriction of flow to the south	Increase conveyance under road and add more/ better plugs in canal	---	Yes	Yes
11 Mile Road Culverts	11 Mile Road	Inadequate culverting along the southern end of the road causes water to pool to the east	Increase conveyance under road	---	Yes	---
Tamiami Canal Plugs	US41	The canal is unplugged for most of its 35-mile length	Add plugs in canal to minimize east-to-west movement of water	---	Yes	Yes
Deep Lake Prairie Replumb	Turner River Road	Border canals on east and west drain groundwater and surface water from prairie	Add a series of plugs and culverts	---	---	Yes
Tamiami Trail Culverts Project	US41	Tamiami Trail is a barrier to sheet flow	Installation of 33, 3-foot diameter culverts and 11 earthen canal plugs as designed by the USACE report	---	Yes	Yes

Table 2: Examples of Tier 2 Proposed Projects

Project Name	Major Corridor	Existing Issue	Proposed Solution	Benefits		
				Saltwater Intrusion	Wet Season Sheetflow	Dry Season Water Table
Alligator Alley Plugs (add or improve current plug network; not adding bridges, etc.)	I-75	Alligator Alley Canal is directly connected to SR 29 and Turner River Road Canals in a way that negatively impacts Preserve waters	Add/improve plugs network	---	Yes	Yes
Lower Wagonwheel Replumb	Lower Wagonwheel Road	The canal drains directly into SR 29 canal, thus causing a loss of water out of the Preserve	Add more/ better plugs in canal	---	Yes	Yes
Birdon Replumb	Birdon Road	The canal accelerates drainage of water out of the Preserve to tide	Increase conveyance under road and add more/ better plugs in canal	Yes	Yes	Yes
Monroe Prairie Plugs	Loop Road	Loop Canal accelerates drainage of surface water and groundwater out of Monroe Prairie	Add a series of plugs in prairie (adjacent reach of canal)	---	---	Yes

Additionally, bridging projects will be considered with example areas listed below (EA, pg. 14):

- Turner River Road at Deep Lake Strand
- Turner River Road at Turner River Strand
- Turner River Bridge Concept at US41
- US41 at Turner River and HP Williams Wayside
- Wagonwheel Road at Deep Lake Strand
- Upper Wagonwheel Road at its approximate center point
- Birdon Road at the headwaters of Copeland Prairie
- Loop Road at Gator Hook Strand, Robert Lake Strand, Sweetwater Strand, and Dayhoff Slough
- Perocchi Grade at East Hinson Marsh

The above examples of passive water management projects would help buffer the Preserve from both unnaturally high stands of water and unnaturally low drops in the water table. In sum, these actions would help the natural landscape, not artificial elevated and excavated features, dictate the flow of the water (EA, pg. 7). Measuring success would be achieved locally with a combination of photo points, observations, and direct measurements focused on improving hydrologic and ecological connectivity (EA, pg. 14).

Rationale for Decision

Alternative A - No Action does not adequately address the Preserve's need to manage water with a holistic planning process focused on Preserve-wide restoration needs, and the number of projects would be limited.

Alternative B includes elements of Alternative C, except for the limited strategic road removal and bridge addition at major flow-ways that are intersected by limerock roads (EA, pg. 14). While this would have fulfilled the purpose and need, potential restoration projects would be limited through the omission of bridging as a tool for addressing transportation-centric hydrologic disruptions. Impacts on cultural and natural resources would be generally similar to those described for Alternative C.

Alternative C was selected because it gives the Preserve the best opportunity to addresses the purpose for taking action, which is to:

- Identify, repair, and modify the aged water management infrastructure system to facilitate hydrologic restoration.
- Restore the distribution, duration, and timing of surface water in the Preserve.
- Maintain the hydrologic integrity of natural firebreaks such as domes, strands, and marshes, especially during the spring when the swamp ecosystem is most vulnerable to large wildfires.
- Improve vital freshwater delivery downstream to wetlands and estuaries in the Everglades ecosystem.
- Reduce the severity and duration of ecosystem-damaging drought, flooding, and fire.
- Decrease the Preserve's vulnerability to saltwater intrusion.
- Provide additional educational and outreach opportunities regarding the role of water in the Preserve.
- Improve the Preserve's ability to work with stakeholders on hydrologic restoration projects, including Everglades Restoration initiatives.

This decision has been made after considering environmental impacts to resources and resource uses, including water resources, wildlife and protected species, soils, vegetation and invasive species (including protected plant species), visitor use and experience, and cultural resources: ethnographic resources and cultural landscapes (see below section, Finding of No Significant Impact). The NPS has also determined that Alternative C is the environmentally preferable alternative.

Mitigation Measures

The NPS places a strong emphasis on avoiding, minimizing, and mitigating potentially adverse environmental impacts and effects on natural and cultural resources. The Preferred Alternative incorporates several monitoring and mitigation measures and best management practices to avoid or minimize potential impacts on wetlands, sensitive wildlife habitats, soil compaction, erosion and sedimentation, cultural resources, introduction of invasive plants, recreational opportunities, and

cultural resources (see EA Section 2.6). Mitigation measures for affected resources are outlined in the EA and are provided as Attachment B.

Other Alternatives Considered

In addition to the Selected Alternative, the EA analyzed two other alternatives and their impacts on the environment: Alternative A – No Action and Alternative B – Proposed Action.

Alternative A: No Action

Under the no action alternative, the Preserve would continue to manage water by maintaining existing infrastructure and modifying it on an ad hoc basis with opportunistic planning and management as funding permits. Projects would be adopted without the benefit of a holistic planning process focused on Preserve-wide restoration needs. Historically, this has resulted in one to two small-scale restoration projects per decade, with a slight uptick in the last five years as the Preserve undertook the Ochopee Sheet Flow Restoration pilot project. An overarching hydrologic restoration plan would not be initiated. Therefore, the Preserve's hydrology would not be restored, and under current conditions, the Preserve's hydro-ecological functions would continue to deteriorate, and the overall goals of the NPS to improve the hydrology in the region would not be met (EA, pg. 50). The Preserve would continue to rely heavily on external county, state, and Federal agencies to perform hydrologic restoration on levees, canals, and bridges within and adjacent to the Preserve, and the number of projects would be limited.

Alternative B: Proposed Action

Alternative B, the proposed action, would modify the existing canal and levee system using passive water management techniques. These techniques include plugging or filling canals and ditches; culverting roadbeds; breaching impounding structures; removing fill; managing vegetation; maintaining plugs, culverts, and breaches; and in some areas, restoration work could include minor bridging or elevated boardwalks. The goal is to strategically modify excavated (e.g., canal) and elevated (e.g., levee) features to minimize or eliminate their impact on the natural hydrologic regime. Alternative B includes all the elements of Alternative C, except for limited strategic road removal and bridge addition at major flow-ways that are intersected by limerock roads (EA, pg. 14). Compared to Alternative C, impacts on cultural and natural resources would be generally similar.

Public Involvement

The initial public scoping period for the Proposed Action was from June 14, 2021 to July 13, 2021 and announced via newsletter. Seven pieces of correspondence were received (EA, pg. 73). Virtual public meetings were held on June 22 and 24, 2021. A total of 40 individuals attended the virtual public scoping meetings, with 15 attendees at the June 22 meeting and 25 attendees at the June 24 meeting.

The public comment period for the EA was from November 8, 2021 to December 7, 2021 and was announced via newsletter. No requests for copies of the EA were received. The press release and other announcements for the public scoping and public comment periods provided the Internet

web address to access and review the EA on the NPS Planning, Environment, and Public Comment website. Twenty-one (21) comments were received on the EA and are addressed in Appendix C of this document. Public comments resulted in minor changes to the EA text; these changes are subsequently provided as Appendix D. There are no substantial modifications required for Alternative C, the Preferred Alternative.

Agency Consultation

The NPS notified the Miccosukee Tribe of Indians of Florida and the Seminole Tribe of Florida of the proposed actions associated with the Hydrologic Restoration Management Plan at the Big Cypress National Preserve on November 1, 2020. These two tribes, as well as the Seminole Nation of Oklahoma, were also sent letters for the initial public scoping period and public comment period for the EA. No response was received from the Miccosukee Tribe of Indians of Florida as of February 8, 2022. The Seminole Tribe of Florida responded with a formal acceptance to participate in the development of the Plan and to engage in consultation, and the Seminole Nation of Oklahoma responded that they have no concerns and they defer to tribes more familiar with the area. NPS met with the Seminole Tribe on January 31, 2022 and answered questions regarding the plan. The Seminole Tribe responded that formal consultation has been completed.

The U.S. Fish and Wildlife Service (USFWS), Florida Fish and Wildlife Conservation Commission (FWC), Florida Department of Transportation (FDOT), South Florida Water Management District (SFWMD), Collier County, and Miami-Dade County were contacted during the public comment period for the EA. Comments of support were received electronically from the SFWMD through the NPS's Planning, Environment, and Public Comment website. No response was received from the FWC, FDOT, Collier County, or Miami-Dade County as of February 25, 2022. The USFWS was consulted under Section 7 of the Endangered Species Act, with a determination that the programmatic plan is not likely to adversely affect listed species, but also requesting consultation to for future site-specific projects. The USFWS also requested that the eastern black rail (*Laterallus jamaicensis jamaicensis*) be addressed specifically in the EA. This request is noted in Appendix C of this document and additional text for the EA is provided as Appendix D.

The Preserve notified the State Historic Preservation Office (SHPO) of proposed actions associated with the Hydrologic Restoration Management Plan at the Big Cypress National Preserve and provided a draft Section 106 programmatic agreement in November 2021. The SHPO agreed and signed the programmatic agreement. Copies of scoping letters, responses, and the Section 106 programmatic agreement are provided in Appendix E.

Finding of No Significant Impact

As described in the EA, which considered the degree of effects against the potentially affected environment, the Selected Alternative will have no significant adverse impacts on cultural or natural resources. However, the Selected Alternative could have adverse impacts on hydrology, water quantity and groundwater; wildlife, including protected species; soils; natural vegetative communities, including protected plant species; camping, hiking, hunting/fishing/frogging, motorboat use, off-road vehicle (ORV) use, paddling and wildlife viewing; and ethnographic

resources and cultural landscapes. Potential adverse impacts on these resources would not be significant, as described above. Mitigation measures are directed at the short-term adverse effects resulting from construction of restoration projects.

There is potential for short-term, adverse, localized impacts to hydrology, water quantity, and groundwater during construction because of potential temporary impediments to natural sheet flow/groundwater flow and stormwater runoff. Project implementation would result in long-term beneficial effects to hydrology, water quantity, and groundwater at both a local and regional scale. Planned projects would restore freshwater flow paths, flow volumes and timing, seasonal hydroperiods, and historical distribution of sheet flow to re-establish ecological connectivity and ecological resilience of the wetland/upland mosaic. Water levels would also be restored to reduce wildfires associated with altered hydrology, which damage the geomorphic and associated ecological conditions of the Preserve. Mitigation measures and best management practices will be applied in accordance with regulatory guidelines, recommendations, and issued project permit conditions to avoid or minimize potential impacts from implementation (EA, pg. 51).

There is potential for short-term, adverse, localized impacts to Florida panther, West Indian manatee, snail kite, Florida bonneted bat, American alligator, red-cockaded woodpecker, and protected wading birds during construction because of noise, vegetation clearing, and soil disturbance. Wildlife species present are anticipated to temporarily move away from the location during construction but return upon completion. After construction is complete, project implementation is anticipated to result in long-term beneficial effects to the Preserve's hydro-ecological functions, thereby benefitting wildlife and protected species at both a local and regional scale. Planned projects would improve the depth, duration, and distribution of water on the landscape and as a result, increase the swamp ecosystem's floral and faunal health. The base of the swamp's food chain would benefit (e.g., invertebrate and fish communities), thereby supporting the rest of the swamp ecosystem that are dependent on the aquatic food base. Mitigation measures and best management practices would be applied in accordance with regulatory guidelines, recommendations, and issued project permit conditions to avoid or minimize potential impacts from implementation (EA, pg. 56).

Soil disturbance from heavy equipment during construction would have short-term, adverse, localized impacts to soils. Project implementation would result in long-term beneficial effects to soil resources at both a local and regional scale. The beneficial effects would be due to a return to more natural hydrologic conditions, organic soil accretion, and nutrient accumulation. Planned projects would restore water levels to reduce hot, high intensity wildfires associated with altered hydrology, which consume organic soils. Planned projects would also reduce draining of groundwater from the shallow aquifer underlying the swamp ecosystem during the dry season, making the region less susceptible to drought and wildfire. The oxidation rate of organic matter would be minimized by managing water table levels to reduce aeration. Healthy soils would be anticipated to interact with healthy plant communities to deliver high biomass food webs. Mitigation measures and best management practices would be applied in accordance with regulatory guidelines, recommendations, and issued project permit conditions to avoid or minimize potential impacts from implementation (EA, pgs. 58-59).

Vegetation clearing and soil disturbance during construction would result in short-term, adverse, localized impacts to native vegetation communities. The potential for construction-related impacts to protected plant species (Everglades bully, Florida prairie-clover, Florida pineland crabgrass, and the habitats they occupy) exists but would be minimized, as the restoration projects would be sited to avoid protected plant populations. After construction is complete, project implementation is generally anticipated to result in long-term beneficial impacts to the Preserve's hydro-ecological functions, thereby benefitting natural vegetative communities and protected plant species at a local and regional scale. Planned projects would restore water levels to reduce high-intensity, ecologically devastating fires that consume most of the plants. Planned projects would also reduce draining of groundwater from the shallow aquifer underlying the swamp ecosystem during the dry season, making the region less susceptible to drought. Mitigation measures and best management practices would be applied in accordance with regulatory guidelines, recommendations, and issued project permit conditions to avoid or minimize potential impacts from implementation (EA, pg. 63).

There is potential for short-term, adverse, localized impacts to camping; hiking; hunting, fishing and frogging; motorboat use; ORV use; paddling; and wildlife viewing during construction due to temporary access limitations. After construction is complete, project implementation is anticipated to result in long-term beneficial impacts to the Preserve's hydro-ecological functions, thereby benefitting visitor use and experience at a local and regional scale. Planned projects would improve the depth, duration, and distribution of water on the landscape and as a result, would improve the fire regime, wildlife habitats, trail accessibility, and river navigability. Mitigation measures and best management practices would be applied in accordance with regulatory guidelines, recommendations, and issued project permit conditions to avoid or minimize potential impacts from implementation (EA, pg. 68).

The potential for construction-related adverse impacts on ethnographic resources exists but would be minimized, as the restoration projects would be sited to avoid known archeological sites and Native American ceremonial sites. After construction is complete, project implementation is anticipated to result in long-term beneficial impacts to the Preserve's hydro-ecological functions, thereby benefitting ethnographic resources and cultural landscapes at a local and regional scale. Planned projects would restore water levels to reduce wildfires and nuisance/invasive vegetative species associated with altered hydrology, which damage the integrity of many archeological sites of the Preserve. Restoration projects would help preserve cultural use of plants in the Preserve by promoting a healthy ecosystem. Mitigation measures and best management practices would be applied in accordance with regulatory guidelines, recommendations, and issued project permit conditions to avoid or minimize potential impacts from implementation (EA, pgs. 70-71).

Conclusion

As described above, the Selected Alternative does not constitute an action meeting the criteria that requires preparation of an environmental impact statement (EIS). The Selected Alternative will not have a significant effect on the human environment in accordance with Section 102(2)(c) of NEPA and the Council on Environmental Quality's implementing NEPA regulations at 40 CFR 1500 *et seq.*

Therefore, it has been determined that an EIS is not required for this project and, thus, will not be prepared.

Recommended: Thomas P Forsyth March 16, 2022
Tom Forsyth, Superintendent Date
Big Cypress National Preserve

Approved: Lance Hatten _____
Lance Hatten Date
Acting Regional Director
Region 2 - South Atlantic-Gulf

Documents appended to the FONSI include:

- Appendix A: Non-Impairment Determination
- Appendix B: Mitigation Measures
- Appendix C: Response to Substantive Public Comments
- Appendix D: Errata Indicating Text Changes to EA
- Appendix E: Agency Correspondence

Appendix A: Non-Impairment Determination

While Congress has given the National Park Service (NPS) management discretion to allow impacts within parks, that discretion is limited by the statutory requirement, generally enforceable by the federal courts, that the NPS must leave park resources and values unimpaired unless a particular law directly and specifically provides otherwise. This cornerstone of the Organic Act establishes the primary responsibility of the NPS: to ensure that park resources and values will continue to exist in a condition that will allow the American people to have present and future opportunities to enjoy them. The impairment of park resources and values may not be allowed by the NPS unless directly and specifically provided for by legislation or by the proclamation establishing the park. The relevant legislation or proclamation must provide explicitly (not by implication or inference) for the activity, in terms that keep the NPS from having the authority to manage the activity so as to avoid the impairment.

The impairment that is prohibited by the Organic Act and the General Authorities Act is an impact that, in the professional judgment of the responsible NPS manager, would harm the integrity of park resources or values, including the opportunities that otherwise would be present for the enjoyment of those resources or values. Whether an impact meets this definition depends on the particular resources and values that would be affected; the severity, duration, and timing of the impact; the direct and indirect effects of the impact; and the cumulative effects of the impact in question and other impacts.

An impact to any park resource or value may, but does not necessarily, constitute impairment. An impact would be more likely to constitute impairment to the extent that it affects a resource or value whose conservation is:

- necessary to fulfill specific purposes identified in the establishing legislation or proclamation of the park, or
- key to the natural or cultural integrity of the park or to opportunities for enjoyment of the park, or
- identified in the park's general management plan or other relevant NPS planning documents as being of significance.

An impact would be less likely to constitute impairment if it is an unavoidable result of an action necessary to preserve or restore the integrity of park resources or values, and it cannot be further mitigated. An impact that may, but would not necessarily, lead to impairment may result from visitor activities; NPS administrative activities; or activities undertaken by concessioners, contractors, and others operating in the park. Impairment may also result from sources or activities outside the park.

The NPS Management Policies (2006) requires analysis of potential effects to determine whether actions would impair park resources. The park resources and values that are subject to the no-impairment standard include:

- the park's scenery, natural and historic objects, and wildlife, and the processes and conditions that sustain them, including, to the extent present in the park: the ecological, biological, and physical processes that created the park and continue to act upon it; scenic

features; natural visibility, both in daytime and at night; natural landscapes; natural soundscapes and smells;

- water and air resources; soils; geological resources; paleontological resources; archeological resources; cultural landscapes; ethnographic resources; historic and prehistoric sites, structures, and objects; museum collections; and native plants and animals;
- appropriate opportunities to experience enjoyment of the above resources, to the extent that can be done without impairing them;
- the park's role in contributing to the national dignity, the high public value and integrity, and the superlative environmental quality of the national park system, and the benefit and inspiration provided to the American people by the national park system; and
- any additional attributes encompassed by the specific values and purposes for which the park was established.

Big Cypress National Preserve was established by Congress in 1974 to “assure the preservation, conservation, and protection of the natural, scenic, hydrologic, floral and faunal, and recreational values of the Big Cypress Watershed in the State of Florida and to provide for the enhancement and public enjoyment thereof.” The 2006 NPS Management Policies state that the NPS should restore resources (1.4.7.2, pg. 12) and natural ecosystem functions that have been disrupted by past or ongoing human activities (4.1, pg. 37).

Topics from the EA considered for analysis that are subject to the non-impairment mandate include water resources, wildlife and protected species, soils, vegetation and invasive species, and cultural resources: ethnographic resources and cultural landscapes. Implementing the Hydrologic Restoration Management Plan (Plan) at the Big Cypress National Preserve (Preserve) would not result in impairment of these or other Preserve resources.

Water Resources - There is potential for short-term, adverse, localized impacts to hydrology, water quantity, and groundwater during construction because of potential temporary impediments to natural sheet flow/groundwater flow and stormwater runoff. Project implementation would result in long-term beneficial effects to hydrology, water quantity, and groundwater at both a local and regional scale. Planned projects would restore freshwater flow paths, flow volumes and timing, seasonal hydroperiods, and historical distribution of sheet flow to re-establish ecological connectivity and ecological resilience of the wetland/upland mosaic. Water levels would also be restored to reduce wildfires associated with altered hydrology, which damage the geomorphic and associated ecological conditions of the Preserve. Mitigation measures and best management practices would be applied in accordance with regulatory guidelines, recommendations, and issued project permit conditions to avoid or minimize potential impacts from implementation (EA, pg. 51). There would be no impairment of water resources from implementing the Plan.

Wildlife and Protected Species - There is potential for short-term, adverse, localized impacts to Florida panther, West Indian manatee, eastern black rail, snail kite, Florida bonneted bat, American alligator, red-cockaded woodpecker, and protected wading birds during construction because of noise, vegetation clearing, and soil disturbance. Wildlife species present during construction are anticipated to move away from the location during those activities. After construction is complete, project implementation is anticipated to result in long-term beneficial effects to the Preserve's

hydro-ecological functions, thereby benefitting wildlife and protected species at both a local and regional scale. Planned projects would improve the depth, duration, and distribution of water on the landscape and as a result, increase the swamp ecosystem's floral and faunal health. The base of the swamp's food chain would benefit (e.g., invertebrate and fish communities), thereby supporting the rest of the swamp ecosystem that are dependent on the aquatic food base. Mitigation measures and best management practices would be applied in accordance with regulatory guidelines, recommendations, and issued project permit conditions to avoid or minimize potential impacts from implementation (EA, pg. 56). There would be no impairment of wildlife from implementing the Plan.

Soils - Soil disturbance from heavy equipment during construction would have short-term, adverse, localized impacts to soils. Project implementation would result in long-term beneficial effects to soil resources at both a local and regional scale. The beneficial effects would be due to a return to more natural hydrologic conditions, organic soil accretion, and nutrient accumulation. Planned projects would restore water levels to reduce hot, high intensity wildfires associated with altered hydrology, which consume organic soils. Planned projects would also reduce draining of groundwater from the shallow aquifer underlying the swamp ecosystem during the dry season, making the region less susceptible to drought and wildfire. The oxidation rate of organic matter would be minimized by managing water table levels to reduce aeration. Healthy soils would be anticipated to interact with healthy plant communities to deliver high biomass food webs. Mitigation measures and best management practices would be applied in accordance with regulatory guidelines, recommendations, and issued project permit conditions to avoid or minimize potential impacts from implementation (EA, pgs. 58-59). There would be no impairment of soils from implementing the Plan.

Vegetation and Invasive Species - Vegetation clearing and soil disturbance during construction would result in short-term, adverse, localized impacts to native vegetation communities. The potential for construction-related impacts to protected plant species (Everglades bully, Florida prairie-clover, Florida pineland crabgrass, and the habitats they occupy) exists but would be minimized, as the restoration projects would be sited to avoid protected plant populations. After construction is complete, project implementation is generally anticipated to result in long-term beneficial impacts to the Preserve's hydro-ecological functions, thereby benefitting natural vegetative communities and protected plant species at a local and regional scale. Planned projects would restore water levels to reduce high-intensity, ecologically devastating fires that consume most of the plants. Planned projects would also reduce draining of groundwater from the shallow aquifer underlying the swamp ecosystem during the dry season, making the region less susceptible to drought. Mitigation measures and best management practices would be applied in accordance with regulatory guidelines, recommendations, and issued project permit conditions to avoid or minimize potential impacts from implementation (EA, pg. 63). There would be no impairment of vegetation and invasive species from implementing the Plan.

Cultural Resources: Ethnographic Resources and Cultural Landscapes - The potential for construction-related adverse impacts on ethnographic resources exists but would be minimized, as the restoration projects would be sited to avoid known archeological sites and Native American ceremonial sites. After construction is complete, project implementation is anticipated to result in long-term beneficial impacts to the Preserve's hydro-ecological functions, thereby benefitting ethnographic resources and cultural landscapes at a local and regional scale. Planned projects

would restore water levels to reduce wildfires and nuisance/invasive vegetative species associated with altered hydrology, which damage the integrity of many archeological sites of the Preserve. Restoration projects would help preserve cultural use of plants in the Preserve by promoting a healthy ecosystem. Mitigation measures and best management practices would be applied in accordance with regulatory guidelines, recommendations, and issued project permit conditions to avoid or minimize potential impacts from implementation (EA, pgs. 70-71). There would be no impairment of cultural resources, ethnographic resources and cultural landscapes from implementing the Plan.

Summary

As described above, adverse effects and environmental impacts anticipated as a result of implementing the Selected Alternative on a resource or value whose conservation is necessary to fulfill specific purposes identified in the establishing legislation or proclamation of the Preserve, key to the natural or cultural integrity of the Preserve or to opportunities for enjoyment of the Preserve, or identified as significant in the Preserve's general management plan or other relevant NPS planning documents, would not rise to levels that would constitute impairment of Preserve values and resources, and the plan's overall long-term restoration actions will primarily benefit park resources.

Appendix B: Mitigation Measures

The following mitigation measures and best management practices would be applied to avoid or minimize potential impacts from implementation of the Selected Alternative.

General

Hydrologic restoration project areas would be properly maintained to avoid adverse impacts on aquatic environments or public safety. Although most of the restoration measures are passive in nature (e.g., adding culverts, adding earthen plugs to canals), routine inspection would be performed to confirm restoration measures are working as planned based on monitoring.

Water Resources

Best management practices for water resources would be followed to make sure that effects from hydrologic restoration measures prevent short-term impacts during construction on water quality and wetland function. Work would generally be conducted during the dry season and may involve turbidity control barriers where needed for proper sediment stabilization so that it does not move off-site.

In each case, restoration measures identified in this plan are aimed at: (1) directly increasing wetland acreage through removal of elevated fill or infilling of artificial channels or (2) improving wetland function by improving the natural water regime (i.e., new culvert and canal plugs). Restoration measures resulting in minor loss of wetland would be quantified, but also shown to be offset by the environmental benefits of the project. For example, a new culvert may result in minor excavation of pools on the upstream and downstream side of a culvert to optimize its flow capacity and prevent it from getting clogged up over time. Wetland impacts would be compensated with mitigation to provide no net loss of wetland function. Additionally, post-construction flow at individual projects would be monitored.

Wildlife and Protected Species

Water control structures and other hydrologic restoration activities would be sited to avoid sensitive wildlife habitats. The Selected Alternative and the associated activities required to restore hydrology and complete maintenance would be timed to avoid sensitive periods, such as nesting or breeding seasons.

Where possible it may be preferable to retain low-water spots when canals or other excavation features are filled in. This measure would provide low-water spring refugia habitat for alligators, fish, and other animals during spring droughts.

Where appropriate, some upland features may be retained to provide high-water refugia or other upland wildlife benefits. These upland habitats provide important refuge for marsh wildlife, allow upland wildlife to access the marsh for food and other resources, and further contribute to biological diversity and landscape complexity.

In consultation with the United States Fish and Wildlife Service and Florida Fish and Wildlife Conservation Commission, and in accordance with their guidelines, recommendations, and issued project permit conditions, appropriate mitigation measures would be taken to protect special status species whether identified through surveys or presumed to occur in areas that contain suitable

habitat characteristics. Consultation would be initiated during project design and permitting for individual projects.

Soils

Heavy equipment would be used in such a way as to avoid or minimize impact to adjacent wetlands (see Water Resources). In each instance, impacts caused by heavy equipment would be minimized through preventative measures, and the area restored to natural wetland grade. Severity and areal extent of disturbed (compacted, churned, rutted, or displaced) soil by heavy equipment would be minimized by the following actions: identifying risks, planning and scheduling operations, selecting appropriate equipment, controlling on-site activities to accommodate identified risks, and training and feedback during construction to increase operator awareness. During project implementation, erosion and sedimentation impacts from construction sites would be minimized by performing the work during the dry season when soils stability is greatest and using best management practices such as deployment of hay bales, silt fences, and turbidity barriers where needed. Mitigation measures for a given area would be determined during project planning and design based on a site-specific evaluation.

Where possible, surplus fill material generated from removing a fill feature should be saved for future hydrologic restoration work, and in particular canal plugs. The reason for this is that fill is expensive to haul long distances and can be an invasive and/or exotic seed source, which are often limiting factors for restoration projects.

Best management practices for erosion and sediment control would be maintained during construction, and stabilization of restoration areas would occur naturally as a result of plant recolonization from the adjacent area, which has been successful in previous restoration efforts. Where needed, supplemental efforts may be required to eliminate exotics and promote natural floral composition.

Vegetation and Invasive Species

Under normal circumstances, revegetation of wetland reclaimed areas would rely upon natural recruitment from the surrounding seed bank and seed sources. Where needed, invasive exotic (e.g., Brazilian pepper) or undesirable vegetation would be removed. Where appropriate, cypress trees or habitat-appropriate vegetation may be planted. The decision to remove vegetation and/or implement an active restoration approach (i.e., planting) for a given project area would be determined based on a site-specific evaluation, in accordance with the South Florida and Caribbean Parks Exotic Plant Management Plan (NPS 2006a and 2010a).

Special attention would be devoted to preventing the spread of exotic and invasive species, especially on disturbed sites. For exotic invasive plants, standard measures could include identifying and treating areas of nonnative plants before hydrological restoration activities are initiated, treatment as part of the nonnative plant control program, and revegetation with native species as appropriate. The approach for a given treatment area would be determined based on a site-specific evaluation and implemented following the South Florida and Caribbean Parks Exotic Plant Management Plan (NPS 2006a and 2010a).

Visitor Use and Experience

Restoration measures may require the use of signage, walkways, barriers, and other techniques to enhance resource protection and visitor access goals.

Cultural Resources: Ethnographic Resources and Cultural Landscapes

The NPS would take practical measures to avoid, minimize, or mitigate adverse effects in consultation with the State Historic Preservation Officer (SHPO) and, as needed, the Advisory Council on Historic Preservation, Native American tribes, and other concerned parties. In addition to adhering to the legal and policy requirements for cultural resources protection and preservation, the NPS would also undertake the measures listed below to further protect the Preserve's resources:

- Areas proposed for hydrologic restoration measures would be surveyed so that previously unidentified cultural resources (i.e., archeological, historic, ethnographic) in the area of potential effects are adequately identified and protected by avoidance or, if needed, mitigation.
- If during ground-disturbing activities, previously unidentified archeological resources are discovered, work in the immediate vicinity of the discovery would be halted until the resources could be identified and documented. If the resources could not be preserved in situ, an appropriate mitigation strategy would be developed in consultation with the SHPO and, if needed, Federally recognized Indian tribes and associated groups. Archeological documentation would be done in accordance with the Secretary of the Interior's Standards for Archeology and Historic Preservation (1983, as amended).

In the unlikely event that human remains believed to be Native American are discovered during ground-disturbing activities, compliance with the Native American Graves Protection and Repatriation Act of 1990 would apply. Prompt notification and consultation with the Federally recognized tribes would occur in accordance with the Act. If such human remains are believed to be non-Indian, standard reporting procedures to the proper authorities would be followed, as would applicable Federal, state, and local laws.

- Visitors would continue to be educated on the importance of protecting the Preserve's cultural resources and leaving these undisturbed for the enjoyment of future visitors.

Appendix C: Response to Substantive Public Comments

A substantive comment is defined by National Park Service (NPS) Director's Order 12 (DO-12) as one that does one or more of the following:

- Question, with reasonable basis, the accuracy of information in the environmental analysis;
- Question, with reasonable basis, the adequacy of the environmental analysis;
- Present reasonable alternatives other than those presented in the environmental analysis;
- or
- Cause changes or revisions to the proposal.

In other words, substantive comments raise, debate, or question a point of fact or analysis.

Comments that merely support or oppose a proposal or agree or disagree with NPS policy are not considered substantive and do not require a formal response (NPS NEPA Handbook 2015).

Through formal consultation with the U.S. Fish and Wildlife Service (USFWS), it was requested that the eastern black rail be added to the species list as well as the determination of presence on the Preserve, and if so, if any best management practices (BMPs) could apply. These suggested additions are noted in Appendix D.

During the public comment period of the Environmental Assessment (EA), comments were received from three private individuals. A letter of support was received from the South Florida Water Management District (SFWMD). A letter of support was received from the Florida Wildlife Federation and a joint letter of support was received from the National Parks Conservation Association (NPCA), the Center for Biological Diversity, the Conservancy of Southwest Florida, and the Natural Resources Defense Council. Public comments resulted in minor changes to the EA. These changes are noted below and in Appendix C.

There are no substantial modifications required for Alternative C, the Preferred Alternative. The following are NPS responses to substantive comments received during the public comment period.

1. Three commenters opposed Alternative C, the Preferred Alternative, and supported the No Action alternative. These commenters expressed concerns of flooding of private properties within the Big Cypress National Preserve (Preserve).

Response: The NPS acknowledges concerns regarding flooding of private property. The Proposed Action does not propose the flooding of private property or access roads leading to private property, and previous similar restoration projects have reduced flooding risk to private properties. Individual projects will be assessed during project design and permitting phase to minimize flooding risk to private property. The Proposed Action would not alter the natural flow of water nor increase the amount of stormwater runoff.

2. The SFWMD, Florida Wildlife Federation, the National Parks Conservation Association, the Center for Biological Diversity, the Conservancy of Southwest Florida, and the Natural Resources Defense Council expressed general support of the Proposed Action.

Response: Comment acknowledged; no corrections or revisions to the EA are necessary.

3. Several comments addressed the role of monitoring and modeling used in the plan. These include:

- Is a model output planned, as the plan does not provide output of expected changes to the hydrology?
- Expand and enhance the hydrologic restoration and management plan's monitoring and mitigation measures to ascertain restoration success and inform science-based adaptive management.
- The plan should elaborate on the type of site-specific data to be collected pre- and post-project activities, to provide a detailed framework for future monitoring and assessment of restoration success.
- Monitoring and mitigation strategies for the plan should include the following indicators: vegetation shifts, species utilization, community/habitat changes, and water quality.
- Bolstering the plans for site-specific baseline monitoring and post-restoration activity monitoring will also offer additional benefits that directly serve two of the eight primary purposes of the hydrologic restoration, namely, to provide additional educational and outreach opportunities regarding the role of water in the Preserve and improve the Preserve's ability to work with stakeholders on the hydrologic restoration projects, including Everglades Restoration Initiatives. By setting forth a clear monitoring plan from the outset, the opportunity to engage local professors, students, researchers and other Preserve stakeholders will be amplified. Programmatic infrastructure to support engagement of stakeholders in monitoring efforts exists in south Florida and could be leveraged through this planning process.

Response: Everglades Restoration involves large-scale and expensive projects that are cost-shared by the Federal and state government, usually involve a large degree of engineering and almost always involve active water management components including pumps, gates, water quality treatment, regulation schedules and the large annual operational budget that such features entail. The operational complexity and interconnected nature of Everglades Restoration has, by necessity, required application of sophisticated models, development of a multidisciplinary suite of hydrologic and ecological performance measures and goals that are measured relative to the models, and a comprehensive monitoring regimen that has few parallels in water management. Few places possess the level of science and sophistication that guides water management in the Everglades Restoration area. While the Preserve is connected to and includes Everglades Restoration scale projects at its boundaries (i.e., Tier 3 projects), the focus of the plan is on Tier 1 and Tier 2 projects that are much simpler and smaller in scale, more akin to BMPs than large-scale water projects. Given the small-scale nature of the proposed actions and their incremental implementation over time – i.e., each project requires separate funding and permit approval (including monitoring requirements) – the Preserve

believes that they are best evaluated and adaptively-managed locally using a combination of photo points, observations, and direct measurements. Success is achieved where ponding behind elevated features and channelized flow in excavated features are eliminated or reduced. Therefore, measuring successful achievement of the Plan's purpose would require focus on the hydrologic indicators. Independently from the plan, the Preserve looks forward to collaborating with the Everglades Restoration community and other interested stakeholders to enhance the overall hydrological and ecological monitoring and modeling framework in the Preserve.

4. A comment stated that preferential canal-to-marsh flow can potentially increase the likelihood of cattail invasions downstream, as pertinent research at the Decomp Physical Model project indicates.

Response: Comment acknowledged. In general, the Tier 1 and Tier 2 projects proposed in the plan are located in areas of high background water quality. Pre-existing culverts and bridges within the Tier 1 and 2 area of the Preserve overwhelmingly contain native flora, a trend we expect to continue with new culverts. Where appropriate, individual projects may receive additional site-specific review and design to eliminate or reduce the threat of cattails at new and existing culvert locations.

5. A comment inquired whether Tier 1-2 restoration projects will incorporate removal of invasive vegetation as part of the work plan?

Response: The EA acknowledges that, where needed, invasive exotic or undesirable vegetation would be removed. The decision to remove vegetation for a given project area would be determined based on a site-specific evaluation, in accordance with the South Florida and Caribbean Parks Exotic Plant Management Plan.

6. A comment indicated that disturbance resulting in the compaction of peat soils from off-road vehicle (ORV) use to heavy equipment could be considered long term impacts because of the slow rate of soil building in the Everglades (0.1 centimeter per year).

Response: Comment acknowledged. The EA states that mitigation measures for an individual project would be determined during project planning and design based on a site-specific evaluation. These would include planning and scheduling operations during the dry season when soils are hardened and most resilient to use of heavy equipment. The EA defines short-term soil impacts as when disturbed soils would be revegetated in less than one year or within one growing season. A return to more natural hydrologic conditions, organic soil accretion, and nutrient accumulation would follow. Although soil building would occur at a slow rate, the soil building process would start within one year of individual project completion. Therefore, soil impacts associated with restoration projects are considered short term.

7. A comment inquired whether the Preserve has plans to alter ORV use or trail locations in restored areas, such as locations of degraded roads or within the flow path?

Response: Restoration projects associated with the plan would not alter ORV use or change routes. Any proposed alteration to the existing ORV trail network would require independent reassessment of the Preserve's Recreational Off-Road Vehicle Management Plan, which addresses management of recreational ORVs. In general, this plan is not meant to inhibit or impinge on existing trail use and access.

8. Several comments regarded SR-29 Barron River canal and noted that the Preserve will continue to experience significant adverse hydrologic impacts to its western boundary until the canal is corrected. The WERP geographically covers the eastern half of the Preserve and should incorporate a broad range of needed hydrological restoration (L-28, Jetport, etc.). Would it be possible to expand WERP boundaries across the entire Preserve to the western boundary including the SR-29 canal issues? Also, any attempts to address the Barron River canal issues may require advocacy and political support from environmental organizations as well as the responsible state and federal agencies.

Response: The NPS acknowledged within the EA that Tier 3 projects provide the biggest benefit and rank the highest in terms of priority for the Preserve. However, these projects fall outside NPS's jurisdiction and include multi-water use functions beyond the Preserve's mission. These projects include many stakeholders and serve multi-use water management goals; therefore, they need to be considered separately and independently of this plan. Many of these projects would be planned, evaluated, and implemented external to the Preserve's control and would range in cost from tens to hundreds of millions of dollars. Therefore, Tier 3 projects were determined to fall outside the scope of this plan.

9. A comment stated that although the installed plugs and culverts on the Turner River road and canal have been beneficial to the upper Turner River, the flows are still inadequate to restore the headwater lakes which have become eutrophic and non-functional.

Response: The plan provides a framework for lessening the effect of the canals and levees in Tier 1 and Tier 2 project areas where water quality is relatively unpolluted. Newly installed culverts and canal plugs are expected to augment the distribution of sheet flow and residence time of water on the landscape and subsequently benefit water quality in the swamp ecosystem and downstream estuarine delivery points. The NPS acknowledged within the EA that the Turner River Road canal and roadbed divert and restrict water flow to the headwaters of the Turner River. While there are indications that the new culverts and plugs installed as part of the Ochopee Sheet Flow Restoration pilot project helped improve the situation, the natural hydrologic regime remains negatively impacted. Individual project locations, such as Turner River Road, will be assessed for restoration projects that increase conveyance under road and improved plugs in canal. Additionally, post-construction flow at individual projects would be monitored.

10. A comment stated that "Dayhoff Strand" is misnamed; correct name is Dayhoff Slough.

Response: Comment acknowledged; correction noted in errata.

11. A comment stated that the Tamiami Trail completion date stated in the plan document is incorrect; it was dedicated and opened in 1928, not 1930.

Response: Comment acknowledged; correction noted in errata.

12. A comment stated the report should include West Indian manatee observations in the Turner River below the mangrove tunnel area.

Response: Comment acknowledged; addition noted in errata.

13. A comment stated that white ibis is most common in the Preserve but it is not mentioned in discussion of protected wading birds (pg 32).

Response: The NPS acknowledged within the EA that protected species are species listed as threatened, endangered, proposed threatened, or proposed endangered under the Federal Endangered Species Act of 1973 (16 USC § 1531 et seq.); species protected under Florida Endangered and Threatened Species Act of 1977 (Section 379.2291, Florida Statute); and species considered sensitive by the Preserve that are protected to prevent further population decline. The white ibis was removed from the Florida Endangered and Threatened Species List in 2016 and therefore is not included in the EA as protected wading bird. However, this species is still provided protection by the U.S. Migratory Bird Treaty Act and protected from take by 68A-4.001, Florida Administrative Code. In addition to special status species discussed in chapter 4, Environmental Consequences, other wildlife live in the Preserve. However, the Federally listed species are good indicators for other wildlife species due to the interrelations and inter-dependence of the various flora and fauna in the Preserve. Together, the Federally listed species adequately reflect overall ecosystem health and impacts to the white ibis. Therefore, the effects on other wildlife species are not analyzed in detail as a separate topic in this Environmental Assessment.

14. A comment stated that the establishment of an approved hydrologic restoration management plan will provide the foundation for supporting sustained and targeted funding for priority restoration projects within the Preserve and properly enable stakeholders to identify potential funding sources and support project-specific funding asks.

Response: NPS agrees with this comment.

15. A comment stated that additional impact topics should be incorporated in the EA, including Water Quality and Energy Resources / Energy Efficiency and Conservation Potential.

Response: During preliminary analysis, the NPS determined that none of the proposed alternatives would have any direct impacts on the Preserve's water quality and energy resources / energy efficiency and conservation, and water quality was dismissed as an impact topic in the EA. In all the proposed alternatives analyzed in the EA, the NPS would continue to protect and conserve the Preserve's

water quality as required under the CWA. Additionally, the alternatives being considered would not result in the extraction of energy resources from the Preserve, would not result in a measurable change in energy consumption compared to current conditions, and would not affect ongoing oil and gas operations in the Preserve. Therefore, these two impact topics are not analyzed in detail as separate topics in the EA.

16. Several comments stated an inherent conflict exists between oil and gas activities and the goals of the NPS hydrologic restoration plan and EA. Given the wilderness-eligible standing of these areas, this issue should be elevated more clearly in future NPS documentation pertaining to the proposed hydrologic restoration plan, and NPS should ensure that the hydrologic alterations caused by oil exploration between 2017 and 2018 within this vast, approx. 110 square mile area in the Preserve is, at minimum, completely restored. Also, the NPS should simultaneously ensure restoration success by not permitting any activities or use that runs counter to the values and goals articulated in the hydrologic restoration plan and EA.

Response: The EA acknowledges that actions external to this plan (e.g., oil and gas exploration) have the potential to impact the resources within the Preserve, and it addresses past, present, and reasonably foreseeable future effects to the Preserve's resources that may result from oil and gas exploration and production operations. While restoration activities may be postponed in areas with active oil and gas activities, any future proposed oil and gas exploration and development would require independent NEPA analysis to assess potential impacts of those proposed actions, as oil and gas exploration is not a proposed activity within the scope of this plan.

17. Several comments stated that maps identifying Tier 1 and Tier 2 project locations in relation to previous oil and gas seismic surveys, proposed oil development application areas, proposed backcountry access plan areas of interest, and eligible wilderness areas in a final EA should be included.

Response: Chapter 3 of the EA (Affected Environment) describes the characteristics of the various environmental resources that could be affected as a result of implementation of the alternatives. The affected environment is a concise description of the existing resource conditions and trends, which may be affected by the plan. These resource conditions are inclusive of areas in which seismic surveys were previously performed or backcountry access is planned. The EA notes that restoration efforts would not apply to some hydrologic disruptions that are currently active in the Preserve and addressed under separate permitting authorities, such as oil and gas operations and private property rights. If restoration efforts were needed in these areas, they would be located, where possible, to avoid adverse effects to private property, roadways, historic and archeological resources, sensitive resource areas, and other improved areas.

NPS has also determined that the none of the proposed alternatives would have impacts on the Preserve's potential future wilderness. The majority of the proposed

hydrologic restoration projects would be located outside of the Preserve's proposed or eligible wilderness. No identified Tier 2 projects fall within eligible or proposed wilderness, and most Tier 1 projects are located near roads or ORV trails that have a one-quarter mile buffer to proposed or eligible wilderness. A small number of future projects that may fall within proposed or eligible wilderness would have long-term beneficial impacts on wilderness character. Future projects that could occur in wilderness would undergo a minimum requirements analysis.

Given the lack of project overlap in these areas, NPS determined that maps of these areas would not be useful.

18. A comment stated it is insufficient to say that “[r]estoration efforts would not apply to some hydrologic disruptions that are currently active in the Preserve and addressed under separate permitting authorities, such as oil and gas operations...” for several reasons. The approximate 110 square mile area of seismic-damaged wetlands occurring within the Preserve do not currently contain any commercial activities, industrial oil and gas developments (rather, they contain damages caused by oil exploration), or significant private property, and therefore do not fall under any separate permitting authority or management agency. Thus, ensuring this area is fully restored and mitigated is the responsibility of NPS to properly manage and oversee.

Response: NPS developed mitigation measures addressing hydrology under a separate planning process for the 2017 and 2018 nonfederal seismic survey within the Preserve, including avoidance and minimization measures, reclamation of the impacted area, and offsite compensatory wetland mitigation. In areas where there is not active commercial activity, hydrologic restoration would be appropriate, subject to the hydrologic restoration project sequencing as described in the EA.

19. A comment stated that the impact topics analysis should consider whether the damage caused by Burnett’s seismic surveys within approximately 110-square miles of the Preserve will alter the preferred alternative or the achievable hydrologic restoration outcomes.

Response: The EA analyzes the past, present, and reasonably foreseeable future effects to the Preserve’s resources that may result from oil and gas exploration and production operations.

20. Comments expressed concern regarding the inclusion of proposed oil and gas exploration and production in the “Trends and Planned Actions” sections, as the Nobles Grade Prospect and Tamiami permit applications remain unapproved at this time.

Response: The inclusion of proposed oil and gas exploration and production in the EA does not imply approval of pending or future permit applications, however, earlier comments from this commenter encouraged NPS to address future proposed oil and gas development impacts in the EA. The EA acknowledges that Nobles Grade Prospect (which includes Tamiami) is an example of past, present, and reasonably foreseeable future human activity that may affect the Preserve’s resources.

21. A comment stated that water is an impact topic identified for primarily hydrologic functions, i.e., depth, duration, and distribution; however, water quality continues to be excluded from analysis. Changes in the quantity, timing, and distribution of water (even beneficial changes that support a more natural sheet flow regime) can still impact or modify water quality, depending on the source(s) of water and its nutrient or other constituent content as it is moved from one area to another. Given the importance of water quality to the health of Preserve and downstream areas like Everglades National Park and estuaries, including water quality as a specific impact topic for analysis under the EA is recommended. Water quality should also be included as an integral parameter for inclusion in monitoring protocols associated with all hydrologic restoration projects that will be initiated through the implementation of this plan.

Response: Despite hundreds of culverts and/or bridges throughout the Preserve, the natural hydrologic regime of the swamp ecosystem remains negatively impacted by long runs of under-culverted levees and unplugged canal. The plan provides a framework for lessening the effect of the canals and levees in Tier 1 and Tier 2 project areas where water quality is relatively unpolluted. Newly installed culverts and canal plugs are expected to augment the distribution of sheet flow and residence time of water on the landscape and subsequently benefit water quality in the swamp ecosystem and downstream estuarine delivery points. Projects that enhance water quality directly, or that bring in new water from outside the Preserve, and that require water quality monitoring, fall within the Tier 3 category of projects and are outside the scope of this plan. For additional information please see Appendix B, Impact Topics Dismissed from Detailed Analysis, Water Quality.

Appendix D: Errata Indicating Text Changes to EA

This Errata contains corrections and minor revisions to the Big Cypress Hydrologic Restoration Project Environmental Assessment. Page number, section, and sentence locations referenced below pertain to the EA. The edits and corrections in this Errata do not result in any substantial modification to the Selected Alternative, and it has been determined that these revisions do not require additional environmental analysis.

When combined with the EA, the Errata comprise the only amendments deemed necessary for the purpose of completing compliance and documentation for the project.

Text Changes

Correction. Page 7, Section 2.4, paragraph 4, sentence 1, changed from “Dayhoff Strand” to “Dayhoff Slough” to be accurate.

Addition. Page 16, Section 2.6.4, paragraph 1, sentence 5, added “during the dry season” to elaborate on the planning and scheduling operations.

Addition. Page 16, Section 2.6.5, paragraph 1, sentence 4, added “native and exotic plant species observed and the approximate vegetation cover for each species” to clarify the site-specific evaluation data to be collected.

Correction. Page 24, Section 3.1, paragraph 3, sentence 1, changed from “...completion of the Tamiami Trail in 1930...” to “...completion of the Tamiami Trail in 1928...” to be accurate.

Addition. Page 31, Section 3.2, paragraph 3, sentence 3, added “Turner River” to clarify where manatees are known to occur within the Preserve.

Addition. Page 31, Section 3.2, following paragraph 3, added “**Eastern black rail:** The eastern black rail (*Laterallus jamaicensis jamaicensis*) is a subspecies of black rail. It is a widely distributed, secretive marsh bird found primarily in salt, brackish, and freshwater wetlands in the eastern United States, Mexico, Central America, and the Caribbean. The subspecies requires dense vegetative cover that allows movement underneath the canopy, and because birds are found in a variety of salt, brackish, and freshwater wetland habitats that can be tidally or non-tidally influenced, structure is considered more important than plant species composition in predicting habitat suitability (USFWS 2018). The Eastern black rail has been detected in the Preserve from a variety of sources (Jimi Sadle, personal communication, February 12, 2022). Critical habitat for the eastern black rail has not been proposed or designated. The Preserve contains potential suitable habitat based on plant community features.” Text added to address potential effects to eastern black rail.

Addition. Page 52, Section 4.3, paragraph 6, sentence 2, added “Turner River” to clarify that manatees would also benefit from this coastal-connected canal that provides access to warm-water refugia during winter cold snaps.

Addition. Page 52, Section 4.3, following paragraph 6, added “Eastern black rail – Under the no action alternative, eastern black rails would continue to nest and forage in the area. Although no eastern black rail habitat would be removed, sheet flow in the Preserve would

not be restored and therefore habitat for the subspecies would not have improved water levels. As such, there would be no direct impact on eastern black rail in the project area. However, the continued alteration of the natural water regime would affect eastern black rail habitat over the long-term.” Text added to address potential effects to eastern black rail.

Addition. Page 54, Section 4.3, following paragraph 7, added “Eastern black rail – Under Alternative B, improving the hydrology of the swamp ecosystem would also improve the habitat occupied by the eastern black rail. This subspecies requires salt, brackish, or freshwater marsh habitats; dense herbaceous vegetative cover that allows for movement; elevated refugia to escape high water events; and moist to saturated substrates interspersed with or adjacent to very shallow water. Therefore, the eastern black rail would indirectly benefit from an increase in hydroperiod and sheet flow sustaining a healthy marsh habitat. Currently, there is potential suitable habitat for and documented occurrences of eastern black rail in the Preserve. This subspecies is unlikely to be negatively impacted, but if effects of restoration projects could lead to changes in suitability of habitat, further consultation with USFWS would take place. To determine if potential suitable habitat or individual species were present, surveys would be conducted on each project site prior to implementation. No construction would occur in the bird’s habitat during the nesting or brooding periods.” Text added to address potential effects to eastern black rail.

Addition. Page 56, Section 4.3, paragraph 3, added “eastern black rail” to elaborate on list of species that would result in short-term, adverse, localized impacts during construction because of noise, vegetation clearing, and soil disturbance.

Addition. Page 56, Section 4.3, paragraph 5, added “eastern black rail” to elaborate on described impacts on wildlife and protected species under Alternative C.

Addition. Page C2, Appendix C, following Cape Sable seaside sparrow, added table row

Eastern black rail	<i>Laterallus jamaicensis jamaicensis</i>	FT	Higher elevation wetland zones with some shrubby vegetation. Impounded and unimpounded intermediate marshes (marshes closer to high elevation areas) also provide habitat for the subspecies. Inland coastal prairies and associated wetlands may also provide habitat for the bird.	Present. Species is known to occur in wetland habitats of the Preserve; not likely to be affected by the alternatives.
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Addition. Page G5, Appendix G, following Ruiz et al. 2017, added “**Sadle, Jimi** 2022 Personal Communication, February 12, 2022.” to cite text added to address eastern black rail.

Addition. Page G6, Appendix G, under United States Fish and Wildlife Service (USFWS), added “2018 Species status assessment report for the eastern black rail (*Laterallus jamaicensis jamaicensis*), Version 1.2. June 2018. Atlanta, GA.” to cite text added to address eastern black rail.

Appendix E: Agency Correspondence

United States Department of the Interior

NATIONAL PARK SERVICE

Big Cypress National Preserve
33100 Tamiami Trail East
Ochopee, Florida 34141-9710

IN REPLY REFER TO:

1.A.2

6 July 2021

Kevin Donaldson
Tribal Consultation
Real Estate Director
Miccosukee Tribe of Indians of Florida
Tamiami Station
P.O. Box 440021
Miami, FL 33144

RE: Big Cypress National Preserve Hydrologic Restoration Management Plan

Dear Mr. Donaldson,

The National Park Service (NPS) would like to follow up on our previous letter regarding the Hydrologic Restoration Management Plan (the Plan) for Big Cypress National Preserve and initiate consultation under 36 CFR 800 of the National Historic Preservation Act (NHPA) with the Miccosukee Tribe of Indians of Florida. The purpose of the Plan is to provide a framework for re-engineering the drainage infrastructure to help revitalize the hydrologic processes of the Big Cypress National Preserve by enhancing the interrelationship between surface and groundwater to improve the quantity, timing, and distribution of water throughout the Preserve's watershed including discharge into downstream environments, while preserving and enhancing visitor experience.

Plan Description

The proposed plan would identify the methods, geographic areas and strategy for implementing hydrologic restoration in the Preserve. Management actions would include passive water management actions to restore sheet-flow such as:

- Plugging and filling in canals and ditches
- Culverting roadbeds
- Breaching impounding structures such as roads, levees, trams, and berms
- Fill removal – removal of elevated fill pads to match adjacent grades.
- Vegetation management – manipulating vegetation to restore managed flows
- Maintenance activities to maintain plugs, culverts, and breaches

None of the proposed projects would actively manage water by pumping or other means.

The Preserve would evaluate potential hydrologic restoration projects using a tiered ranking system, in which Tier 1 projects are the simplest and most feasible, Tier 2 projects are more

complex, but still within the Preserve's jurisdiction, and Tier 3 projects are the most complex, falling outside the Preserve's jurisdiction and boundary. Tier 1 and Tier 2 projects would be the focus of the plan, whereas Tier 3 projects were determined to fall outside the scope of the plan.

Tier 1 projects would be focused primarily on land-development centric disruptions associated with logging, farming, and residential and commercial developments. These projects would be contained entirely within and managed by the Preserve, without assistance from outside state or Federal agencies.

Tier 2 projects would be focused primarily on transportation-centric disruptions, such as the more than one-hundred miles of paved and gravel (limestone) roads located within and adjacent to the Preserve. These roads were elevated above natural grade using a cut and fill construction technique, which formed elevated driving surfaces and adjacent canals. The elevated roadbeds form barriers and the canals diversionary channels to the swamp's shallow surface and groundwater regime. The projects would include water ways that may involve an additional jurisdiction, such as a county or state road easement, but are not tied to regional and multi-use water management infrastructure and schemes that extend outside the Preserve. The primary tool (i.e. design concept) for the transportation-centric hydrologic disruptions is the culvert/plug pair. In the same way the roadbed and adjacent canal function together to alter flows, strategic installation of culverts and plugs near one another can improve the performance of both the culvert and plug, and together deliver the best hydrologic outcome at the lowest cost.

Tier 3 would include projects that fall outside of the jurisdiction of the Preserve and have a multi-water use function beyond the Preserve's mission. While these projects may provide the biggest benefit and rank highest in terms of priority for the Preserve, because they lie outside the Preserve's jurisdiction and involve many stakeholders and serve multi-use water management goals, these projects would be considered separately and independently of the plan. These projects include upstream flood control, water quality treatment and active water management (i.e. pumps, regulations schedules, gates) components that fall outside the scope of this plan.

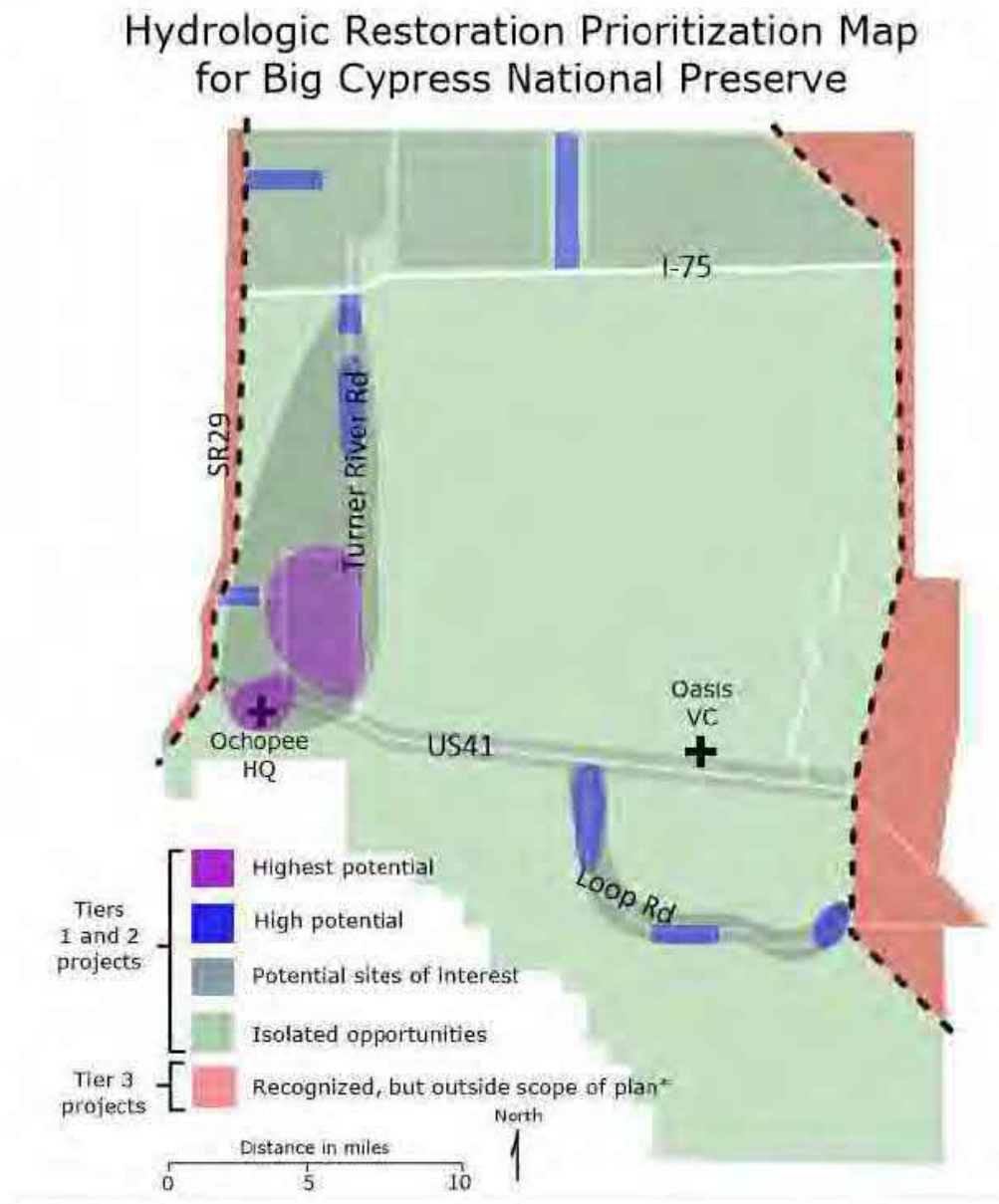
All proposed projects under the Plan would receive additional site-specific review as needed in accordance with Section 106 of the National Historic Preservation Act of 1966, as amended, the Endangered Species Act, Section 404 of the Clean Water Act and Florida's Water Resources Act, and any other required consultations, prior to land disturbance.

Restoration efforts would not apply to some hydrologic disruptions that are currently active in the Preserve and addressed under separate permitting authorities, such as oil and gas operations and private property rights. Restoration efforts would be located, where possible, to avoid adverse effects to private property, roadways, historic and archaeological resources, sensitive resource areas, and other improved areas.

The Preserve is also considering an alternative to the proposed plan that would include the Tier 1 and Tier 2 projects described above, but also include strategic replacement of roads with bridges at major flow-ways that are intersected by limerock roads. In particular, bridging would be an additional tool for addressing transportation-centric hydrologic disruptions. Bridging is essentially an enlarged version of the plug/culvert pair, but it is structurally different than plugs and culverts due to the larger and longer spans. They also have different load bearing requirements. Bridging is a larger structural construction operation; whereas a culvert/plug pair can be completed in a few weeks, bridges require a greater degree of engineering and

construction time. A bridge's function in this instance is to convey sheet-flow, not span a water body, so the bridge would be low to the ground but longer than a plug/culvert pair (100 to 1000s of feet long), and generally wide enough to accommodate vehicle traffic. Bridging is generally more expansive than the plug/culvert pair, although it may be more effective at hydrologic restoration and may provide enhanced wildlife and scenic vista benefits.

Please see the map below for an approximation of locations associated with potential Tier 1 and 2 projects, and Tier 3 projects (that would be outside the scope of the Plan).



Area of Potential Effects (APE)

The proposed plan encompasses the Big Cypress National Preserve located in southern Florida, roughly centered between the cities of Miami and Naples, and bordering Everglades National Park (EVER) on its southern boundary. The preserve extends from the northern boundary of EVER to 11 kilometers (km) north of I-75 (Alligator Alley). US Highway 41 (Tamiami Trail) crosses through the southern half of the preserve. The preserve is mostly located within Collier and Monroe counties, as well as in a small area of western Miami-Dade County.

Legal location for the undertaking:

T 49S, R 30-34E

T 50S, R 30-33E

T 51S, R 30-34E

T 52S, R 30-35E

T 53S, R 29-33E

BICY is proposing that the APE for the proposed Plan include the entire Preserve. The APE for the individual undertakings (projects) proposed under the Plan will be consulted on as those are developed, this will be stipulated in the Programmatic Agreement that is being proposed.

The projects under this Plan have the potential to affect historic properties. However, presently there is not enough information to arrive at a Determination of Effect for historic properties located within the Plan's APE. Under 36 CFR 800 Subpart B 800.5(b)(1)(ii) (ii), when effects on historic properties cannot be fully determined prior to approval of an undertaking, the agency may enter a programmatic agreement to address how section 106 of the National Historic Preservation Act will be completed for the undertaking. Therefore, the NPS is proposing the development of a programmatic agreement in consultation with the Advisory Council on Historic Preservation, the Florida State Historic Preservation Office, the Seminole Tribe of Florida, the Miccosukee Tribe of Indians of Florida, the Seminole Nation of Oklahoma, and other consulting parties.

At this time, we are asking if your office would like to consult on this Plan and if your office would be interested in being a consulting party and/or signatory on a Programmatic Agreement for Cultural Resources Survey of the projects that will be proposed under this Plan.

The Preserve appreciates your time and consideration in this matter. If you have any questions or requests for additional information regarding this project, please contact Victoria Menchaca, Big Cypress National Preserve Archeologist, at (239) 695-1137 or at victoria_menchaca@nps.gov ; or Jaci Wells, Southern Florida National Parks and Preserve Chief of Cultural Resources, at 305-242-7755 or jaci_wells@nps.gov ; or Robert Sobczak, Hydrologist, at (239) 695-1151 or robert_sobczak@nps.gov.

Sincerely,

Tom Forsyth, Superintendent
Big Cypress National Preserve

From: Chakuchin, Hubert (Jobe) <Jobe_Chakuchin@nps.gov>

Sent: Monday, November 1, 2021 1:47 PM

To: kevind <kevind@miccosukeetribe.com>

Cc: Menchaca, Victoria L <victoria_menchaca@nps.gov>; Pernas, Tony <Tony_Pernas@nps.gov>; Sobczak, Robert <Robert_Sobczak@nps.gov>; Forsyth, Thomas P <thomas_forsyth@nps.gov>; Edwards, Michael B <Michael_B_Edwards@nps.gov>

Subject: Request for NEPA Consultation; Draft Hydrologic Restoration Management Plan EA

Hi Kevin,

This project will be open for a 30-day public review starting on Monday November 8, 2021. If you have any questions, please reach out to Tony, myself or Tom.

Jobe

H. Jobe Chakuchin (Jo-bee Chah-koo-chin)
Environmental Protection Specialist
American Indian Affairs Liaison
Big Cypress National Preserve
33100 Tamiami Trail East
Ochopee, Florida 34141

239-695-1192 Office (teleworking intermittently)
786-385-9595 Cell
907-347-6844 Cell
jobe_chakuchin@nps.gov



United States Department of the Interior



NATIONAL PARK SERVICE

Big Cypress National Preserve
33100 Tamiami Trail East
Ochopee, Florida 34141-9710

IN REPLY REFER TO:

1.A.2 (RM)

1 November 2021

Mr. Billy Cypress
Chairman
Miccosukee Tribe of Indians of Florida
Tamiami Station
P.O. Box 440021
Miami, FL 33144

Attention: Kevin Donaldson, Real Estate Director

RE: Draft Hydrologic Restoration Management Plan/EA, Big Cypress National Preserve, Florida

Big Cypress National Preserve has completed a Draft Hydrologic Restoration Management Plan and associated Environmental Assessment (Draft Plan/EA). Our staff sent you an advance copy of the Draft Plan/EA on October 29, 2021. This is a follow-up letter to formally initiate NEPA Consultation between the Miccosukee Tribe of Indians of Florida and Big Cypress National Preserve.

The purpose of this Draft Plan/EA is to provide an overall framework for making drainage infrastructure in the Preserve “sheet flow neutral,” allowing the natural topography – not canals or levees – to dictate natural water flow. Replumbing existing infrastructure to become sheet flow neutral would help to revitalize the natural hydrologic processes within the swamp preserve and downstream delivery points, while also enhancing visitor experience.

This summer, we went through public scoping from June 14 – July 13, with virtual public scoping meetings on June 22 and June 24. We thank you for your earlier participation and involvement in this process.

We are currently preparing for release of the Draft Plan/EA for public comment November 8 – December 7. You can provide comments through PEPC (Planning, Environment and Public Comment) during the public comment period (go to https://parkplanning.nps.gov/BICY_hydro). Once on the website, select “Document List” for a copy of the Plan/EA, and select “Open for Comment” to provide comments.

Comments may also be submitted in writing to the following address:

Superintendent
Big Cypress National Preserve
33100 Tamiami Trail East
Ochopee, Florida 34141-1000

If you would like a separate meeting or need additional time to provide comments, please contact Tony Pernas, Chief of Resource Management 239-695-1111, tony_pernas@nps.gov or Jobe Chakuchin, Environmental Protection Specialist/ American Indian Affairs Liaison 239-695-1192 jobe_chakuchin@nps.gov

Again, thank you for your interest and participation in the development of the Big Cypress National Preserve Hydrologic Restoration Management Plan/EA. We hope to hear more from you soon!

Sincerely,

Tom Forsyth, Superintendent
Big Cypress National Preserve



United States Department of the Interior

NATIONAL PARK SERVICE

Big Cypress National Preserve
33100 Tamiami Trail East
Ochopee, Florida 34141-9710



IN REPLY REFER TO:

1.A.2

6 July 2021

Paul N. Backhouse, Ph.D
Senior Director, Heritage and Environment Resources Office
Tribal Historic Preservation Office
Seminole Tribe of Florida
30290 Josie Billie Highway
PMB 1004
Clewiston, FL 33440

Attention: THPO Compliance Review Section

RE: Big Cypress National Preserve Hydrologic Restoration Management Plan

Dear Dr. Backhouse,

The National Park Service (NPS) would like to follow up on our previous letter regarding the Hydrologic Restoration Management Plan (the Plan) for Big Cypress National Preserve and initiate consultation under 36 CFR 800 of the National Historic Preservation Act (NHPA) with the Seminole Tribe of Florida. The purpose of the Plan is to provide a framework for re-engineering the drainage infrastructure to help revitalize the hydrologic processes of the Big Cypress National Preserve by enhancing the interrelationship between surface and groundwater to improve the quantity, timing, and distribution of water throughout the Preserve's watershed including discharge into downstream environments, while preserving and enhancing visitor experience.

Plan Description

The proposed plan would identify the methods, geographic areas and strategy for implementing hydrologic restoration in the Preserve. Management actions would include passive water management actions to restore sheet-flow such as:

- Plugging and filling in canals and ditches
- Culverting roadbeds
- Breaching impounding structures such as roads, levees, trams, and berms
- Fill removal – removal of elevated fill pads to match adjacent grades.
- Vegetation management – manipulating vegetation to restore managed flows
- Maintenance activities to maintain plugs, culverts, and breaches

None of the proposed projects would actively manage water by pumping or other means.

The Preserve would evaluate potential hydrologic restoration projects using a tiered ranking system, in which Tier 1 projects are the simplest and most feasible, Tier 2 projects are more complex, but still within the Preserve's jurisdiction, and Tier 3 projects are the most complex, falling outside the Preserve's jurisdiction and boundary. Tier 1 and Tier 2 projects would be the focus of the plan, whereas Tier 3 projects were determined to fall outside the scope of the plan.

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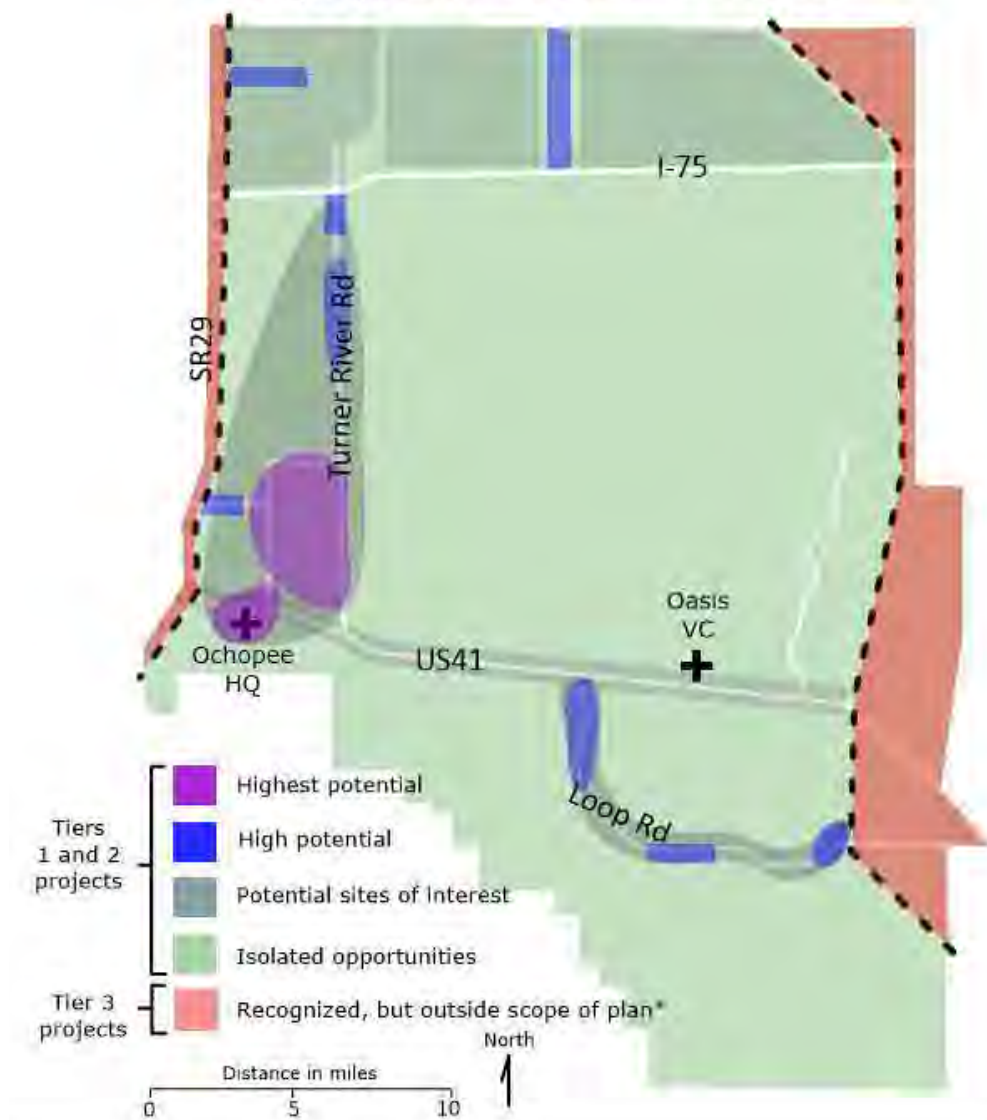
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Please see the map below for an approximation of locations associated with potential Tier 1 and 2 projects, and Tier 3 projects (that would be outside the scope of the Plan).

Hydrologic Restoration Prioritization Map for Big Cypress National Preserve



Area of Potential Effects (APE)

The proposed plan encompasses the Big Cypress National Preserve located in southern Florida, roughly centered between the cities of Miami and Naples, and bordering Everglades National Park (EVER) on its southern boundary. The preserve extends from the northern boundary of EVER to 11 kilometers (km) north of I-75 (Alligator Alley). US Highway 41 (Tamiami Trail) crosses through the southern half of the preserve. The preserve is mostly located within Collier and Monroe counties, as well as in a small area of western Miami-Dade County.

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Sincerely,

Tom Forsyth, Superintendent
Big Cypress National Preserve

From: Chakuchin, Hubert (Jobe) <Jobe_Chakuchin@nps.gov>

Sent: Monday, November 1, 2021 1:52 PM

To: Paul Backhouse <paulbackhouse@semtribe.com>; Tina Osceola <TinaOsceola@semtribe.com>; juancancel <juancancel@semtribe.com>

Cc: Pernas, Tony <Tony_Pernas@nps.gov>; Menchaca, Victoria L <victoria_menchaca@nps.gov>; Forsyth, Thomas P <thomas_forsyth@nps.gov>; Sobczak, Robert <Robert_Sobczak@nps.gov>; Edwards, Michael B <Michael_B_Edwards@nps.gov>

Subject: Request for NEPA Consultation: Draft Hydrologic Restoration Management Plan EA

Hi Paul,

This project is going out for a 30-day public review starting November 8, 2021.

Jobe

H. Jobe Chakuchin (Jo-bee Chah-koo-chin)
Environmental Protection Specialist
American Indian Affairs Liaison
Big Cypress National Preserve
33100 Tamiami Trail East
Ochopee, Florida 34141

239-695-1192 Office (teleworking intermittently)
786-385-9595 Cell
907-347-6844 Cell
jobe_chakuchin@nps.gov



United States Department of the Interior

NATIONAL PARK SERVICE

Big Cypress National Preserve
33100 Tamiami Trail East
Ochopee, Florida 34141-9710



IN REPLY REFER TO:

1.A.2 (RM)

1 November 2021

Paul N. Backhouse, Ph.D.
Senior Director, Heritage and Environment Resources Office
Tribal Historic Preservation Office
Seminole Tribe of Florida
30290 Josie Billie Highway, PMB 1004
Clewiston, FL 33440

Attention: THPO Compliance Review Section

RE: Draft Hydrologic Restoration Management Plan/EA, Big Cypress National Preserve, Florida

Big Cypress National Preserve has completed a Draft Hydrologic Restoration Management Plan and associated Environmental Assessment (Draft Plan/EA). Our staff sent you an advance copy of the Draft Plan/EA on October 29, 2021. This is a follow-up letter to formally initiate NEPA Consultation between the Seminole Tribe of Florida and Big Cypress National Preserve.

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Comments may also be submitted in writing to the following address:

Superintendent
Big Cypress National Preserve
33100 Tamiami Trail East
Ochopee, Florida 34141-1000

If you would like a separate meeting or need additional time to provide comments, please contact Tony Pernas, Chief of Resource Management 239-695-1111, tony_pernas@nps.gov or Jobe Chakuchin, Environmental Protection Specialist/ American Indian Affairs Liaison 239-695-1192 jobe_chakuchin@nps.gov

Again, thank you for your interest and participation in the development of the Big Cypress National Preserve Hydrologic Restoration Management Plan/EA. We hope to hear more from you soon!

Sincerely,

A handwritten signature in black ink that reads "Thomas P Forsyth". The script is cursive and fluid, with the first letters of each word being capitalized and prominent.

Tom Forsyth, Superintendent
Big Cypress National Preserve

H.E.R.O.

HERITAGE AND ENVIRONMENT RESOURCES OFFICE

Sustaining Tribal Legacies

stohero.com

January 12, 2022

Tom Forsyth, Superintendent
Big Cypress National Preserve
33100 Tamiami Trail East
Ochopee, Florida 34141

Re: Acceptance of Invitation to Initiation of Formal Consultation on Big Cypress National Preserve Hydrologic Restoration Management Plan

Dear Superintendent Forsyth:

Thank you for the invitation for the Seminole Tribe of Florida (Seminole Tribe) to engage in formal consultation with the Big Cypress National Preserve (U.S. Department of the Interior, National Park System) regarding the Big Cypress National Preserve Hydrologic Restoration Management Plan. We appreciate your willingness to meet with Tribal staff via WebEx to consult on this effort. We expect to consult on the plan under NHPA/NEPA and in consideration with the Endangered Species Act, Section 404 of the Clean Water Act and Florida's Water Resources Act. Please accept this letter as the Seminole Tribe's formal acceptance of your agency's invitation to participate in the development of this plan and to engage in consultation on same. In addition, we respectfully decline the opportunity to be a signatory on the Programmatic Agreement.

We look forward to working with the Big Cypress National Preserve staff on this matter. The Seminole Tribe will coordinate its participation in this consultation effort through myself and the following individuals:

1. Tina Osceola, Director, Tribal Historic Preservation Office, tinaosceola@semtribe.com
2. Juan Cancel, Assistant Director, Tribal Historic Preservation Office, juancancel@semtribe.com
3. Kevin Cunniff, Director, Environmental Resources Management Department, kevincunniff@semtribe.com

ERMD

SEMINOLE TRIBE OF FLORIDA
AH-TAH-THI-KI
M U S E U M
A PLACE TO LEARN. A PLACE TO REMEMBER



St. Director and Tribal Historic
Preservation Officer,
Dr. Paul N. Backhouse

Tribal Historic Preservation
Office Director
Tina Marie Osceola

Director of the
Ah-Tah-Thi-Ki Museum
Mr. Gordon O. Wareham

Director of the Environmental
Resources Management Department
Mr. Kevin Cunniff

H.E.R.O.

HERITAGE AND ENVIRONMENT RESOURCES OFFICE

Sustaining Tribal Legacies

stofhero.com

4. Whitney Sapienza, Assistant Director, Environmental Resources Management Department
whitneysapienza@semtribe.com
5. Stacy Myers, Senior Scientist/Liaison, Heritage and Environmental Resource Management Department, stacymyers@semtribe.com
6. Danielle Simon, Compliance Review Supervisor, daniellesimon@semtribe.com
7. Stephen A. Walker, Esq., swalker@llw-law.com
8. Michelle Diffenderfer, Esq., mdiffenderfer@llw-law.com

Best regards,



Paul N. Backhouse, Ph.D., RPA,

Senior Director, Heritage and Environment Resources Office and
Tribal Historic Preservation Officer

- c. Jim Shore, Esq.
Jordan Reichler
Kevin Cuniff
Whitney Sapienza
Stacy Myers
Tina Osceola
Juan Cancel
Danielle Simon
Stephen A. Walker, Esq.
Michelle Diffenderfer, Esq.

ERMD

SEMINOLE TRIBE OF FLORIDA
AH-TAH-THI-KI
MUSEUM
A PLACE TO LEARN, A PLACE TO REMEMBER



Sr. Director and Tribal Historic
Preservation Officer,
Dr. Paul N. Backhouse

Tribal Historic Preservation
Office Director
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Director of the
Ah-Tah-Thi-Ki Museum
Mr. Gordon O. Wareham

Director of the Environmental
Resources Management Department
Mr. Kevin Cuniff



United States Department of the Interior

NATIONAL PARK SERVICE

Big Cypress National Preserve
3300 Tamiami Trail East
Ochopee Florida 34141-9710



IN REPLY REFER TO:

D18

Date February 23, 2022

Memorandum

To: Michael Edwards, Project Manager
Environmental Quality Division, Planning & Compliance Branch
WASO-NRSS EQD

From: Thomas P. Forsyth, Superintendent

Subject: Hydrologic Restoration Management Plan EA

The Seminole Tribe of Florida requested formal consultation on the hydrologic restoration management plan/EA. Big Cypress National Preserve staff met with the Seminole Tribe of Florida on January 31, 2022 to finalize formal consultation. After question and answer sessions and follow up correspondence, the Seminole Tribe of Florida did not have objections to the plan moving forward.



United States Department of the Interior

NATIONAL PARK SERVICE

Big Cypress National Preserve
33100 Tamiami Trail East
Ochopee, Florida 34141-9710



IN REPLY REFER TO:

1.A.2

6 July 2021

David Frank
Tribal Historic Preservation Officer
Seminole Nation of Oklahoma
Email: Franks.D@sno-nsn.gov
P.O. Box 1498
Wewoka, Ok 74884

RE: Big Cypress National Preserve Hydrologic Restoration Management Plan

Dear Mr. Frank,

The National Park Service (NPS) would like to follow up on our previous letter regarding the Hydrologic Restoration Management Plan (the Plan) for Big Cypress National Preserve and initiate consultation under 36 CFR 800 of the National Historic Preservation Act (NHPA) with the Seminole Nation of Oklahoma. The purpose of the Plan is to provide a framework for re-engineering the drainage infrastructure to help revitalize the hydrologic processes of the Big Cypress National Preserve by enhancing the interrelationship between surface and groundwater to improve the quantity, timing, and distribution of water throughout the Preserve's watershed including discharge into downstream environments, while preserving and enhancing visitor experience.

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The proposed plan would identify the methods, geographic areas and strategy for implementing hydrologic restoration in the Preserve. Management actions would include passive water management actions to restore sheet-flow such as:

- Plugging and filling in canals and ditches
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Restoration efforts would not apply to some hydrologic disruptions that are currently active in the Preserve and addressed under separate permitting authorities, such as oil and gas operations and private property rights. Restoration efforts would be located, where possible, to avoid adverse effects to private property, roadways, historic and archaeological resources, sensitive resource areas, and other improved areas.

The Preserve is also considering an alternative to the proposed plan that would include the Tier 1 and Tier 2 projects described above, but also include strategic replacement of roads with bridges at major flow-ways that are intersected by limerock roads. In particular, bridging would be an additional tool for addressing transportation-centric hydrologic disruptions. Bridging is essentially an enlarged version of the plug/culvert pair, but it is structurally different than plugs and culverts due to the larger and longer spans. They also have different load bearing requirements. Bridging is a larger structural construction operation; whereas a culvert/plug pair can be completed in a few weeks, bridges require a greater degree of engineering and construction time. A bridge's function in this instance is to convey sheet-flow, not span a water

body, so the bridge would be low to the ground but longer than a plug/culvert pair (100 to 1000s of feet long), and generally wide enough to accommodate vehicle traffic. Bridging is generally more expansive than the plug/culvert pair, although it may be more effective at hydrologic restoration and may provide enhanced wildlife and scenic vista benefits.

Please see the map below for an approximation of locations associated with potential Tier 1 and 2 projects, and Tier 3 projects (that would be outside the scope of the Plan).



Area of Potential Effects (APE)

The proposed plan encompasses the Big Cypress National Preserve located in southern Florida, roughly centered between the cities of Miami and Naples, and bordering Everglades National Park (EVER) on its southern boundary. The preserve extends from the northern boundary of EVER to 11 kilometers (km) north of I-75 (Alligator Alley). US Highway 41 (Tamiami Trail) crosses through the southern half of the preserve. The preserve is mostly located within Collier and Monroe counties, as well as in a small area of western Miami-Dade County.

Legal location for the undertaking:

T 49S, R 30-34E

T 50S, R 30-33E

T 51S, R 30-34E

T 52S, R 30-35E

T 53S, R 29-33E

BICY is proposing that the APE for the proposed Plan include the entire Preserve. The APE for the individual undertakings (projects) proposed under the Plan will be consulted on as those are developed, this will be stipulated in the Programmatic Agreement that is being proposed.

The projects under this Plan have the potential to affect historic properties. However, presently there is not enough information to arrive at a Determination of Effect for historic properties located within the Plan's APE. Under 36 CFR 800 Subpart B 800.5(b)(1)(ii) (ii), when effects on historic properties cannot be fully determined prior to approval of an undertaking, the agency may enter a programmatic agreement to address how section 106 of the National Historic Preservation Act will be completed for the undertaking. Therefore, the NPS is proposing the development of a programmatic agreement in consultation with the Advisory Council on Historic Preservation, the Florida State Historic Preservation Office, the Seminole Tribe of Florida, the Miccosukee Tribe of Indians of Florida, the Seminole Nation of Oklahoma, and other consulting parties.

At this time, we are asking if your office would like to consult on this Plan and if your office would be interested in being a consulting party and/or signatory on a Programmatic Agreement for Cultural Resources Survey of the projects that will be proposed under this Plan.

The Preserve appreciates your time and consideration in this matter. If you have any questions or requests for additional information regarding this project, please contact Victoria Menchaca, Big Cypress National Preserve Archeologist, at (239) 695-1137 or at victoria_menchaca@nps.gov ; or Jaci Wells, Southern Florida National Parks and Preserve Chief of Cultural Resources, at 305-242-7755 or jaci_wells@nps.gov ; or Robert Sobczak, Hydrologist, at (239) 695-1151 or robert_sobczak@nps.gov.

Sincerely,

Tom Forsyth, Superintendent
Big Cypress National Preserve



United States Department of the Interior

NATIONAL PARK SERVICE

Big Cypress National Preserve
33100 Tamiami Trail East
Ochopee, Florida 34141-9710



IN REPLY REFER TO:

1.A.2

6 July 2021

Timothy A. Parsons, Ph.D., RPA
Director, Florida Division of Historical Resources
& State Historic Preservation Officer
500 South Bronough Street
Tallahassee FL, 32399

Attention: Jason Aldridge, Compliance Review Supervisor and Deputy State Historic Preservation Officer

RE: Big Cypress National Preserve Hydrologic Restoration Management Plan

Dear Dr. Parsons,

The National Park Service (NPS) would like to follow up on our previous letter regarding the Hydrologic Restoration Management Plan (the Plan) for Big Cypress National Preserve and initiate consultation under 36 CFR 800 of the National Historic Preservation Act (NHPA) with the Florida State Historic Preservation Office. The purpose of the Plan is to provide a framework for re-engineering the drainage infrastructure to help revitalize the hydrologic processes of the Big Cypress National Preserve by enhancing the interrelationship between surface and groundwater to improve the quantity, timing, and distribution of water throughout the Preserve's watershed including discharge into downstream environments, while preserving and enhancing visitor experience.

Plan Description

The proposed plan would identify the methods, geographic areas and strategy for implementing hydrologic restoration in the Preserve. Management actions would include passive water management actions to restore sheet-flow such as:

- Plugging and filling in canals and ditches
- Culverting roadbeds
- Breaching impounding structures such as roads, levees, trams, and berms
- Fill removal – removal of elevated fill pads to match adjacent grades.
- Vegetation management – manipulating vegetation to restore managed flows
- Maintenance activities to maintain plugs, culverts, and breaches

None of the proposed projects would actively manage water by pumping or other means.

The Preserve would evaluate potential hydrologic restoration projects using a tiered ranking system, in which Tier 1 projects are the simplest and most feasible, Tier 2 projects are more complex, but still within the Preserve's jurisdiction, and Tier 3 projects are the most complex, falling outside the Preserve's jurisdiction and boundary. Tier 1 and Tier 2 projects would be the focus of the plan, whereas Tier 3 projects were determined to fall outside the scope of the plan.

Tier 1 projects would be focused primarily on land-development centric disruptions associated with logging, farming, and residential and commercial developments. These projects would be contained entirely within and managed by the Preserve, without assistance from outside state or Federal agencies.

Tier 2 projects would be focused primarily on transportation-centric disruptions, such as the more than one-hundred miles of paved and gravel (limestone) roads located within and adjacent to the Preserve. These roads were elevated above natural grade using a cut and fill construction technique, which formed elevated driving surfaces and adjacent canals. The elevated roadbeds form barriers and the canals diversionary channels to the swamp's shallow surface and groundwater regime. The projects would include water ways that may involve an additional jurisdiction, such as a county or state road easement, but are not tied to regional and multi-use water management infrastructure and schemes that extend outside the Preserve. The primary tool (i.e. design concept) for the transportation-centric hydrologic disruptions is the culvert/plug pair. In the same way the roadbed and adjacent canal function together to alter flows, strategic installation of culverts and plugs near one another can improve the performance of both the culvert and plug, and together deliver the best hydrologic outcome at the lowest cost.

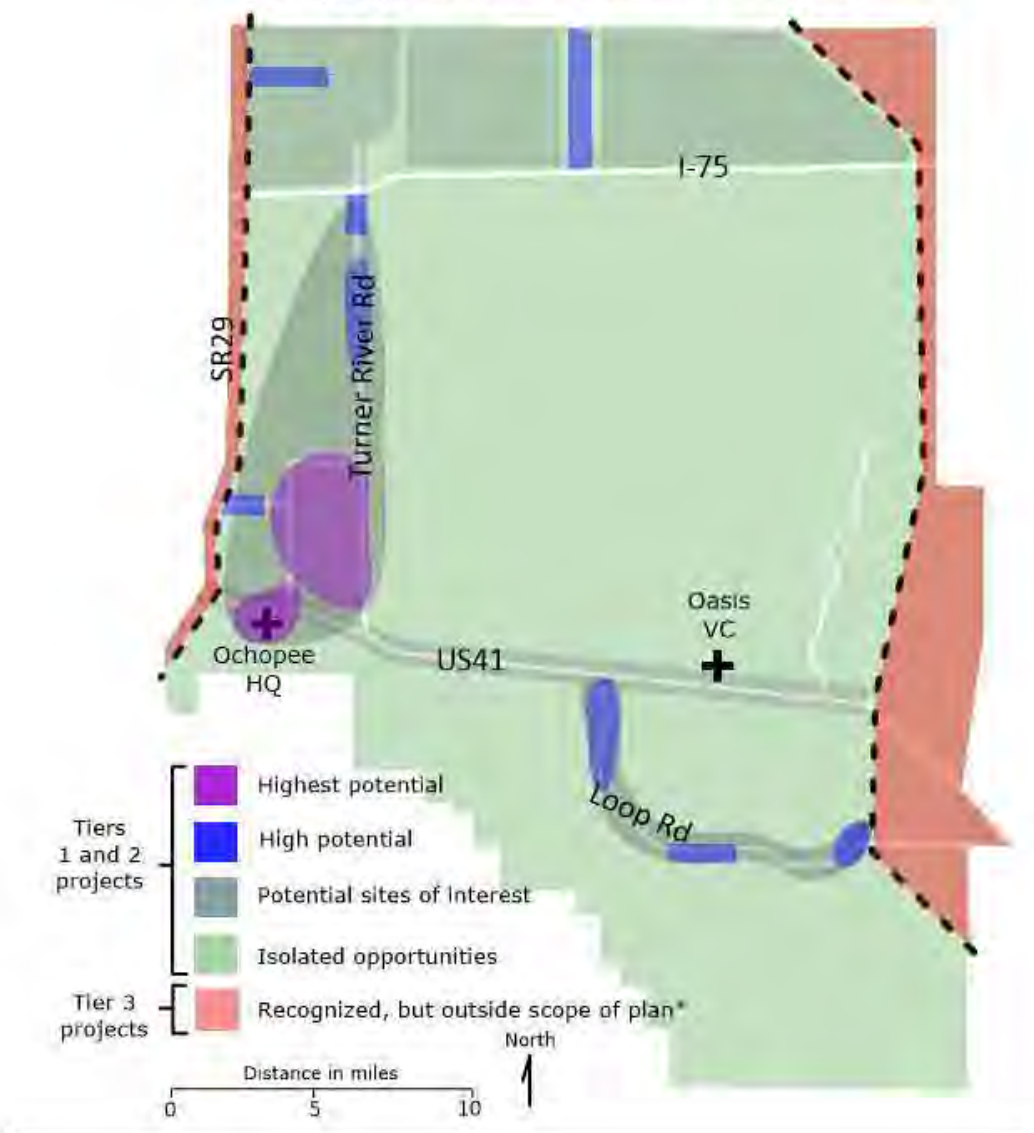
Tier 3 would include projects that fall outside of the jurisdiction of the Preserve and have a multi-water use function beyond the Preserve's mission. While these projects may provide the biggest benefit and rank highest in terms of priority for the Preserve, because they lie outside the Preserve's jurisdiction and involve many stakeholders and serve multi-use water management goals, these projects would be considered separately and independently of the plan. These projects include upstream flood control, water quality treatment and active water management (i.e. pumps, regulations schedules, gates) components that fall outside the scope of this plan.

All proposed projects under the Plan would receive additional site-specific review as needed in accordance with Section 106 of the National Historic Preservation Act of 1966, as amended, the Endangered Species Act, Section 404 of the Clean Water Act and Florida's Water Resources Act, and any other required consultations, prior to land disturbance.

Restoration efforts would not apply to some hydrologic disruptions that are currently active in the Preserve and addressed under separate permitting authorities, such as oil and gas operations and private property rights. Restoration efforts would be located, where possible, to avoid adverse effects to private property, roadways, historic and archaeological resources, sensitive resource areas, and other improved areas.

The Preserve is also considering an alternative to the proposed plan that would include the Tier 1 and Tier 2 projects described above, but also include strategic replacement of roads with bridges at major flow-ways that are intersected by limerock roads. In particular, bridging would be an additional tool for addressing transportation-centric hydrologic disruptions. Bridging is essentially an enlarged version of the plug/culvert pair, but it is structurally different than plugs and culverts due to the larger and longer spans. They also have different load bearing

Hydrologic Restoration Prioritization Map for Big Cypress National Preserve



Area of Potential Effects (APE)

The proposed plan encompasses the Big Cypress National Preserve located in southern Florida, roughly centered between the cities of Miami and Naples, and bordering Everglades National Park (EVER) on its southern boundary. The preserve extends from the northern boundary of EVER to 11 kilometers (km) north of I-75 (Alligator Alley). US Highway 41 (Tamiami Trail) crosses through the southern half of the preserve. The preserve is mostly located within Collier and Monroe counties, as well as in a small area of western Miami-Dade County.

Legal location for the undertaking:

T 49S, R 30-34E

T 50S, R 30-33E

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BICY is proposing that the APE for the proposed Plan include the entire Preserve. The APE for the individual undertakings (projects) proposed under the Plan will be consulted on as those are developed, this will be stipulated in the Programmatic Agreement that is being proposed.

The projects under this Plan have the potential to affect historic properties. However, presently there is not enough information to arrive at a Determination of Effect for historic properties located within the Plan's APE. Under 36 CFR 800 Subpart B 800.5(b)(1)(ii) (ii), when effects on historic properties cannot be fully determined prior to approval of an undertaking, the agency may enter a programmatic agreement to address how section 106 of the National Historic Preservation Act will be completed for the undertaking. Therefore, the NPS is proposing the development of a programmatic agreement in consultation with the Advisory Council on Historic Preservation, the Florida State Historic Preservation Office, the Seminole Tribe of Florida, the Miccosukee Tribe of Indians of Florida, the Seminole Nation of Oklahoma, and other consulting parties.

At this time, we are asking if your office would like to consult on this Plan and if your office would be interested in being a consulting party and/or signatory on a Programmatic Agreement for Cultural Resources Survey of the projects that will be proposed under this Plan.

The Preserve appreciates your time and consideration in this matter. If you have any questions or requests for additional information regarding this project, please contact Victoria Menchaca, Big Cypress National Preserve Archeologist, at (239) 695-1137 or at victoria_menchaca@nps.gov ; or Jaci Wells, Southern Florida National Parks and Preserve Chief of Cultural Resources, at 305-242-7755 or jaci_wells@nps.gov ; or Robert Sobczak, Hydrologist, at (239) 695-1151 or robert_sobczak@nps.gov.

Sincerely,

Tom Forsyth, Superintendent
Big Cypress National Preserve

**PROGRAMMATIC AGREEMENT AMONG
THE NATIONAL PARK SERVICE BIG CYPRESS NATIONAL PRESERVE,
AND THE FLORIDA STATE HISTORIC PRESERVATION OFFICER,
REGARDING
THE BIG CYPRESS NATIONAL PRESERVE HYDROLOGIC RESTORATION PLAN,
COLLIER AND MIAMI-DADE COUNTIES, FLORIDA**

WHEREAS, Big Cypress National Preserve (BICY) proposes the development of a Hydrologic Restoration Plan (the Plan) with the objective to take passive water management actions to restore sheet-flow such as plugging and filling canals and ditches, culverting roadbeds, breaching impounding structures such as roads, levees, trams, and berms, fill removal – removal of elevated fill pads to match adjacent grades, vegetation management, and maintenance activities to maintain plugs, culverts, and breaches (the Undertaking); and

WHEREAS, the National Park Service (NPS), of which Big Cypress National Preserve is a part of, has determined the Undertaking is subject to review under Section 106 of the National Historic Preservation Act (NHPA), Title 54 U.S.C. § 306108, and its implementing regulations, 36 Code of Federal Regulations (CFR) Part 800 (referred collectively to as “Section 106”); and

WHEREAS, the NPS, of which Big Cypress National Preserve is a part, has determined this is an Undertaking as defined under 36 CFR 800.16(y) with the potential to affect historic properties; and

WHEREAS, the NPS has determined this is an Undertaking as defined under 36 CFR 800.16(y), and is a collection of individual undertakings (herein after referred to as Projects) that have the potential to affect Historic Properties; and

WHEREAS, the NPS, in consultation with the Florida State Historic Preservation Office (SHPO), have identified the Area of Potential Effect (APE) for the Undertaking as encompassing the entire Big Cypress National Preserve (see attached map)

WHEREAS, the NPS is preparing an Environmental Assessment (EA) to analyze the potential environmental impacts of the Undertaking in accordance with the National Environmental Policy Act (NEPA); and

WHEREAS, the NPS has identified Alternative C as its preferred alternative; and proposed management actions under Alternative C would include the following passive water management actions to restore sheet-flow:

- Plugging and filling in canals and ditches
- Culverting roadbeds
- Breaching impounding structures such as roads, levees, trams, and berms
- Fill removal – removal of elevated fill pads to match adjacent grades.

- Vegetation management – manipulating vegetation to restore managed flows
- Maintenance activities to maintain plugs, culverts, and breaches

Alternative C would also include limited strategic road removal and bridge additions at major flow-ways that are intersected by limerock roads as an additional tool for addressing transportation-centric hydrologic disruptions. Bridging is essentially an enlarged version of the plug/culvert pair, but it is structurally different than plugs and culverts due to the larger and longer spans.

WHEREAS, NPS-administered public lands in the BICY contain numerous historic properties and these properties are archeological, historical, of traditional and/or cultural importance to Native American tribes in the region and by their very nature, are non-renewable resources and of great worth to the American public; and

WHEREAS, the NPS plans for, operates, manages, and administers the National Park System (the System) and is responsible for identifying, preserving, maintaining, and interpreting the historic properties of the System unimpaired for the enjoyment of future generations in accordance with the 1916 National Park Service Organic Act, the NPS Management Policies (2006), and applicable NPS Directors Orders; and

WHEREAS, the NPS has determined that the exact location and design of all individual Projects cannot be fully determined prior to approval of the EA, and under 36 CFR 800 Subpart C 800.14(b)(1)(ii) has developed this Programmatic Agreement (Agreement) pursuant to 36 CFR 800.14(b)(3). This Agreement will be administered as part of planning for and prior to any individual Projects being authorized under the Plan EA; and

WHEREAS, in accordance with 36 CFR 800.6(a)(1), the NPS has notified the Advisory Council on Historic Preservation (ACHP) of the determination that effects on historic properties cannot be fully determined prior to approval of the Undertaking with specified documentation, and on January 14, 2022 the ACHP declined to participate as a Signatory to this agreement; and

WHEREAS, pursuant to 36 CFR 800.2(c)(1), the Florida State Historic Preservation Officer (SHPO) has responsibilities under the NHPA to advise and assist the NPS in complying with its Section 106 responsibilities for proposed Undertaking and is a Signatory to this Agreement; and

WHEREAS, pursuant to the special relationship between the federal government and Native American tribes, and Section 101(d)(6)(B) of the NHPA (54 USC 302706(b)), 36 CFR 800.2(c)(2)(ii), the NPS is responsible for government-to-government consultation with federally recognized Native American tribes; and

WHEREAS, the NPS has invited the Seminole Tribe of Florida, the Miccosukee Tribe of Indians of Florida, and the Seminole Nation of Oklahoma to participate and be Concurring Parties, and the Seminole Tribe of Florida has declined, and the Miccosukee Tribe of Indians of Florida and the Seminole Nation of Oklahoma did not respond; and

WHEREAS, the NPS commits to afford Tribal Officials the appropriate respect and dignity as leaders of sovereign nations and will make every effort to understand and consider Tribal interests in these lands.

The NPS has committed to carrying out its responsibilities to consult and coordinate with Native American tribes with the further understanding that, notwithstanding any decision by these Native American tribes to decline concurrence with this Agreement, the NPS shall continue to consult and coordinate with these Native American tribes throughout the implementation of this Agreement; and

WHEREAS, unless otherwise indicated the terms used in this Agreement are defined in Appendix A - Glossary and are consistent with the definitions found in 36 CFR 800.16; and

WHEREAS, for the purposes of this Agreement, “Consulting Parties” collectively refers to the Signatories, and Concurring Parties regardless of their decision to sign this Agreement; and

WHEREAS, the NPS is the federal agency responsible for ensuring that all stipulations of this Agreement are carried out; and

NOW, THEREFORE, the NPS, SHPO and ACHP agree that the Undertaking shall be implemented in accordance with the following stipulations in order to consider the effects of the Undertaking on historic properties.

STIPULATIONS

The NPS will ensure that the following measures are carried out.

I. AREA OF POTENTIAL EFFECT

For the purposes of this Agreement, the NPS, in consultation with the Consulting Parties, has defined the Undertaking to encompass the entire Big Cypress National Preserve. Projects completed under this Agreement for this Undertaking will require refined individual APE’s as they are developed due to the nature of their actions. These actions include:

- Plugging and filling in canals and ditches
- Culverting roadbeds
- Breaching impounding structures such as roads, levees, trams, and berms
- Fill removal – removal of elevated fill pads to match adjacent grades.
- Vegetation management – manipulating vegetation to restore managed flows
- Maintenance activities to maintain plugs, culverts, and breaches
- Limited strategic road removal and bridge additions at major flow-ways that are intersected by limerock roads as an additional tool for addressing transportation-centric hydrologic disruptions. Bridging is essentially an enlarged version of the plug/culvert pair, but it is structurally different than plugs and culverts due to the larger and longer spans.

The NPS, in consultation with the Consulting Parties, will define and document the Area of Potential Effects (APE) in accordance with 36 CFR 800.16(d)) for the Projects.

A. The following shall be used as guidance when defining the APE for the individual undertakings under this Agreement

1. Direct Effects: As per the ACHP's memo "Recent court decision regarding the meaning of "direct" in Sections 106 and 110(f) of the National Historic Preservation Act", the meaning of the term "directly" in Section 110(f) refers to the causality, and not the physicality, of the effect. This means that if the effect comes from the undertaking at the same time and place with no intervening cause, it is considered "direct" regardless of its specific type (e.g., whether it is visual, physical, auditory, etc.). A "direct effect" is an effect that will have a direct impact on any of the aspects of integrity that may a property eligible for the National Register of Historic Places

2. Indirect Effects: As per the ACHP's memo "Recent court decision regarding the meaning of "direct" in Sections 106 and 110(f) of the National Historic Preservation Act", "indirect" effects are those caused by the undertaking that are later in time or farther removed in distance but are still reasonably foreseeable.,

3. Cumulative effects: Cumulative effects are the impact on the historic properties that result from the total impact of the Undertaking. For the purposes of this Agreement, the APE for cumulative effects will be the Preserve.

B. If the APE includes or is located immediately adjacent to a Traditional Cultural Properties (TCP) or properties of religious or cultural significance; or other classes of historic properties for which setting, feeling and/or association contribute to eligibility, additional analysis of the APE shall be required. This analysis should be conducted on a case-by-case basis in consultation with the Consulting Parties in accordance with the provisions and timelines of Stipulation IX and X.

C. Modifying the APE. The APE shall be modified when additional research, cultural surveys, consultation with the Consulting Parties, or changes to the scope of the Undertaking indicate that historic properties located outside the boundaries of a previously defined APE may be affected directly, indirectly, or cumulatively by the Undertaking. Modifications to the APE shall be allowed only when there is sufficient evidence that the APE is larger than the APE described above; decreases to the APE are not permitted. The APE shall be modified through the following steps:

1. A proposal for modification of the APE shall be made by the BICY Superintendent or a Consulting Party with written justification for, and a graphic illustration of, the proposed APE modification(s).

2. The BICY Superintendent shall communicate the modification proposal(s) to all Consulting Parties in accordance with the provisions and timelines of Stipulations IX.

3. Following consultation, the BICY Superintendent shall decide on the proposed modification(s), notify the Consulting Parties within seven (7) calendar days and request concurrence by the SHPO. The BICY Superintendent shall proceed with identification and evaluation of historic properties, assessment of effect, and resolution of adverse effects for the modified APE in accordance with the processes outlined in Stipulations II through VI.

II. IDENTIFICATION OF HISTORIC PROPERTIES

Inventory is meant to ensure that the nature and distribution of historic properties in areas affected by the NPS undertaking is identified by professional cultural resource staff that meet or exceed the Secretary of Interior Standards as defined by 36 CFR 800.2(a)(1)

The NPS shall make a reasonable and good faith effort to identify historic properties (including those of cultural and religious significance) located within the APE for the Undertaking.

Consistent with the phased process for Section 106 compliance under this PA, the NPS shall submit separate Section 106 consultation letters with site-specific development information for Projects.

A. Existing Information Inventory: At the beginning of the planning process for each project the NPS will conduct a records search and archival/literature review of the APE including a 1-mile buffer for information pertaining to the presence of previously recorded sites and the history of conditions within Project APE. The NPS will also solicit and take into account information provided by the Consulting Parties.

The NPS will utilize the results of the completed records search and information provided by the Consulting Parties when determining the level of inventory necessary within the APE.

1. If the NPS cultural resource specialist determines that previous ground disturbance has modified the surface so that the probability of finding intact Historic Properties within the boundaries of the proposed ground disturbance for a Project is negligible, it may be exempt from a full Cultural Resources Assessment Survey (CRAS).
 - a. When such a determination is made the NPS will consult with the Consulting Parties in accordance with Stipulations IX and X of this Agreement.

B. Cultural Resources Assessment Survey: When the results of the completed records search and information provided by the Consulting Parties indicate a CRAS is needed for the Project APE, the NPS will adhere to the following guidelines.

1. The NPS will complete a CRAS in the Project APE using the probability model previously developed by SEAC (Ehrenrad 1980; Schwadron 2002) and/or any new accepted probability models to identify areas of high, medium, and low probability.
 - a. Each probability area will be surveyed in accordance with the CRAS standards set forth in the Florida Division of Historical Resources Module 3: Guidelines for Use by Historic Preservation Professionals.
 - b. The model will not be used to predict historic period sites. The placement of historic sites on the landscape likely corresponds to different variables than those of prehistoric sites, and almost certainly varies between historic site types (e.g. agriculture, ranching, and logging). In addition, archeologists often find historical sites using other archival information, such as General Land Office (GLO) records and land patents.

2. Burial Sites and Traditional Cultural Properties (TCPs)

a. The NPS will identify these areas in consultation with Native American tribes, applicable local communities, and other Consulting Parties.

i. The NPS will avoid excavating or shovel testing any areas that are identified as burial sites, TCPs, important or religious or sacred sites by the Native American tribes.

b. The probability model will not be used to predict areas that are likely to contain specialized prehistoric and protohistoric site types, such as burial sites and TCPs or places that are important for other reasons besides cultural materials or environmental variables.

C. Fieldwork

Prior to beginning of fieldwork for the CRAS the NPS will submit a Research Design addressing the Preserve's identification efforts within the Project APE for review by the Consulting Parties. The Research Design for each Project APE will be an Appendix to this Agreement.

1. The Consulting Parties will have 30 calendar days from receipt of the Research Design to forward comments to the NPS. The NPS will revise the Research Design, as necessary, to address these comments until agreement has been reached. If a Consulting Party fails to submit written comments within 30 calendar days of receipt of the Research Design and does not request a review extension either verbally or in writing within this period, the NPS may assume that Consulting Party has no comments on the Research Design or objections to its adequacy.

Upon completion of the fieldwork for the Project APE, the NPS will share the results in a report with the Consulting Parties and follow the process for evaluation, assessment of adverse effects and resolution of adverse effects as described in Stipulations III – VI.

D. Timeframe for completing fieldwork: The timeframe will be dependent on resources available to the NPS (e.g. budget and staffing levels) and the fieldwork phases. The NPS will seek additional funding opportunities and partnerships to complete fieldwork, where appropriate, with the goal to complete investigation of all APEs prior to the implementation of the Projects developed for this Undertaking.

III. EVALUATION OF HISTORIC PROPERTIES

A. National Register Eligibility: In consultation with the SHPO and any Native American tribe that attaches religious and cultural significance to any prehistoric or historic district, site, building, structure or object, except those defined in Stipulation II.A.3 and guided by the Secretary's Standards and Guidelines for Evaluation, the NPS shall apply the National Register criteria (36 CFR 63) to cultural resources identified within the APE.

The NPS shall ensure that archeological, ethnographic, historic or other supporting information provided by its Consulting Parties or other knowledgeable sources will be appropriately used to support determinations of eligibility. All previously recorded eligible sites or sites that need additional data to determine NRHP eligibility within the APE must be revisited. Sites that need

additional data will be treated as eligible properties for the purposes of inventory and preservation until and/or if determined otherwise. Sites determined not eligible do not require revisits during inventory and evaluation; however, the NPS archeologist may request that ineligible sites be revisited on a case-by-case basis. If the NPS determines that any of the National Register criteria for evaluation (36 CFR 60.4) are met, the resource retains integrity and the SHPO concurs, the cultural resource shall be considered eligible for the National Register (36 CFR 800.4(c)(1) and (2)). All documentation for new and existing sites will be documented on Florida Master Site File forms and adhere to the Florida Division of Historical Resources recording standards.

IV. AVOIDANCE AND MINIMIZATION

The following provisions shall be applied to avoid and/or minimize effects to Historic Properties. This Agreement allows for determinations of effect to be made after avoidance and minimization measures through standard treatment measures and/or best management practices have been integrated into the Undertaking's design.

A. Avoidance and Minimization of Effects

1. The NPS shall make a reasonable and good faith effort to avoid and/or minimize any potential adverse effects to Historic Properties within the Undertaking's APE, including properties of traditional religious and cultural importance to the Tribes, through Undertaking design, redesign, relocation of Projects, or by other means in a manner consistent with this Agreement. Any avoidance and/or minimization measures will be incorporated into the decision or authorization for each undertaking.

V. ASSESSMENT OF EFFECTS

Following the application of avoidance and minimization measures as described in Stipulation IV above, the NPS will recommend a finding of effect for all historic properties identified within the APE as defined in 36 CFR 800.

A. Input from Consulting Parties: After each Cultural Resources Assessment Survey (CRAS) is complete, the NPS will provide the Consulting Parties the opportunity to review and comment on the NPS's findings and preliminary eligibility recommendations found in the CRAS report.

1. In accordance with 36 CFR Section 800.4, the NPS acknowledges that Native American tribes and Native Hawaiian organizations possess special expertise in assessing the eligibility of historic properties that may possess religious and cultural significance to them.

B. SHPO consultation: After consulting with Native American tribes the NPS will submit the CRAS report to the SHPO, along with determinations of eligibility, findings of effect and any comments received from Native American tribes.

VI. RESOLUTION OF ADVERSE EFFECTS

A. Historic Properties Treatment Plans: If the NPS determines that the Undertaking may have an adverse effect on a historic property or multiple historic properties, the NPS shall consult with the SHPO, Native American tribes and other Consulting Parties to develop a Historic Properties Treatment Plan (HPTP) that will detail the measures that the NPS will implement to avoid, minimize, or mitigate adverse effects on historic properties in accordance with 36 CFR 800.6. The HPTP will identify the effects of the Undertaking on each historic property and identify the most appropriate treatment strategy(ies).

1. Potential mitigation measures: Potential mitigation measures to resolve adverse effects from the Undertaking may include, but are not limited to, avoidance, Project redesign, or Project relocation. Additional measures could include historical research, interpretation, photo documentation, intensive recording, periodic monitoring, and archeological excavation.

2. Public education: The NPS will continue to dedicate available staff, funding, and other resources to proactively promote and enforce responsible trail uses and ethics. Such efforts will include continuing to support campaigns to reduce vandalism and unauthorized collection of archaeological resources.

B. Input from Native American tribes and other Consulting Parties: After the Native American tribes and other Consulting Parties are provided the HPTP or a summary of treatment recommendations, the NPS will coordinate with the Native American tribes and other Consulting Parties to discuss the treatment recommendations. The NPS will revise the HPTP, as necessary, to address comments from this consultation process.

C. SHPO consultation: After consulting with Native American tribes and seeking input from the other Consulting Parties, the NPS will submit the HPTP to the SHPO along with any comments received. The SHPO will have 30 calendar days from receipt of the report to forward comments to the NPS. The NPS will revise the HPTP, as necessary, to address these comments until agreement has been reached. If SHPO fails to submit written comments within 30 calendar days of receipt of the report and does not request a review extension either verbally or in writing within this period, the NPS may assume the SHPO has no comments on the measures identified in the HPTP or objections to the adequacy of the plan.

VII. MONITORING AND REPORTING

The NPS will submit copies of its determinations and survey reports for each Project to the Consulting Parties and an annual report that details all work completed pursuant to the terms of the Agreement.

- A. The NPS shall provide to the Consulting Parties a draft survey report for each Project in electronic and print format as requested describing the findings of the work for a 30-day review and comment period starting upon receipt. Information will be shared with the Consulting Parties, as appropriate and in conformance with ARPA and NHPA Section 304.

- B. The draft survey report shall include, as appropriate, recommendations on NRHP eligibility or potential eligibility of all identified archeological sites (and if applicable any newly identified historic properties), recommendations for further archeological investigations, the potential effects of the undertaking on historic properties, and suggested measures to resolve adverse effects through avoidance, minimization or mitigation. The Consulting Parties shall provide their comments to the NPS within thirty (30) days from the date of receipt of the draft survey report. If no comments are received within the 30-day period, the NPS shall assume that the non-responding party has no comments. If the Consulting Parties, concur with the recommendations for that phase, the NPS may proceed with the next phase. If the Consulting Parties, do not concur with the NPS' recommendations for that phase, the parties shall consult further to resolve the issues following the provisions for dispute resolution in Stipulation IX of this document.
- C. The NPS shall ensure that the draft survey reports for all Projects conducted for the Undertaking are incorporated into an annual report. The Consulting Parties shall provide their comments on the draft annual report to the NPS within thirty (30) calendar days from date of receipt of the draft annual report. If the NPS does not receive comments within the thirty (30) day comment period, the NPS shall assume that the non-responding party has no comments. A lack of comments has the same effect as a concurrence, it is not an impediment. The NPS shall ensure that all comments on the draft annual report received during the 30-day period are considered in preparation of the final annual report. The NPS shall submit two (2) archivally bound hardcopies and one electronic copy in Adobe® Portable Document Format (.pdf) of its approved annual report to the Consulting Parties, in an agreed upon format.
- D. All cultural resource work performed under the terms of this Agreement shall be carried out by or under the direct supervision of a professional who meets the Secretary of the Interior 's Professional Qualifications Standards (48 FR 44739) in the appropriate discipline.
- E. All archeological studies conducted pursuant to this Agreement shall be consistent with the Secretary of the Interior's Standards and Guidelines for Archeology and Historic Preservation (48 FR 44716-44742, September 1983), the ACHP's Section 106 Archeology Guidance (June 2007) and the SHPO's Guidelines (Module 3: Guidelines for Use by Historic Preservation Professionals; and Archaeological Reports Standards and Guidelines, Chapter 1A-46, Florida Administrative Code).

VIII. PROFESSIONAL QUALIFICATIONS AND STANDARDS

The NPS shall ensure that all work undertaken to satisfy the terms of this Agreement shall conform to the Secretary of Interior's Professional Qualifications and Standards for Archaeology and Historic Preservation, [48 Fed. Reg. 44716, September 29, 1983], the ACHP guidance on archaeology (<http://www.achp.gov/archguide>), the appropriate SHPO standards and requirements.

A. Professional Qualifications: The NPS shall ensure that all activities relating to identification, evaluation and resolution of adverse effect undertaken as a part of this Agreement are carried

out by or under the direct supervision of a person or persons meeting, at a minimum, the applicable professional qualification standards set forth in the Secretary's Standards [48 Fed. Reg. 44716, September 29, 1983 and 36 CFR 61], the Office of Personnel Management NPS professional qualifications for archaeological and historic preservation and any written professional or permitting requirements of the SHPO.

B. Archaeological Resource Protection Act (ARPA) Permits: Identification and evaluation activities conducted under this Agreement by non-NPS staff shall be conducted only after qualified cultural resource professionals have obtained ARPA Permits for field work.

IX. CONSULTATION

Throughout the duration of this Agreement, the NPS shall seek, discuss, and consider the views of the Consulting Parties and shall, where feasible, seek agreement with them when making decisions under the stipulations of this Agreement.

A. The NPS shall submit documentation relating to the Undertaking under this Agreement to the ACHP, if required, and to the Consulting Parties following the provisions of this Agreement. Unless otherwise agreed, or specified within a Stipulation to this Agreement, those parties shall have thirty (30) calendar days from receipt of the request to review the submitted documentation and provide response, comment, or request additional time (the NPS will ensure all due dates for input are included on any correspondence).

1. If a Consulting Party has not responded to the submitted documentation within thirty (30) calendar days of receipt, the NPS shall make at least one attempt to follow-up with them, via electronic mail and telephone, to verify that the Consulting Party does not have any input about the issue under consideration. If, after this effort to reach an unresponsive Consulting Party, there has still been no response, the NPS shall proceed to the next step in the relevant process under this Agreement.
2. If a Consulting Party requires additional time for consultation, they may request an extension in writing. The NPS shall attempt to accommodate such requests if they do not negatively affect other scheduled planning efforts.
3. If comments received from a Consulting Party require only minor editorial corrections, such as spelling, grammatical, formatting and punctuation errors, the NPS shall execute the changes and shall consider the consultation completed.
4. If substantive changes, meaning changes other than spelling, typographical and grammatical corrections are required, the NPS shall execute and provide draft copies of the revised documents to the Consulting Parties with a request for second review and comment. The Consulting Parties shall have 30 calendar days to provide comments on the revised draft. The NPS may, in consultation with the Consulting Parties and the SHPO, modify the duration of further review periods depending on the nature and complexity of the documentation in question.

5. The NPS shall consider all comments submitted during the review period and shall consult with the Consulting Parties to resolve differences or disagreements. If the comment cannot be incorporated into the document, the NPS shall provide a written response outlining the Agency's position.

B. Communications among Consulting Parties: Official correspondence from the BICY Superintendent to Consulting Parties regarding the Agreement and the Undertakings covered by this Agreement will be conducted primarily through electronic mail. If a Consulting Party desires hard copy communication for all or portions of the correspondence and documentation regarding the Agreement and the Undertakings covered in this Agreement, they must submit notification of their desires to the BICY Superintendent. The BICY Superintendent shall then identify alternative arrangements with the Consulting Party, which will allow the Consulting Party the opportunity to consult by other than electronic means within the timeframes specified in this Agreement. Consulting Parties may, at any time, notify the BICY Superintendent of their desires to change the format that consultation is conducted in. The BICY Superintendent is required to identify alternative arrangements within thirty (30) calendar days of receipt of notification by a Consulting Party (the NPS will ensure all due dates for input are included on any correspondence).

C. Final Agreement: The final Agreement, any amendments to the Agreement, any agreements that flow from the Stipulations of this Agreement and all reports associated with this Agreement shall be posted on the NPS webpage and/or made otherwise accessible to the public, subject to the confidentiality considerations defined in Stipulation XI.

X. TRIBAL CONSULTATION

The NPS is the federal agency responsible for notification, coordination, and consultation with the federally recognized Native American tribes under this Agreement. The NPS shall coordinate and consult on a government-to-government basis with the Native American tribes in the identification, evaluation, and treatment of resources to which the Native American tribes may attach religious and cultural significance and in the determination of whether they are historic properties. Government-to-government consultation with Native American tribes shall continue through the life of this Agreement.

A. The NPS shall seek Tribal participation in association with Section 106 identification, evaluation and treatment efforts associated with the Projects of the Undertaking throughout the life of this Agreement. When identifying Consulting Parties, the BICY Superintendent shall review and familiarize themselves with previous consultations to identify Tribal Consulting Parties. Government-to-government consultation and coordination shall be consistent with NPS standards and guidelines

B. Throughout the life of this Agreement, Native American tribes may identify specific resources that: (1) meet the definitions of historic properties [36 CFR 800.16(l) and 36 CFR 60.3], defined as districts, sites, buildings, structures and objects and properties of traditional religious and cultural importance [36 CFR 800.16 (l)(l)] or (2) meet the definitions of TCPs or Native American sacred sites (see National Register Bulletin 38 and Executive Order 13007).

C. Communication between the NPS and the Native American tribes shall follow the standards and timelines identified in Stipulation IX (the NPS will ensure all due dates for input are included on any correspondence).

D. Points of Contact.

1. The BICY Superintendent, or their designee, shall be the NPS point of contact for government-to-government communication correspondence relating to this Agreement.
2. The elected Tribal official of federally recognized Native American tribes shall be the official point of contact for government-to-government communication. A representative(s), in addition to the elected Tribal official, may be designated by the Tribal Government to represent the tribe for purposes of coordination. Representatives appointed by Native American tribes could include but are not limited to; Cultural Preservation Departments, Cultural Representatives, and/or Tribal Historic Preservation Officers (THPOs).

XI. CONFIDENTIALITY AND SENSITIVE INFORMATION

Information concerning the nature and location of all historic properties, archaeological resources (historic or prehistoric) or other confidential cultural resources shall be considered sensitive and protected from release under the provisions of the Freedom of Information Act (FOIA) (5 U.S.C. § 552, as amended by Public Law No. 104-231, 110 Stat. 3048), Section 9 of the Archaeological Resources Protection Act (ARPA), as amended (16 U.S.C. § 470hh), Section 304 of the NHPA (54 U.S.C. § 307103) and Executive Order 13007.

Consideration may result in the sharing of summary reports that do not contain sensitive location information. Other than the FL SHPO, the Tribal Consulting Parties, and ACHP, the NPS will only consider the release of complete reports or other information concerning the nature and location of all historic properties, archaeological resource or other confidential cultural resource to a Consulting Party with a demonstrated interest in the information requested. All Consulting Parties will ensure that all sensitive information, as defined in Section 9 of ARPA, as amended (16 USC § 470hh) and Section 304 of the NHPA (54 USC § 307103) and excluded under the Freedom of Information Act (FOIA) (5 USC § 552, as amended by Public Law No. 104-231, 110 Stat. 3048) is protected from release.

XII. CURATION

The NPS shall curate any archeological materials and records which result from activities undertaken as part of this Agreement or the associated Undertaking(s) in accordance with federal laws and regulations, including 36 CFR 79. These materials and records shall be curated in repositories that meet these federal standards and do not violate federal laws or regulations. Big Cypress National Preserve archeological materials and records are curated at two NPS facilities in Florida: The Southeast Archeological Center in Tallahassee and the South Florida Collections Management Center in Everglades National Park. Both facilities follow the NPS Museum Handbook, NPS Director's Orders, and Department of the Interior regulations applicable to archeological materials and records.

XIII. UNANTICIPATED DISCOVERIES

There is the potential for encountering previously unrecorded properties or for affecting properties in an unanticipated manner during the course of these undertakings. According to the 2008 National Park Service Programmatic Agreement Section VI, if previously unidentified cultural resources are discovered during the implementation of the Projects all work in that area will stop and the Superintendent, Preserve Archeologist, or Chief of Cultural Resources will be notified immediately. If items protected by the Native American Graves Protection and Repatriation Act (NAGPRA) are discovered during the implementation of the Projects all activity will cease in the area of discovery and immediate notice will be made to the Superintendent, as well as the appropriate federally recognized tribes and State Historic Preservation Officer.

XIV. RECOGNIZING OTHER FEDERAL LAW REQUIREMENTS

- A. Anti-Deficiency Act: The NPS's obligations under this Agreement are subject to the availability of appropriated funds, and the stipulations of this Agreement are subject to the provisions of the Anti-Deficiency Act. The NPS shall make reasonable and good faith efforts to secure the necessary funds to implement this Agreement in its entirety. If compliance with the Anti-Deficiency Act alters or impairs the NPS's ability to implement the stipulations of this Agreement, the NPS shall consult in accordance with the amendment and termination procedures found at Stipulation XIV (C) and (E) of this Agreement.

XV. ANNUAL REPORT

- A. On or before January 31 of each year, the NPS shall prepare and provide to all consulting parties of this Agreement an annual report addressing, at a minimum, the following topics:
 - 1. a general summary of how this Agreement has been implemented during the preceding year;
 - 2. a listing of Projects reviewed and carried out in accordance with stipulations II and III, including a listing of all historic properties affected by the Undertaking;
 - 3. NPS' assessment of the effectiveness of this Agreement;
 - 4. any recommendations NPS may have for improving the Agreement.
- B. The consulting parties shall have the opportunity to review the annual report and within thirty (30) days of its receipt and to provide comments to the NPS. Any objections to the handling of specific undertakings or way the Agreement is implemented may be assessed using the process outlined in Stipulation IX. The NPS shall make the annual report available to the public on its Planning, Environment and Public Comment website.

XVI. ADMINISTRATIVE PROVISIONS

- A. Dispute Resolution Procedures: Should any Signatory (sole authority to execute, amend or terminate the Agreement), Invited Signatory (authority to amend and terminate the Agreement) or Concurring Party object to implementation of this Agreement, they shall provide written notice to the NPS of their objection with supporting justification. The NPS will consult with the objecting party(ies) to resolve the objection. If the NPS Superintendent determines that the

objection cannot be resolved within 30-calendar days, the Superintendent shall forward all documentation relevant to the dispute to the other Signatories and Invited Signatories in this Agreement. If the dispute cannot be resolved between the NPS and the other Signatories and Invited Signatories, the NPS shall forward all documentation relevant to the dispute to the ACHP. Within 30 days after receipt of all pertinent documentation, the ACHP shall either provide the NPS with recommendations, which the NPS shall take into account in reaching a final decision regarding the dispute; or notify the NPS that it will comment within an additional 30 days. The NPS will take into account any ACHP comment provided in response to such a request in accordance with 36 CFR 800.7(c)(4) with reference to the subject of the dispute.

B. Amendments to the Agreement: Any Signatory or Invited Signatory may request that the Agreement (including appendices) be amended by informing the Superintendent in writing of the reason for the request and the proposed amendment language. The NPS may also request an amendment to the Agreement. The Superintendent shall notify all Signatories and Invited Signatories and interested Native American tribes and Concurring Parties of the proposed amendment. The Signatories and Invited Signatories will consult to reach agreement in 30 days, unless the Signatories and Invited Signatories agree to a longer period of consultation or the party of the proposed amendment retracts its proposal. During this time, the Superintendent will determine if a meeting with the Signatories and Invited Signatories, and potentially interested Native American tribes and Concurring Parties is needed. The amendment will be effective on the signature date of the last Signatory to sign the amended Agreement. The Superintendent will notify all interested Native American tribes and Concurring Parties of the amendment and provide them and opportunity to sign the amended Agreement. Amendments to the appendices attached to this Agreement may be made without the formal amendment process outlined above.

C. Termination of the Agreement: Any Signatory or Invited Signatory may terminate this Agreement by providing a concurrent 90-calendar day notice to the other Signatories and Invited Signatories, provided that during this period the Signatories and Invited Signatories attempt in good faith to find a collaborative resolution that would avoid terminating this Agreement. The Superintendent will determine if a meeting with Signatories, Invited Signatories, interested Native American tribes and other Concurring Parties is needed to discuss potential termination of this Agreement. If the Agreement is terminated, the NPS will comply with Section 106 of the NHPA by following the implementing regulations at 36 CFR 800. The NPS will notify all interested Native American tribes and other Concurring Parties that this Agreement has been terminated.

E. Agreement duration: This Agreement shall be in place until the implementation of the Hydrologic Restoration Plan is complete, or for a period of 8 years, whichever comes first.

EXECUTION of this Agreement by the NPS, Florida SHPO and the ACHP and subsequent implementation of its terms shall evidence that the NPS has taken into account the effects of the Undertaking on historic properties and that the NPS has afforded the ACHP an opportunity to comment.

PROGRAMMATIC AGREEMENT AMONG
THE NATIONAL PARK SERVICE BIG CYPRESS NATIONAL PRESERVE,
AND THE FLORIDA STATE HISTORIC PRESERVATION OFFICER,
REGARDING
THE BIG CYPRESS NATIONAL PRESERVE HYDROLOGIC RESTORATION PLAN,
COLLIER AND MIAMI-DADE COUNTIES, FLORIDA

Signatories:

National Park Service, Big Cypress National Preserve

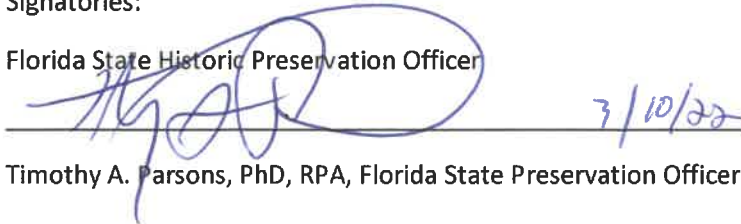
Thomas P Forsyth Feb 22, 2022

Thomas Forsyth, Superintendent, Big Cypress National Preserve

PROGRAMMATIC AGREEMENT AMONG
THE NATIONAL PARK SERVICE BIG CYPRESS NATIONAL PRESERVE,
AND THE FLORIDA STATE HISTORIC PRESERVATION OFFICER,
REGARDING
THE BIG CYPRESS NATIONAL PRESERVE HYDROLOGIC RESTORATION PLAN,
COLLIER AND MIAMI-DADE COUNTIES, FLORIDA

Signatories:

Florida State Historic Preservation Officer



Timothy A. Parsons, PhD, RPA, Florida State Preservation Officer

Appendix A: Acronyms, Abbreviations and Definitions

Acronyms:

ACHP	Advisory Council on Historic Preservation
Agreement	Programmatic Agreement, with reference to this Programmatic Agreement
APE	Area of Potential Effects
ARPA	Archaeological Resources Protection Act
BAP	Backcountry Access Plan
BICY	Big Cypress National Preserve
CRAS	Cultural Resources Assessment Survey
GLO	General Land Office
GMP	General Management Plan
HPTP	Historic Properties Treatment Plan
IO	Isolated Occurrence(s)
NAGPRA	Native American Graves Protection and Repatriation Act National Environmental Policy Act
NHPA	National Historic Preservation Act
NPS	National Park Service
NRHP	National Register of Historic Places
Fed Reg	Federal Register
FLSHPO	Florida State Historic Preservation Office(r)
ORV	Off-Road Vehicle
TCP	Traditional Cultural Property
THPO	Tribal Historic Preservation Officer

Definitions:

Adverse effect - When an undertaking may alter, directly or indirectly, any of the characteristics of a historic property that qualify the property for inclusion in the National Register of Historic Places [NRHP] in a manner that would diminish the integrity of the property's location, design, setting, materials, workmanship, feeling, or association [36 CFR 800.5(a)(1)][State Protocol, Attachment A].

Agreement - Refers to this Programmatic Agreement, which has been developed to consider adverse effects to historic properties and phased identification and evaluation efforts for the Backcountry Access Plan in the Big Cypress National Preserve.

Annual report - A summary, in writing, submitted on an annual basis to the Signatories and Consulting Parties to this Agreement for review and comment. The report summarizes the activities of the Agreement per fiscal year and provides documentation required under the Agreement.

Archaeological site - The material remains of past human life or activities in history or prehistory, which are of archaeological interest including, but not be limited to pottery, basketry, bottles, weapons, projectiles, tools, structures or portion of structures, pit houses, pueblos, room blocks, roads, trails, rock paintings, rock carvings, intaglios, graves, human skeletal materials, or any portion or piece of any of the forgoing items that are of human design, manufacture, possession or use.

Area of Potential Effects (APE) - The APE is defined as the geographic area or areas within which an undertaking may directly or indirectly cause alterations in the character or use of historic properties per 36 CFR 800.16(d) if such properties exist. The APE is influenced by the scale and nature of an undertaking and may be different for different kinds of effects caused by the undertaking [36 CFR 800.16(d)].

Building - The NRHP defined a building, such as a house, barn, church, hotel, or similar construction, is created principally to shelter any form of human activity. "Building" may also be used to refer to a historically and functionally related unit, such as a courthouse and jail or a house and barn.

Cultural Resources Assessment Survey – an intensive survey focusing on both archaeological sites and historic resources, and associated features. The goal of such surveys is to locate, identify and evaluate cultural resources present within the “area of potential effect” or APE. Site evaluations are in terms of their eligibility for listing in the NRHP (FDHR Module 3).

Closed - A route designation meaning use is prohibited in the area.

Concurring Party - A Concurring Party is a Consulting Party invited to concur in the agreement document but who does not have the authority to amend or terminate the agreement. Like an Invited Signatory's signature, a Concurring Party signature is not required to execute the agreement; a concurring signature is essentially an endorsement of the agreement. Thus, the refusal to sign by any party asked to concur in the agreement does not prevent the agreement from being executed. Whether any or all other Consulting Parties are invited to concur in an agreement is at the federal agency's sole discretion [<http://www.achp.gov/agreementdocguidance.html>].

Consultation - The conduct of mutual, open, and direct two-way communication in good faith to secure meaningful and timely participation in the decision-making process, as allowed by law. See government-to-government consultation for the specific form of tribal consultation.

Consulting Parties - Any party, identified by the BICY Superintendent during the initiation of each individual Undertaking covered by this Agreement (Stipulation IX), who has a consultative role in the Section 106 process for that Undertaking. These include the Florida State Historic Preservation Office, Native American tribes, federal, state, and local land management and governmental agencies and any party with a demonstrated legal or economic relationship or concern regarding the Undertaking.

Coordination - Communication and dialogue between the NPS and Native American tribes involving leadership or staff to increase cooperation between the two parties and the effectiveness of their relationship.

Cultural landscape - A cultural landscape is a geographic area (including both cultural and natural resources and the wildlife or domestic animals therein), associated with a historic event, activity, or person or exhibiting other cultural or aesthetic values. There are at least four general types of cultural landscapes, not mutually exclusive: historic sites, historic designed landscapes, historic vernacular landscapes, and ethnographic landscapes. Cultural landscapes may be evaluated as historic properties and be eligible for the National Register of Historic Places (NPS Preservation Brief 36)."

Cultural resource - A definite location of human activity, occupation, or use, identifiable through field inventory, historic documentation, or oral evidence. The term includes archaeological, historic, or architectural sites, structures, or places with important public and scientific uses, and may include definite locations (sites or places) of traditional cultural or religious importance to specified social and/or cultural groups. Cultural resources are concrete, material places and things that are located, classified, ranked, and managed through the system of identifying, protecting, and utilizing for public benefit. They may be, but are not necessarily, eligible for listing in the National Register.

Designation - The route designation is one of several decisions required to use of a trail or camping areas/campsites. The NPS designates trails and camping areas/campsites as open or closed.

Determination of eligibility - A determination of eligibility is a decision by the Department of the Interior that a district, site, building, structure or object meets the National Register criteria for evaluation although the property is not formally listed in the National Register. A determination of eligibility does not make the property eligible for such benefits as grants, loans, or tax incentives that have listing on the National Register as a prerequisite [36 CFR 60.3(c)].

District - The NRHP defines an historic district is a geographically definable area, urban or rural, possessing a significant concentration, linkage, or continuity of sites, buildings, structures, or objects united by past events or aesthetically by plan or physical development. In addition, historic districts consist of contributing and non-contributing properties. Historic districts possess a concentration, linkage or continuity of the other four types of properties. Objects, structures, buildings and sites within a historic district are usually thematically linked by architectural style or designer, date of development, distinctive urban plan, and/or historic associations [36 C.F.R. 60.3].

Effect - An effect means an alteration to the characteristics of a historic property qualifying it for inclusion in or eligible for the National Register [36 CFR 800.16(i).

Farm - A grouping of historical features (including buildings and structures) found to be associated through archival research and field verification.

Footprint of disturbance - The limits of all ground disturbance associated with an undertaking.

Government-to-government consultation - The consultation between NPS officials with decision making authority and elected tribal officials or those tribal representatives specifically delegated by elected tribal officials to engage in such consultation and decision making. It is built upon the government-to-government exchange of information and aims to create effective collaboration and informed decision-making. Consultation is an accountable process that ensures meaningful and timely input by tribal officials into the development of regulatory policies and agency decisions that have tribal implications.

Historic property - Historic property means any prehistoric or historic district, site, building, structure, or object included in, or eligible for inclusion in, the National Register of Historic Places maintained by the Secretary of the Interior. This term includes artifacts, records, and remains that are related to and located within such properties. The term includes properties of traditional religious and cultural importance to an Native American tribe or Native Hawaiian organization and that meet the National Register criteria [36 CFR 800.16(l)(1)].

Historic Properties Treatment Plan (HPTP) - A document which details the procedures, methodologies, and techniques for resolving adverse effects to historic properties within the APE through avoidance, minimization, and mitigation.

Human remains – the physical remains of a human body.

Identification - The general term for the component of a cultural resource management program that includes locating, recording, and determining the legal, scientific, public, and conservation values of cultural resources, i.e. giving cultural resources a management identity.

Indian tribe (Native American tribe) or tribe - As defined in Section 301 of the National Historic Preservation Act, "an Indian tribe, band, nation, or other organized group or community, including a Native village, Regional Corporation or Village Corporation, as those terms are defined in section 3 of the Alaska Native Claims Settlement Act [43 U.S.C. 1602], which is recognized as eligible for the special programs and services provided by the United States to Native Americans because of their status as Indians."

Indirect effect - Alteration to the characteristics of a historic property, which are caused by the undertaking, may be visual, atmospheric, or audible, and could diminish the integrity of the properties for which setting, feeling, and/or association are qualifying characteristic of NRHP eligibility. For example, additional roads and visitors could increase opportunities for effects from unauthorized excavation and collecting, vandalism of historic properties, and disruption of religious and cultural values.

Inventory - A term used to refer to both a record of cultural resources known to occur within a defined geographic area and the methods used in developing the record. Depending on intended applications

for the data, inventories may be based on (a) compilation and synthesis of previously recorded cultural resource data from archival, library, and other indirect sources; (b) systematic examinations (survey) of the ground surface and natural exposures of subsurface deposits for indications of past human activity as represented by artificial modifications of the land and/or the presence of artifacts; and (c) the use of interviews and related means of locating and describing previously unrecorded or incompletely documented cultural resources, including those that may not be identifiable through physical examination

Invited Signatory - An Invited Signatory, upon signing, has the authority to amend and terminate the agreement. The BICY Superintendent may invite additional parties to sign the agreement, such as an Indian tribe who attaches religious and cultural significance to historic properties affected by the undertaking (off tribal lands), or any party that assumes a responsibility under the agreement. The refusal of an Invited Signatory to sign the agreement does not prevent the agreement from being executed; however, an agreement cannot impose a duty or responsibility on a party that has not signed [<http://www.achp.gov/agreementdocguidance.html>].

Isolated Find - An isolate refers to one or more culturally modified objects not found in the context of a site as defined below. Note that this definition makes no reference to an absolute quantitative standard for the site/isolate distinction.

Mitigation - A means to remedy or offset an adverse effect or a change in a historic property's qualifying characteristics that diminishes its integrity (<http://www.achp.gov/archguide>)

Mitigation measures - Measures intended to lessen the severity of a potential adverse effect by application of appropriate protection measures, such as the recovery of archaeological data from sites, or other means.

National Programmatic Agreement - Agreement among the NPS, ACHP, and National Conference of State Historic Preservation Officers which defines how the NPS plans for and manages cultural resources under its jurisdiction in accordance with the spirit and intent of Section 106 of the NHPA, consistent with 36 CFR. 800, and consistent with its other responsibilities for land-use planning and resource management under FLPMA, NEPA, other statutory authorities, and executive orders and policies.

National Register of Historic Places (NRHP) - The National of Historic Places, expanded and maintained by the Secretary of the Interior, as authorized under Section 2(b) of the Historic Sites Act and Section 101(a)(1)(A) of the National Historic Preservation Act. The NRHP lists cultural properties found to qualify for inclusion because of their local, State, or national significance. Eligibility criteria and nomination procedures are found in 36 CFR Part 60. The Secretary's administrative responsibility for the National Register is delegated to the National Park Service.

Native American sacred sites - Specific, discrete, narrowly delineated locations on Federal land that are identified by a Native American tribe, or . . . authoritative representative of a Native American religion, as sacred by virtue of their established religious significance to, or ceremonial use by, a Native American religion (EO 13007).

Object - A material thing of functional, aesthetic, cultural, historical or scientific value that may be, by nature or design, movable yet related to a specific setting or environment. [36 C.F.R. 60.3(j)]

Off Road Vehicle (ORV) - Any motorized vehicle capable of, or designed for, travel on or immediately over land, water, or other natural terrain.

Predictive model - Predictive modeling is an application of basic sampling techniques that projects or extrapolate the number, classes, distribution, and frequencies of cultural resources. Predictive models can be used in land- use planning, during the early stages of planning for an undertaking, for targeting field survey, or other management purpose.

Signatory - A Signatory has the sole authority to execute, amend, or terminate the agreement. The federal agency and the SHPO/THPO are signatories; the ACHP is a signatory as well when it has participated in consultation for the agreement and in all program PAs [<http://www.achp.gov/agreementdocguidance.html>].

Site - A site is defined as a locus of previous (50-year age minimum) human activity at which the preponderance of evidence suggests either one-time diagnostically interpretable use or repeated use over time, or multiple classes or activates. A site is the location of activities or events, often used loosely to mean the same as cultural resources. In archaeological jargon, the basic meaning of site is a place where archaeological evidence occurs, with precise meanings varying considerably from region to region and among recording institutions within regions. Section 4(c) of the Archaeological Resources Protection Act (see Appendix 8) uses "site" in the term "religious or cultural site" in its common dictionary sense, i.e., as a location, not as a synonym for "archaeological resource." If the Congress had meant "archaeological resource" in Section 4(c), the drafters either would have used that defined term or would have defined "site" to mean the same as "archaeological resource." According to the Glossary of National Register Terms in National Register Bulletin No. 16A, site means "location of a significant event, a prehistoric or historic occupation or activity, or a building or structure, whether standing, ruined, or vanished, where the location itself possesses historic, cultural, or archeological value regardless of any existing structure"[36 C.F.R. 60.3].

Structure - The term "structure" is used to distinguish from buildings (see definition above) those functional constructions made usually for purposes other than creating human shelter. A work made up of interdependent and interrelated parts in a definite pattern of organization. Constructed by man, it is often an engineering project large in scale [36 C.F.R. 60.3(p)]

Survey - The application of professional methods and techniques for field inventory, used to locate and identify cultural properties

Traditional Cultural Property (TCP) - A property that derives significance from traditional values associated with it by a social and/or cultural group such as an Indian tribe (Native American tribe) or local community. A TCP may qualify for the National Register if it meets the criteria and criteria exceptions at 36 CFR 60.4 (See National Register Bulletin 38)

Undertaking - Undertaking means a project, activity, or program funded in whole or in part under the direct or indirect jurisdiction of a Federal agency, including those carried out by or on behalf of a Federal agency; those carried out with Federal financial assistance; and those requiring a Federal permit, license or approval [36 CFR 800.16(y)].

From: Sobczak, Robert <Robert_Sobczak@nps.gov>

Sent: Thursday, October 28, 2021 2:11 PM

To: Hinzman, Roxanna <roxanna_hinzman@fws.gov>

Cc: Breen, Timothy <timothy_breen@fws.gov>; Edwards, Michael B <Michael_B_Edwards@nps.gov>; Hammond, Jami <Jami_Hammond@nps.gov>; Angelo, Courtney L <courtney_angelo@nps.gov>; Forsyth, Thomas P <thomas_forsyth@nps.gov>; Boles, Joshua P <Joshua_Boles@nps.gov>

Subject: Section 7 Consultation - Big Cypress Nat'l Preserve Hydrologic Management Plan

Hello Roxanna,

Big Cypress National Preserve has been developing a Hydrologic Restoration Management Plan/EA to provide NPS managers with an overall framework for making decisions pertaining to drainage infrastructure in the Preserve.

The plan will be available for a 30-day public comment period from November 8, 2021 to December 7, 2021 in addition to two public virtual meetings being held on November 15 at 2pm and November 18 at 7pm ET.



Collage showing examples of restoration features proposed in the plan, including clockwise from the upper left: (1) an earthen canal plug on Birdon Road (with Upper Wagon Road in the

background), (2) a culvert on Turner River Road and (3) a panoramic ground view of the same canal plug shown in the photo no. 1.

With the above in mind, we are at the point where we would like to share the draft plan with the you and others on your team. Please see attached a Section 7 consultation letter and a copy of the draft plan.

Or if you have any questions, please feel free to contact me directly.

Thank you,

Bob

Robert V. Sobczak, Hydrologist
Big Cypress National Preserve
33100 Tamiami Trail East, Ochopee FL 34141
239-340-0200 cell [Go Hydrology!](#) website



IN REPLY REFER TO:
1.A.2

United States Department of the Interior

NATIONAL PARK SERVICE

Big Cypress National Preserve
33100 Tamiami Trail E
Ochopee, FL 34141



Ms. Roxanna Hinzman
Acting Field Supervisor
U.S. Fish and Wildlife Service
South Florida Ecological Services Field Office
1339 20th Street
Vero Beach, Florida 32960

Dear Ms. Hinzman:

The Big Cypress National Preserve is proposing a Hydrologic Restoration Management Plan (Plan) and associated Environmental Assessment (EA). Due to the programmatic nature of the Plan, NPS would like to initiate a conservation review under Section 7(a)(1) of the Endangered Species Act, as amended, with concurrence that future site-specific plans would receive project-specific traditional consultation under Section 7(a)(2).

The purpose of the Plan/EA is to provide an overall framework for re-engineering the drainage infrastructure to help revitalize the hydrologic processes of the Big Cypress National Preserve by enhancing the interrelationship between surface and groundwater to improve the quantity, timing, and distribution of water throughout the Preserve's watershed including discharge into downstream environments, while preserving and enhancing visitor experience.

The Plan/EA is available at https://parkplanning.nps.gov/BICY_hydro

Plan Description

Under the proposed Plan/EA's preferred alternative (Alternative C), the Preserve would implement a comprehensive hydrologic restoration plan. Management actions would include passive water management actions to restore sheet-flow such as:

- a Plugging and filling in canals and ditchesa
- a Culverting roadbedsa
- a Breaching impounding structures such as roads, levees, trams, and bermsa
- a Fill removal – removal of elevated fill pads to match adjacent grades.a
- a Vegetation management – manipulating vegetation to restore managed flowsa
- a Maintenance activities to maintain plugs, culverts, and breachesa

None of the proposed projects would actively manage water by pumping or other means.

The Preserve would evaluate potential hydrologic restoration projects using a tiered ranking system, in which Tier 1 projects are the simplest and most feasible, Tier 2 projects are more complex, but still within the Preserve's jurisdiction, and Tier 3 projects are the most complex, falling outside the Preserve's jurisdiction and boundary. Tier 1 and Tier 2 projects would be the focus of the plan, whereas Tier 3 projects were determined to fall outside the scope of the plan.

Tier 1 projects would focus primarily on land-development centric disruptions associated with historic logging, farming, and residential and commercial developments. These projects would be contained entirely within and managed by the Preserve, without assistance from outside state or Federal agencies.

Tier 2 projects would focus primarily on transportation-centric disruptions, such as the more than one-hundred miles of paved and gravel (limestone) roads located within and adjacent to the Preserve. These roads were elevated above natural grade using a cut and fill construction technique, which formed elevated driving surfaces and adjacent canals. The elevated roadbeds form barriers and the canals create diversionary channels to the swamp's shallow surface and groundwater regime. The projects would include water ways that may involve an additional jurisdiction, such as a county or state road easement, but are not tied to regional and multi-use water management infrastructure and schemes that extend outside the Preserve. The primary tool (i.e. design concept) for the transportation-centric hydrologic disruptions is the culvert/plug pair. In the same way the roadbed and adjacent canal function together to alter flows, strategic installation of culverts and plugs near one another can improve the performance of both the culvert and plug, and together deliver the best hydrologic outcome at the lowest cost.

Tier 3 would include projects that fall outside of the jurisdiction of the Preserve and have a multi-use water function beyond the Preserve's mission. While these projects may provide the biggest benefit and rank highest in terms of priority for the Preserve, because they lie outside the Preserve's jurisdiction and involve many stakeholders and serve multi-use water management goals, these projects would be considered separately and independently of the plan. These projects include upstream flood control, water quality treatment and active water management (i.e. pumps, regulations schedules, gates) components that fall outside the scope of this plan.

The Plan would include a programmatic toolbox for Tier 1 and Tier 2 type sheet-flow restoration projects, including a listing of sample projects in each Tier. Other similar projects fitting the Tier 1 and Tier 2 descriptions above could also be addressed under this programmatic approach.

Restoration efforts would not apply to some hydrologic disruptions that are currently active in the Preserve and addressed under separate permitting authorities, such as oil and gas operations and private property rights. Restoration efforts would be located, where possible, to avoid adverse effects to private property, roadways, historic and archaeological resources, sensitive resource areas, and other improved areas.

The plan would also include limited strategic road removal and bridge addition at major flow-ways that are intersected by limerock roads. In particular, bridging would be an additional tool for addressing transportation-centric hydrologic disruptions. Bridging is essentially an enlarged version of the plug/culvert pair, but it is structurally different than plugs and culverts due to the larger and longer spans. They also have different load bearing requirements. Bridging is a larger structural construction operation; whereas a culvert/plug pair can be completed in approximately one month, bridges require a greater degree of engineering. A bridge's function in this instance is

to convey sheet-flow, not span a water body. Bridging is generally more expansive than the plug/culvert pair, although it may be more effective at hydrologic restoration and may provide enhanced wildlife and scenic vista benefits. Along high-speed corridors, where possible, addition of new bridges or replacement of existing bridges may include features that enhance their functionality as wildlife under crossings, including ledging on the underside endmembers of the bridge, co-location of earthen fill plugs in the adjacent canal and other features as appropriate.

NPS has evaluated the impacts to wildlife and protected species in the Plan/EA, including the Florida panther (Federally-designated endangered), West Indian manatee (Federally-designated threatened), Everglades snail kite (Federally-designated endangered), Florida bonneted bat (Federally-designated endangered), American alligator (Federally-designated threatened due to similarity of appearance), red-cockaded woodpecker (Federally-designated endangered). Please see Chapter 4, Wildlife and Protected Species, pages 51-55, for a description of impacts by species. Overall, for most species, restoration projects could adversely impact wildlife and protected species in the short-term during construction but provide beneficial impacts over the long-term after construction is complete. Restoration efforts would be sited and/or timed to avoid sensitive wildlife habitats and periods, and best management practices are listed in the Plan/EA.

As noted above, projects proposed under the Plan/EA would receive additional site-specific Section 7(a)(2) determinations once all preliminary investigations have been completed and a remedial approach has been finalized for each specific site. No project will proceed without completion of required consultations under Section 7(a)(2).

The NPS looks forward to working with you to improve hydrologic function within Big Cypress National Preserve. Please direct any questions you might have to Bob Sobczak, Hydrologist, at 239-340-0200.

Sincerely, *JOSHUA BOLES ACTING FOR TOM FORSYTH*



Tom Forsyth
Superintendent
Big Cypress National Preserve

Enclosure

Burrell, Jay

From: Sobczak, Robert <Robert_Sobczak@nps.gov>
Sent: Saturday, February 5, 2022 11:26 AM
To: Edwards, Michael B; Burrell, Jay
Subject: [EXTERNAL] Fwd: Section 7 Consultation - Big Cypress Nat'l Preserve Hydrologic Management Plan
Attachments: NPS_BICY_Hydrologic Mgmt Plan_2022_Fed T&E Species List.docx; USFWS_ESA_Section 7_BAGuidance.pdf

FYI - Section 7 comments from FWS

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From: Roybal, Art <art_roybal@fws.gov>
Sent: Friday, February 4, 2022 5:18 PM
To: Sobczak, Robert
Subject: Fw: Section 7 Consultation - Big Cypress Nat'l Preserve Hydrologic Management Plan

Bob,

We reviewed the information which you provided and have the following suggestions/recommendations:

1. At this time, consultation can be informal since a Federal T&E species list is being developed and specific components of the hydrologic plan for BICY are not finalized. Provided is an official species list from which to determine effects of the hydrologic plan. I have also included what would normally be in a formal Biological Assessment. This will give you an idea about making effects determinations.
- 2.
3. We can formally consult on the individual components of the plan when ready to construct or take future actions (Tier 1, 2, 3) in the life of the hydrologic management plan.
- 4.
5. The NPS BICY Hydrologic Management Plan use of a programmatic toolbox for Tier 1 and Tier 2 type sheet-flow restoration projects could be reviewed and consulted on, or consult on all annual projects planned for each coming Fiscal Year. Other similar projects fitting the Tier 1 and Tier 2 descriptions above could also be addressed under this programmatic approach.

Overall, it appears that the hydrologic management plan for BICY will benefit wildlife species like discussed in the EA such as wading birds and alligators, and in general the aquatic food base. The project components appear to impact resident wildlife species in the short-term during construction but can provide beneficial landscape level restoration after construction is complete.

Let me know if you have any questions. Available to video chat via MS Teams.

Art

From: Sobczak, Robert <Robert_Sobczak@nps.gov>
Sent: Tuesday, February 1, 2022 10:49 AM

To: Meyer, Miles <miles_meyer@fws.gov>; Carey, Robert L <robert_carey@fws.gov>
Cc: Edwards, Michael B <Michael_B_Edwards@nps.gov>
Subject: Fw: Section 7 Consultation - Big Cypress Nat'l Preserve Hydrologic Management Plan

Hey Bob and Miles,

A few months back we sent out a Section 7 letter to Roxanna and Tim Breen by email. At the time, having spoken to an FWS rep about it, I was under the impression that filled our Section 7 consultation for our Hydrologic Restoration Management Plan and EA (for Big Cypress National Preserve). In following up with Roxanna by phone, she suggested I forward the Section 7 consultation email (see below) to the both of you. Attachments include: (1) The draft plan and EA and (2) a Section 7 consultation letter. I'll call later today, too. We're kind of in the final phases of this project and our lead Michael Edwards (NPS-WASO) would really like to tie up any and all loose ends in the coming weeks if possible.

Miles and Bob: Would you be available to discuss more by phone later this week?

Thanks again,

Bob

Robert V. Sobczak, Hydrologist
Big Cypress National Preserve
33100 Tamiami Trail East, Ochopee FL 34141
239-340-0200 cell [Go Hydrology!](#) website

From: Sobczak, Robert

Sent: Thursday, October 28, 2021 4:11 PM

To: Hinzman, Roxanna <roxanna_hinzman@fws.gov>

Cc: Breen, Timothy <timothy_breen@fws.gov>; Edwards, Michael B <Michael_B_Edwards@nps.gov>; Hammond, Jami <Jami_Hammond@nps.gov>; Angelo, Courtney L <courtney_angelo@nps.gov>; Forsyth, Thomas P <thomas_forsyth@nps.gov>; Boles, Joshua P <Joshua_Boles@nps.gov>

Subject: Section 7 Consultation - Big Cypress Nat'l Preserve Hydrologic Management Plan

Hello Roxanna,

Big Cypress National Preserve has been developing a Hydrologic Restoration Management Plan/EA to provide NPS managers with an overall framework for making decisions pertaining to drainage infrastructure in the Preserve.

The plan will be available for a 30-day public comment period from November 8, 2021 to December 7, 2021 in addition to two public virtual meetings being held on November 15 at 2pm and November 18 at 7pm ET.



Collage showing examples of restoration features proposed in the plan, including clockwise from the upper left: (1) an earthen canal plug on Birdon Road (with Upper Wagon Road in the background), (2) a culvert on Turner River Road and (3) a panoramic ground view of the same canal plug shown in the photo no. 1.

With the above in mind, we are at the point where we would like to share the draft plan with the you and others on your team. Please see attached a Section 7 consultation letter and a copy of the draft plan.

Or if you have any questions, please feel free to contact me directly.

Thank you,

Bob

Robert V. Sobczak, Hydrologist
Big Cypress National Preserve
33100 Tamiami Trail East, Ochopee FL 34141
239-340-0200 cell [Go Hydrology!](#) website

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[IveGot1](#) | FL Exotic Species Hotline 888-IVE-GOT1 (888-483-4681) | EvergladesCISMA.org

***NOTE:** This email correspondence and any attachments to and from this sender is subject to the Freedom of Information Act (FOIA) and may be disclosed to third parties.*

NPS, BICY Hydrologic Management Plan

Federally Endangered

Florida bonneted bat (*Eumops floridanus*), Florida bonneted bat critical habitat

Florida panther (*Puma concolor coryi*)

Everglades snail kite (*Rostrhamus sociabilis plumbeus*)

Red-cockaded woodpecker (*Picoides borealis*)

Cape Sable seaside sparrow (*Ammodramus maritimus mirabilis*)

West Indian manatee (*Trichechus manatus*)

Federally Threatened

Audubon's crested caracara (*Polyborus aristodemusponceanus*)

Eastern black rail (*Laterallus jamaicensis jamaicensis*)

Piping plover (*Charadrius melodus*)

Wood stork (*Mycteria americana*)

Eastern indigo snake (*Drymarchon corais couperi*)

American crocodile (*Crocodylus acutus*)

Federally Listed Plants

Endangered

Florida prairie-clover (*Dalea carthagenensis* var. *floridana*)

Threatened

Everglades bully (*Sideroxylon reclinatum* ssp. *austrofloridense*)

Florida pineland crabgrass (*Digitaria pauciflora*)

Guidance for Preparing a Biological Assessment

The purpose for this guidance is to assist project proponents in documenting their analyses for actions that may affect listed species. Federal agencies are required to determine whether their actions may affect listed or proposed species and designated and proposed critical habitat (henceforth, referred to as protected resources). Once a “may affect” determination is made, the Federal agency must either request our concurrence with a “may affect, but not likely to adversely affect” finding or request initiation of formal consultation¹. Both require a written analysis to be submitted to us. This analysis is typically transmitted in a document referred to as a Biological Assessment or Biological Evaluation. The former is defined in regulation and is required under specific circumstances². The latter is a generic term used to document analyses and Section 7 determinations when a Biological Assessment is not required. Both documents are for the same purpose³, and hence for this guidance, we will use only the term Biological Assessment.

Biological Assessments (BA) may serve multiple purposes, but the primary role is to document an agency’s conclusions and the rationale to support those conclusions regarding the effects of their proposed actions on protected resources. Although there are no statutory or regulatory mandated contents for a BA, recommended elements are identified at 50 CFR §402.12(f). The bulleted list below highlights the elements that are essential for our review of your project.

- Project description - Describe the what, when, where, and how of the project. Describe (1) **what** the project or action is; (2) **where** the project is (refer to attached maps); (3) **when** the action is going to take place, time line/implementation schedules; (4) **who** is going to do the action and under what authority, include name and address of the applicant; and (5) **how** the action will be accomplished—*e.g.*, bulldozer, pile driver, feller-buncher, chain saw, steam roller. If it is multi-phased, describe the what, when, where and how of each phased separately. Identify any conservation measures that will be implemented to avoid, reduce, or eliminate adverse effects or that would benefit the protected species or critical habitat.
- Describe the project area - For determining whether a species or critical habitat “may be present,” it is necessary to delineate the “action area.” Action area is defined as all areas that may be affected directly or indirectly by the Federal action and not merely the immediate area involved in the action. It encompasses the geographic extent of environmental changes (*i.e.*, the physical, chemical and biotic effects) that will result directly and indirectly from the action. Action area is typically larger than the area directly affected by of the action.

- Describe the physical and biological attributes of the action area (e.g., topography, vegetation, condition and trend). It is helpful to include a map delineating where the action will occur. Also, identify any management or activities already occurring in the area.
- Identify listed or proposed species that “may be present.” List all species that “may be present” in the area and where you obtain this information. You may submit your own list to the Service or request a list from the Service. We recommend including candidate species, in addition to proposed and listed species and proposed and designated critical habitat. If you determined that a particular species that may be present in the general area, *but not in the action area*, it is helpful to identify that species and to explain why it is not present in the action area. This serves two purposes. First, it will provide documentation for your administrative record. Second, it will avoid need for additional correspondence with us regarding that particular species. If a species is missing from the list, we will either ask you for an explanation of why the species would not be present in the action area or why they are likely to be present. For additional guidance in determining whether a protected resource “may be present,” see our Section 7(a)(2) Process (Step 1) website.
- For each species that “may be present,” describe the current habitat conditions within the action area. If known, include population status and trend. For critical habitat, identify the primary constituent elements that occur in the action area. For a description of the primary constituent elements, refer to the rule in the Federal Register that designated the critical habitat.
- Describe how the action may affect each protected resource - This section should document your conclusion and supporting rationale. Document your analysis of the what, when and how the protected resources will be exposed to and how such individuals or habitat are likely to respond to this exposure. Remember that you must consider effects that may occur later in time (e.g., after completion of initial construction). If species experts were contacted, include a summary of the conversations/conclusions reached. Include the references for the literature that your analysis relied upon.

Following this analysis, you need to make a Section 7 finding for proposed or listed species and proposed or designated critical habitat that may be present in the action area. Your section 7 conclusion should be explicit. Generally, one of the following three determinations will apply⁴. For additional guidance in making a Section 7 determination, please see our Section 7(a)(2) Process (Steps 1-3) website.

- "No effect" means there will be no impacts, positive or negative, to listed or proposed resources. Generally, this means no listed resources will be exposed to action and its environmental consequences. Concurrence from the Service is not required.
- "May affect, but not likely to adversely affect" means that all effects are beneficial, insignificant, or discountable. Beneficial effects have contemporaneous positive effects without any adverse effects to the species or habitat. Insignificant effects relate to the size of the impact and include those effects that are undetectable, not measurable, or cannot be evaluated. Discountable effects are those extremely unlikely to occur. These determinations require written concurrence from the Service.
- "May affect, and is likely to adversely affect" means that listed resources are likely to be exposed to the action or its environmental consequences and will respond in a negative manner to the exposure.
- Include relevant reports- Results from species or habitat surveys should be included. If a survey was conducted, include a description of the survey methodology. It is important to note the specifics of your methodology. Explain the scope of the survey; did the survey cover the entire action area or only part of it? Identify who did the survey and when.

Supporting documents, such as environmental assessments or other planning documents, are helpful for our review.

Provide copies of supporting documentation, especially any agency reports or data that are not readily available.

- Complete a cumulative effects analysis- Cumulative effects are effects resulting from future State or private activities, not involving Federal activities, that are reasonably certain to occur within the action area of the Federal action subject to consultation. This step is necessary only if listed resources will be adversely affected and Formal Consultation is necessary.

Sample Outline for a Biological Assessment

Please include a cover letter with your BA. This letter should indicate that you are submitting a Biological Assessment for a particular project. It is helpful if you summarize your determinations and explicitly request an action from us, i.e., concur with your “may affect, but not likely to adversely affect” determination or initiate formal consultation.

Note: For projects that will adversely affect proposed or listed species or proposed or designated critical habitat, we strongly recommend that you contact our office for technical assistance before preparing or submitting a final Biological Assessment.

I. Introduction

- A. State the purpose of document, e.g., to assess the effects of the proposed action on federally protected resources.
- B. Briefly specify the proposed action. If applicable, include both the Federal action (e.g., issue 404 permit) and the applicant's action (e.g., build residential complex).

II. Project description

- A. Subdivide proposed action into project elements (e.g., construction, operation, and maintenance), if applicable.
- B. Describe the where, when, and how for each project element
- C. Include a map delineating the location of each project element
- D. Identify any conservation measures that will be incorporated into the project design

III. Action Area

- A. Delineate the geographic area that will be affected, i.e., the area where the physical, chemical, and biotic effects will occur.
- B. Delineate the specific areas that will be affected by each of the project elements
- C. Identify any ongoing activities that may be affecting the species or habitat

IV. Species/Critical Habitat Considered

- A. Identify the species or critical habitat that "may be present."
- B. Document how you identify these listed resources.
- C. Describe the current population and habitat conditions (status and trend, if known) in the action area for each protected resource that "may be present"

V. Effects Analysis

A. For each species or critical habitat parcel, explain how it will or will not be exposed to the project elements; be sure to consider effects to all life stage.

B. Describe the anticipated response (e.g., none, abandoned the area, decrease foraging success, reduced fecundity, injury, death, etc.) from any likely exposure

C. Cumulative Effects Analysis (for actions that are likely to adversely affect listed resources). Identify any future state or private activities, not involving Federal activities, that are reasonably certain to occur within the action area. Describe how such activities will affect listed resources within the action area

VI. Conclusion and Determination of Effects for each protected resource

A. For each protected resource, make a Section 7 determination and include your rationale.

B. For a "may affect, but not likely to adversely affect" finding, request our concurrence. For a "may affect, likely to adversely affect" finding, request initiation of Formal Consultation.

VII. Literature Cited

VIII. List of Contacts Made and Preparers

¹ Per regulations (50 CFR 402.14), Federal agencies must submit an initiation package before formal consultation may begin. The required contents of the package are identified in the regulations. With exception of a cumulative effects analysis and a catch-all of any other relevant information, the required information for an initiation package is the same as the information we recommend submitting with a BA.

² Biological Assessments (BA) are only required for "major construction activities," which are Federal actions that may significantly affect the quality of the human environment as referred to in the National Environmental Policy Act of 1969. The purpose of a biological assessment is to evaluate the potential effects of the action on listed and proposed species and designated and proposed critical habitat and determine whether any such species or habitat are likely to be adversely affected by the action.

³ Agencies are required to review all their actions—not just those that qualify as a “major construction activity.” This review entails assessing and documenting the effects of their action on protected resources. Whether an action qualifies as a “major construction activity” has no influence on how an agency should analyze its action or document its section 7 review. Hence, the purpose and contents of a Biological Assessment and a Biological Evaluation should be the same.

⁴ Formal Consultation is required if an action is likely to “adversely affect” listed species and designated critical habitat. For proposed species, further consultation is required only if the action is likely to “jeopardize the continued existence” of the species or result in “destruction or adverse modification” of critical habitat. To appropriately apply these determinations, you need to fully understand the terms “jeopardy” and “adverse modification” and must have complete knowledge of the rangewide status of the species and condition of the habitat, respectively. For these reasons, agencies typically conclude “may affect, and likely to adversely affect” and contact the Service for further guidance in making the jeopardy and adverse modification determinations for proposed species/critical habitat.

From: Roybal, Art <art_roybal@fws.gov>
Sent: Thursday, February 10, 2022 2:37 PM
To: Edwards, Michael B <Michael_B_Edwards@nps.gov>
Cc: Sobczak, Robert <Robert_Sobczak@nps.gov>; Hammond, Jami <Jami_Hammond@nps.gov>; Sadle, Jimi <Jimi_Sadle@nps.gov>
Subject: Re: BICY Hydro Plan / EA

Michael,

I reviewed the EA for the BICY HMP. It is a comprehensive accounting of the affected environment, the T&E species considered, and those that could potentially be impacted. The table at the back of the EA listing the T&E species is all-inclusive and determines presence on the Preserve.

I have attached some information extracted from a draft letter we are sending about the eastern black rail and the Florida bonneted bat with regards to fire management activities. We would suggest adding this species to your list and your determination of presence on the Preserve, and if so, if any BMP's could apply.

Let me know if you have any questions or need any help. I'll be working on a draft response to your request that future consultation will take place on individual projects with concurrence on the programmatic level review at this time.

Thanks,
Art

Art Roybal | Senior Fish & Wildlife Biologist | U.S. Fish and Wildlife Service
Florida Ecological Services Field Office | South Florida Office
1339 20th St., Vero Beach, FL 32960-3559
office (772) 469-4317 | cell (772) 559-5163 | art_roybal@fws.gov

[IveGot1](#) | FL Exotic Species Hotline 888-IVE-GOT1 (888-483-4681) | EvergladesCISMA.org

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From: Edwards, Michael B <Michael_B_Edwards@nps.gov>
Sent: Thursday, February 10, 2022 11:53 AM
To: Roybal, Art <art_roybal@fws.gov>
Cc: Sobczak, Robert <Robert_Sobczak@nps.gov>; Hammond, Jami <Jami_Hammond@nps.gov>; Sadle, Jimi <Jimi_Sadle@nps.gov>
Subject: BICY Hydro Plan / EA

Hi Art,

Thanks so much for taking the time to speak with us today. Attached is a copy of the EA. Feel free to reach out with any questions.

Sincerely,
Michael

Michael B. Edwards
Project Manager
Environmental Quality Division, Planning & Compliance Branch
WASO-NRSS
303.969.2694 (work)
303.638.1928 (cell)
303.987.6782 (fax)



United States Department of the Interior

FISH AND WILDLIFE SERVICE
Florida Ecological Services Field Office



February 25, 2022

Memorandum

To: Thomas Forsyth, Superintendent, National Park Service, Big Cypress National Preserve

MILES MEYER Digitally signed by MILES MEYER
Date: 2022.02.25 13:58:42 -05'00'

From: Miles Meyer, Acting Everglades Program Supervisor, Florida Ecological Services Field Office

Subject: Review of Big Cypress National Preserve Hydrologic Restoration Management Plan Environmental Assessment

The U.S. Fish and Wildlife Service (Service) received the National Park Service (NPS), Big Cypress National Preserve (hereafter Preserve or BICY) email request on February 23, 2022, to review the Hydrologic Restoration Management Plan (Plan) Environmental Assessment (EA) for the Preserve.

We reviewed in depth the Environmental Assessment written for the Plan and met virtually on-line with BICY and other NPS staff to discuss the general components of the Plan and potential effects to listed species from implementing Tier 1 and 2 projects of the Plan. The EA also includes a list of conservation measures and best management practices (Section 2.6 Monitoring and Mitigation Measures) which will be implemented by the NPS.

The NPS Plan meets the criteria for programmatic consultations outlined in a coordination document provided to the NPS regarding the Endangered Species Act Section 7 consultation process (attached). In addition, we have provided a list of threatened and endangered species for the Plan's geographic action area from which to make future "effects" determinations.

The hydrologic restoration management plan EA provides the general restoration toolbox, best management practices, and a list of example projects, but it does not identify every site-specific project that could occur under the general hydrologic restoration plan, nor does it identify a specific project to be started. Consequently, some additional level of consultation would be required for those projects once a specific restoration proposal is initiated. When considering the type of projects proposed in the EA, the restoration toolbox, and the best management practices, we believe that the general effects as described in the EA may affect but would not likely adversely affect listed species within the Preserve and will be wholly beneficial. As noted in the EA, the plan is a framework to identify, repair, and modify the aged water management infrastructure system allowing hydrologic restoration on the Preserve.

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7915 BAYMEADOWS WAY, #200
JACKSONVILLE, FL 32256
904-731-3336

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1601 BALBOA AVENUE
PANAMA CITY, FL 32405
850-769-0552

SOUTH FLORIDA OFFICE
1339 20TH STREET
VERO BEACH, FL 32960
772-562-3909

Once site-specific details of an individual project or a concrete plan to initiate restoration (including funding) are known, additional coordination and consultation (whether for an individual project or programmatic for multiple grouped projects) would occur allowing for specific wildlife and vegetation surveys. We agree with the NPS that this additional level of information will allow for a more informed consultation process once those details are known. Thank you for your cooperation and effort in protecting federally listed species and fish and wildlife resources. If you have any questions, please contact Art Roybal by email at Art_Roybal@fws.gov, or by phone at 772-559-5163.

Attachment

ESA Section 7 Consultation Process

Frequently used terms/concepts

- No Effect (NE) – no consultation necessary
 - ESA-listed species or critical habitat (CH) are not present in the action area (no species present)
 - ESA-listed species or CH will not be affected, directly or indirectly, including by any activities that are inter-related or interdependent to the proposed action
 - ESA-listed species or CH will not be exposed to any potentially harmful/beneficial elements of the action (no plausible routes of effects)
- May affect, but is not likely to adversely affect (MANLAA) – informal consultation
 - All effects are insignificant (so small they cannot be meaningfully measured, detected or evaluated), discountable (extremely unlikely to occur), or wholly beneficial
- May affect, likely to adversely affect (MALAA) – formal consultation
 - Effects are NOT insignificant, discountable, or wholly beneficial but rather would result in incidental take (e.g., harassment, injury, mortality)

For ESA Programmatic Consultation:

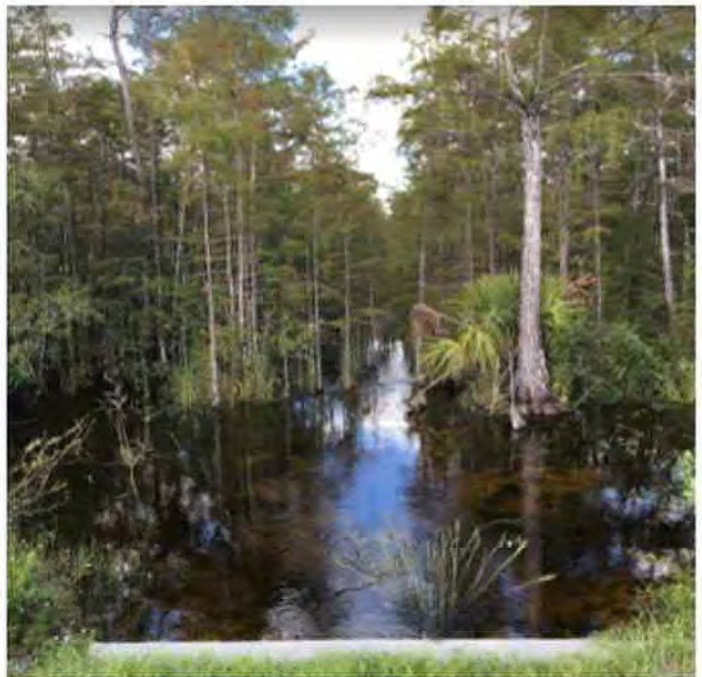
- Scenarios/projects/activities that could result in MANLAA
- All project effects are insignificant, discountable, or wholly beneficial
- Incorporate conservation measures and best management practices to avoid or reduce the potential adverse impacts of the proposed activities. [Conservation measures are actions combined into the proposed management plan to avoid or reduce adverse effects to and incidental take of listed species. These conservation measures can be described and discussed as part of the proposed action.]
- No project will individually or in aggregate have an adverse effect on ESA-listed species or designated CH

From: Sobczak, Robert
Sent: Wednesday, November 3, 2021 8:22 AM
To: Setchell, Brent <Brent.Setchell@dot.state.fl.us>
Subject: BCNP Hydrologic Restoration Management Plan/EA

Hello Brent,

Big Cypress National Preserve has been developing a Hydrologic Restoration Management Plan/EA to provide NPS managers with an overall framework for making decisions pertaining to drainage infrastructure in the Preserve.

The plan will be available for a 30-day public comment period from November 8, 2021 to December 7, 2021 in addition to two public virtual meetings being held on November 15 at 2pm and November 18 at 7pm ET.



Collage showing examples of restoration features proposed in the plan, including clockwise from the upper left: (1) an earthen canal plug on Birdon Road (with Upper Wagon Road in the background), (2) a culvert on Turner River Road and (3) a panoramic ground view of the same canal plug shown in the photo no. 1.

With the above in mind, we are at the point where we wanted to share the draft plan with the you and others on your team. FYI: The plan will also be posted to the Florida's State Clearinghouse (FSC), and thus may trickle down to your group via that pathway as well.

Or if you have any questions, please feel free to contact me directly.

Thank you,

Bob

Robert V. Sobczak, Hydrologist
Big Cypress National Preserve
33100 Tamiami Trail East, Ochopee FL 34141
239-340-0200 cell [Go Hydrology!](#) website

From: Sobczak, Robert

Sent: Wednesday, November 3, 2021 8:21 AM

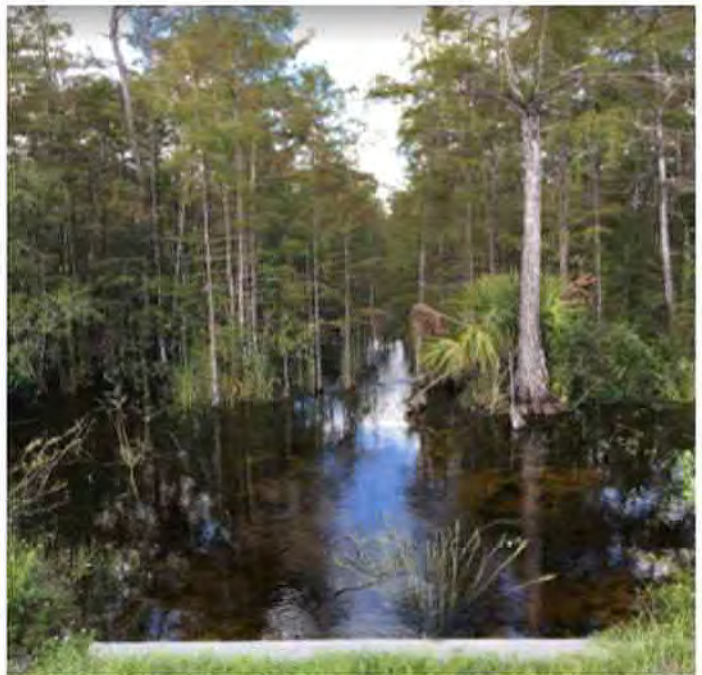
To: 'Robert Wiley' <robert.wiley@colliercountyfl.gov>; craig.grossenbacher@miamidade.gov
<craig.grossenbacher@miamidade.gov>

Subject: BCNP Hydrologic Restoration Management Plan/EA

Hello Robert and Craig,

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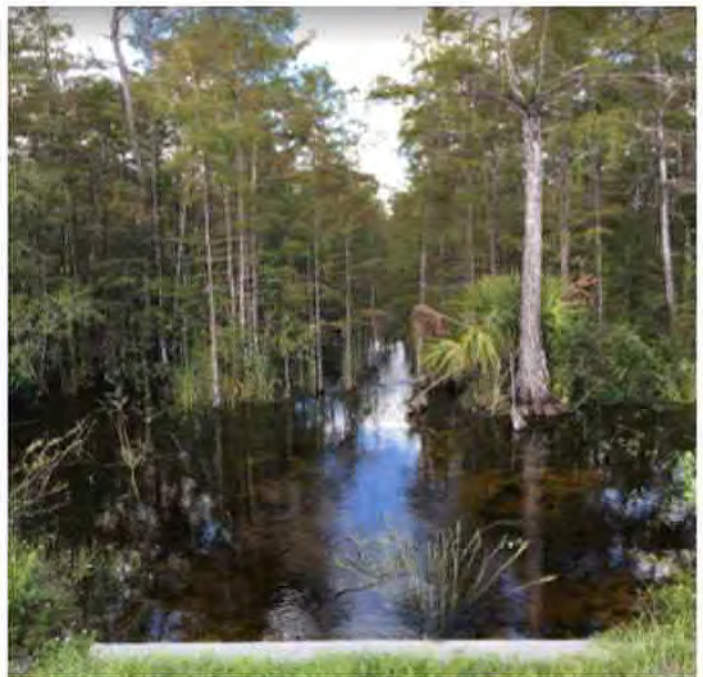
Robert V. Sobczak, Hydrologist
Big Cypress National Preserve
33100 Tamiami Trail East, Ochopee FL 34141
239-340-0200 cell [Go Hydrology!](#) website

From: Sobczak, Robert <Robert_Sobczak@nps.gov>
Sent: Tuesday, November 2, 2021 2:16 PM
To: James M. Erskine <James.Erskine@MyFWC.com>
Cc: Edwards, Michael B <Michael_B_Edwards@nps.gov>; Pernas, Tony <Tony_Pernas@nps.gov>
Subject: BCNP Hydrologic Restoration Management Plan/EA

Hello James,

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Or if you have any questions, please feel free to contact me directly.

Thank you,

Bob

Robert V. Sobczak, Hydrologist
Big Cypress National Preserve
33100 Tamiami Trail East, Ochopee FL 34141
239-340-0200 cell [Go Hydrology!](#) website