CENTRAL AND SOUTHERN FLORIDA PROJECT
BROWARD COUNTY WATER PRESERVE AREAS

FINAL INTEGRATED
PROJECT IMPLEMENTATION REPORT
AND
ENVIRONMENTAL IMPACT STATEMENT

EXECUTIVE SUMMARY

The U.S. Army Corps of Engineers (USACE), Jacksonville District, in cooperation with its partner, the South Florida Water Management District (SFWMD), has completed an Integrated Final Project Implementation Report (PIR) and Environmental Impact Statement (EIS) for the Broward County Water Preserve Areas (BCWPA) located in Broward County, Florida. This final report describes the purpose and need for the project, location, alternatives considered, and the selected alternative plan. The report also describes the evaluations that were conducted which led to the selection of a proposed plan for implementation. Public and agency review of the draft PIR/EIS, required under the National Environmental Policy Act (NEPA), has been completed. The USACE Chief of Engineer's report will be prepared based on the Final PIR.

The selected plan affirmed that a seepage management buffer in combination with above-ground storage reservoirs (including pump stations and water control structures) and associated conveyance is a cost-effective solution to achieving system-wide benefits in the south Florida ecosystem. The seepage management area would allow the water that is in the Water Conservation Area (WCA) 3 to remain in WCA 3 and be available for deliveries into Everglades National Park. The above-ground storage reservoirs would eliminate the need to discharge water from the C-11 Basin in western Broward County, through the S-9 pump station, into WCA 3 by storing it in the C-9 and C-11 impoundments and releasing it to better meet the needs of the study area at the right time. In addition, the plan achieves the benefits of the project as previously developed for the Comprehensive Everglades Restoration Plan (CERP).

The selected plan includes two above-ground impoundments and associated pumps and water control structures: the C-11 Impoundment with an effective interior storage of 1,068 acres and two wetland marsh mitigation areas north of the C-11 Impoundment with 488 acres of wetland marsh; the C-9 Impoundment with an effective interior storage of 1,641 acres and two wetland marsh mitigation areas north of the C-9 Impoundment with 339 acres of wetland marsh; canal conveyance improvements to connect the two impoundments; and

an approximately 4,633 acre seepage management area east of the Water Conservation Areas.

PURPOSE AND NEED FOR THE STUDY

Water Conservation Areas 3A and 3B (WCA 3A and 3B) comprise approximately 585,600 acres of Everglades marsh (ridge and slough, tree islands) habitat directly adjacent to Everglades National Park. Construction and operation of the Central and South Florida (C&SF) Project caused periodic excessive high water levels and extreme dry conditions in the WCAs 3A and 3B and Everglades National Park, adversely affecting fish and wildlife function, including habitat for endangered and threatened species in those areas. Runoff from western Broward County is presently discharged to WCA 3A via the S-9 pump station to maintain flood damage reduction in the C-11 Canal Basin (see ***Figure ES-1*** and ***Figure ES-2***). This creates the harmful conditions for fish and wildlife in the Everglades (WCAs), since flood damage reduction discharges typically occur when water levels in the natural system are already high. Capture and storage of excess water in the C-11 Canal Basin would minimize the harmful effects of current flood damage reduction operations on water levels in the Everglades and reduce the demand on the regional water management system for water supply and aquifer protection during dry periods, thereby increasing the quantity of water available for fish and wildlife in natural system areas, including the Everglades. Also, current flood damage reduction discharges into WCA 3 result in excess nutrient loading (phosphorus and nitrogen) producing a shift in vegetative cover type and further contributing to loss of ecosystem function compared to pre-human natural Everglades (e.g. decline in breeding, nesting, and forage areas for fish and wildlife).

Further, natural system water within the Everglades seeps (via groundwater movement into the adjacent canal system) out of the Everglades into developed areas due to the highly transmissive aquifer underlying the study area and the construction of the C&SF Project and associated secondary and tertiary drainage features. Since seepage effects are increased during dry periods when water is withdrawn from the natural system for water supply and protection against saltwater intrusion into drinking water aquifers, seepage of water out of the natural system also contributes to decline of ecosystem function in the study area.

This project is planned and designed primarily to perform two functions: 1) reduce seepage loss from WCA 3 to the C-9 and C-11 basins, and 2) capture and store excess surface water runoff from the Western C-11 Basin that is currently discharged untreated into WCA 3, thus reducing nutrient loading to the natural system. The C-11 and C-9 impoundment components also aid the WCA 3A and 3B Seepage Management Area (3A/3B SMA) project component in reducing

seepage from WCA 3A and WCA 3B by reducing the water level difference between WCA 3 and the drained areas immediately to the east. The impoundments will also assist in maintaining existing levels of flood protection that resulted from discharges at the S-9 pump station.

Everglades National Park (ENP) will benefit from changes to the current system. The timing and distribution of water to WCAs 3A and 3B would be changed to moderate extremes in seasonal water levels. Reduction in S-9 pumping would reduce flows and nutrients to the L-67 Canal in WCA 3A. The 3A/3B SMA would also reduce seepage of high quality natural system water from leaving WCA 3 that would eventually flow to the park. These changes in the timing, distribution, quality and quantity of water will benefit the Everglades Protection Area (EPA) including fish and wildlife habitat in ENP.

Northern Biscayne Bay will also benefit by increased incidental freshwater flows through the C-9 Canal during the dry season as the water stored in the C-9 Impoundment is released to prepare for the next storm event.

WHAT IS EXPECTED TO HAPPEN WITHOUT THE RECOMMENDED PLAN?

Flood damage reduction needs in the C-11 Canal Basin will continue and the adverse effects of these flood damage reduction discharges into the Everglades will continue to degrade fish and wildlife habitat in WCA 3A. Low-level nutrient loading associated with flood damage reduction discharges will also continue to adversely affect Everglades marsh vegetation and fish and wildlife species (including threatened and endangered species) dependent on Everglades marsh communities in WCA 3A.

The adverse effects of seepage losses on fish and wildlife habitat in WCAs 3A and 3B will also continue, which will continue to impact adjacent natural system areas, such as ENP.

The trend of land conversion from natural habitats to urban and agricultural uses is expected to continue. If the project is not implemented, lands that have been acquired in the study area for south Florida ecosystem restoration purposes may be surplused and subsequently developed for mixed industrial, commercial, and residential uses consistent with surrounding land use patterns in the study area. The conversion of wetlands and other natural vegetative communities to urban uses will result in a continued decline in the spatial extent of natural vegetation as well as the decline in the health and sustainability of remaining natural system areas. Fish and wildlife resources, including listed species that depend on these areas, will also continue to decline.

Finally, due to intense development in the southeastern coastal area of south Florida (including the effects of drainage and water supply projects such as the C&SF Project), there has been a significant loss in the spatial extent of fish and wildlife habitat throughout the region, and that trend is expected to continue without this project.

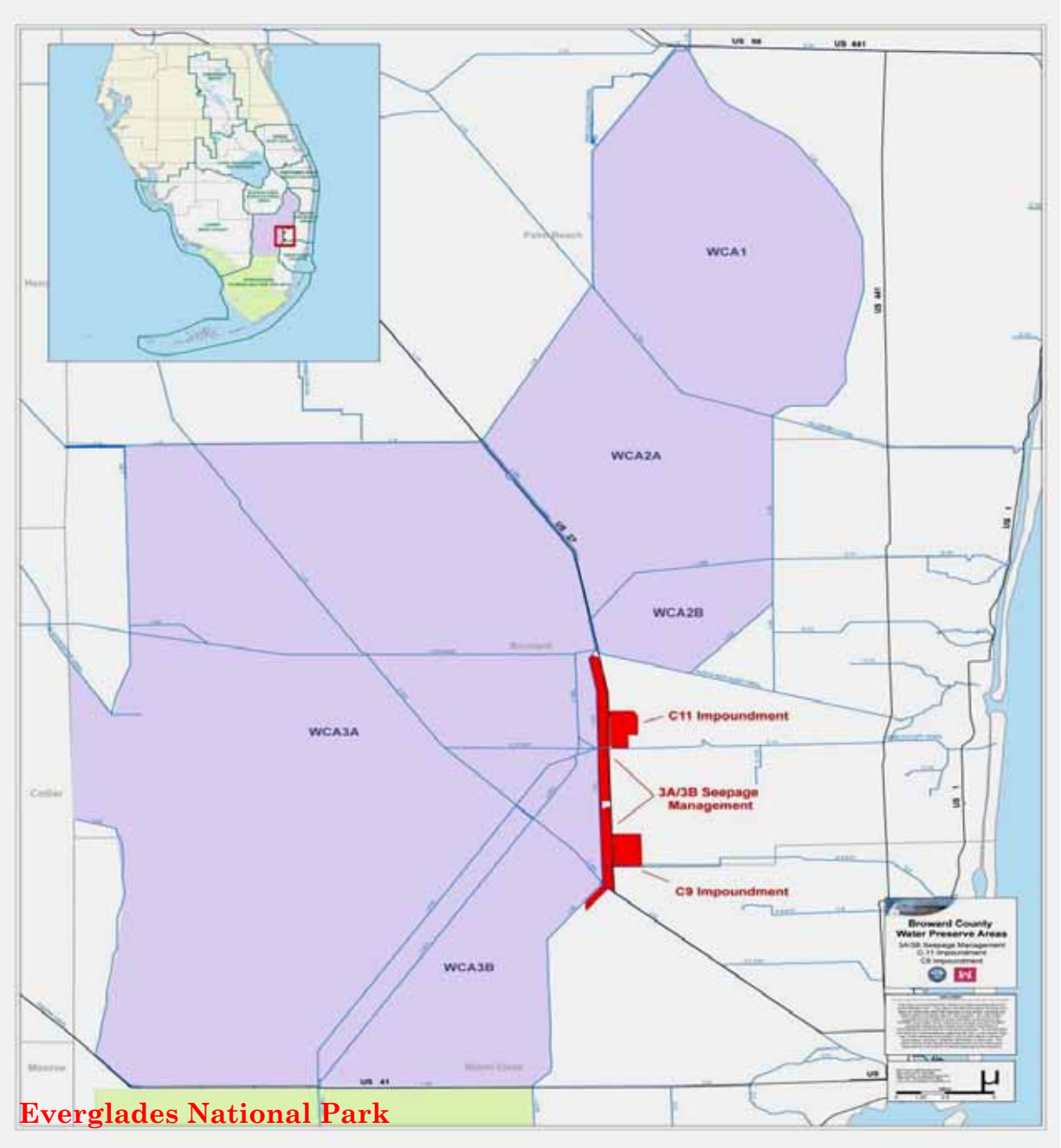

FIGURE ES-1: BROWARD COUNTY WPA STUDY AREA

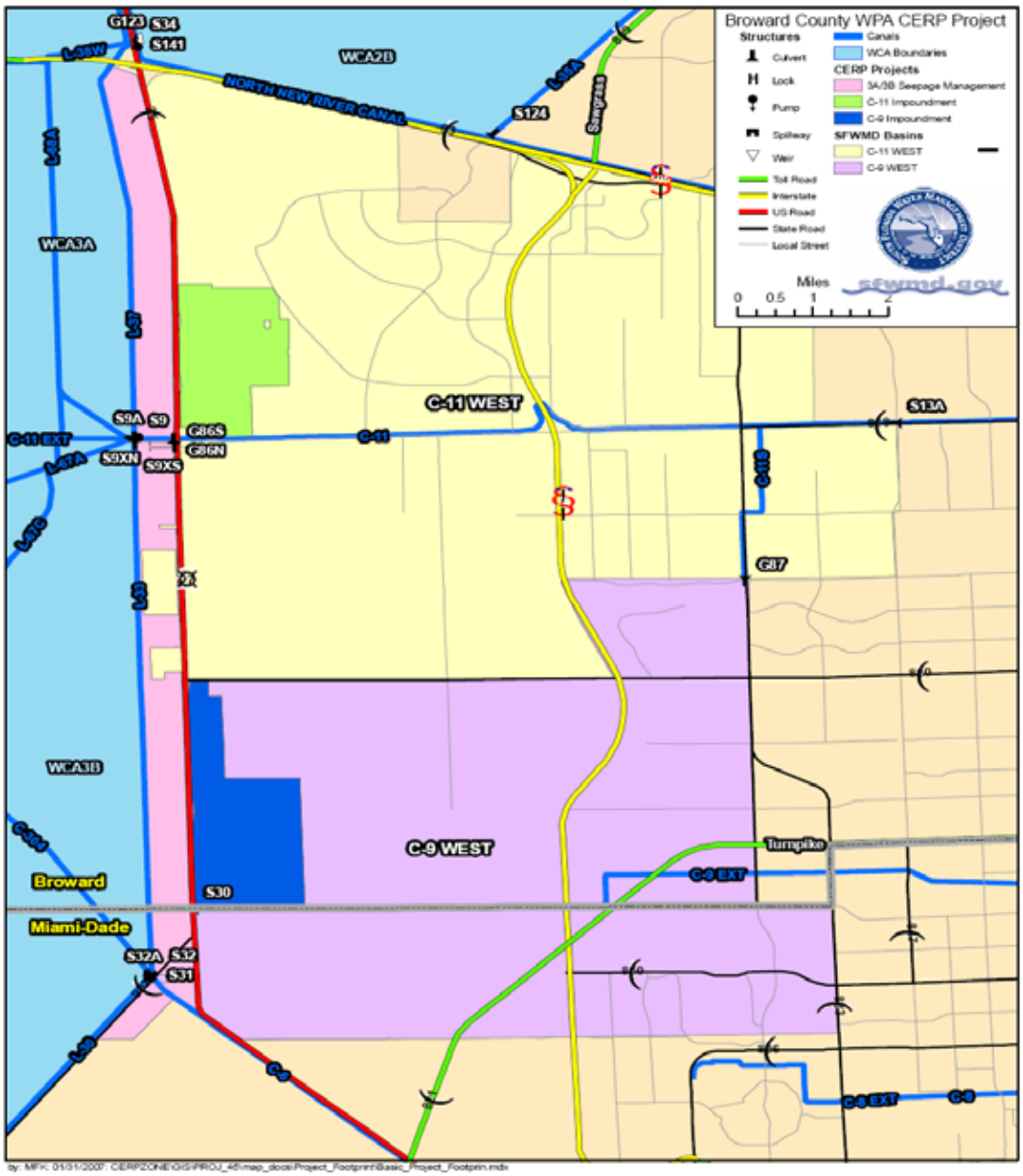

FIGURE ES-2: BROWARD COUNTY WPA PROJECT AREA

Although water quality is not expected to worsen given the numerous water pollution control programs and implementation of best management practices, ecosystem function in WCA 3A and ENP is not sustainable at current levels.

Land use will continue to move toward more and more urban uses. Recreational opportunities will be insufficient for the growing south Florida population, and the aesthetic value of the region will continue to decline. Cultural resources may be destroyed as urban development continues.

ALTERNATIVE PLANS CONSIDERED

Previous planning efforts, including the Central and Southern Florida Project Comprehensive Review Study, Final Integrated Feasibility Report and Programmatic Environmental Impact Statement, U. S. Amy Corps of Engineers, Jacksonville District and South Florida Water Management District, April 1999 (Restudy) and the draft Water Preserve Area Feasibility Study (WPAFS), October 2004, produced an array of alternative plans for an above-ground impoundment at the proposed project location. The alternative plans from these efforts were used by the project delivery team (PDT) to maximize efficiency in the plan formulation and evaluation process.

In addition to the "No Action" alternative, the previous studies contributed to the development of four alternatives that were carried through preliminary screening. Numerous iterations of alternative analysis were performed by using hydrologic simulations from the previous studies of the proposed components and surrounding areas. The following alternative plans were evaluated:

FINAL ARRAY OF ALTERNATIVE PLANS

	No Action	Alt F2	Alt F4	Alt A3	Alt A4*
C-11	NA	1,734 acre (2 compartments) a) 1,119 ac @ 6' deep b) 615 ac @ 2' deep;	1,695 acre (2 compartments) a) 205 ac @ 2' deep b) 1,490 ac @ 4' deep	1,734 acre (2 compartments) a) 1,281 ac @ 6' deep b) 453 ac @ 4' deep;	1,695 acre (3 compartments) a) 2 compartments totaling 205 ac @ 2' deep b) 1,490 ac @ 4' deep
C-9	NA	NA	NA	2,091 ac (3 compartments) a) 1,232 ac @ 6' deep b) 474 ac @ 4' deep c) 385 ac @ 4' deep;	1,739 ac @ 4' deep
SMA	NA	Buffer strip with three proposed structures (4,312 acre).	Buffer strip with three proposed structures (4,312 acre).	Buffer strip with three proposed structures (4,312 acre).	Buffer strip with three proposed structures (4,312 acre).
Benefits	NA	195,000 AAHU	189,000 AAHU	561,000 AAHU	544,000 AAHU
Average Annual Costs	NA	$35,943,000	$34,778,000	$41,532,000	$35,956,000

* Note: The selected plan, Alt A4, was further refined based on avoidance of cultural sites and additional engineering and design. These refinements are reflected in the following sections.

The formulation of alternatives included an investigation of additional alternatives that consisted of combinations of the project components.

SELECTED ALTERNATIVE PLAN FEATURES

The term "selected alternative plan" refers to the alternative that has been selected for recommendation of implementation. For the purposes of complying with the NEPA and in the spirit of NEPA, the plan that would be recommended for authorization is termed the "preferred alternative." For NEPA, a plan is not "selected" until it has been fully coordinated, is subject to alterations based on public involvement, and is then formally accepted by Congress or the Chief of Engineers, as appropriate, and authorized with the signing of a Record of Decision (ROD) or Finding of No Significant Impact (FONSI). Throughout this document, the analysis includes the NEPA evaluation and uses the term "selected alternative plan" or "selected plan" interchangeably as the preferred alternative. "Selected" throughout this document is meant to discern which alternative the team is recommending to Congress or the Chief of Engineers for further development and implementation.

The selected plan consists of three major features: C-11 Impoundment, C-9 Impoundment, and the WCA 3A/3B Seepage Management Area. The selected plan represents an optimal configuration of storage volume, conveyance and seepage control features, and water control structures (including pump stations, weirs, and culverts). The selected plan also includes features for access and flood protection to protect existing structures within project features, and features to protect or compensate for existing wetlands mitigation projects within project features.

C-11 Impoundment

The C-11 Impoundment is located in western Broward County, adjacent to and east of U.S. Highway 27. The northern boundary of this feature is approximately 3.5 miles south of the I-75/U.S.-27 interchange. The southern boundary of this component is the C-11 Canal. This component is approximately 2.3 miles in length from north to south, and is approximately 1.5 miles in width from east to west in the northern portion, and approximately 1.0 mile in width in the southern portion.

The C-11 Impoundment consists of an above-ground impoundment located in the C-11 Canal Basin in western Broward County. Major elements of this feature include canals, levees, water control structures, and buffer marsh areas. Water control structures consist of pump stations, a gated spillway, gated and non-gated culverts, and a non-gated fixed weir. The design of the impoundment includes approximately 1,253 acres to construct an above-ground impoundment

with an effective interior storage of 1,068 acres with water levels fluctuating up to 4.3 feet above grade. The purpose of the C-11 Impoundment feature is to direct runoff events from the Western C-11 drainage basin into the impoundment instead of pumping the untreated runoff into WCA 3A through the S-9 pump station. The impoundment pool will also assist in reducing seepage from WCA 3A and the WCA 3A/3B SMA, thereby increasing groundwater recharge in the vicinity of the impoundment and providing an additional source of water for meeting the municipal and agricultural water supply demands and for preventing saltwater intrusion into drinking water aquifers. Water will be released from the impoundment to the C-11 Canal to help maintain canal stages during the dry season, recharge south Broward County wellfields, improve groundwater elevations in the eastern C-11 Basin and to maintain water levels in Pond Apple Slough. Seepage from the impoundment will be collected and returned to the impoundment. The C-11 Impoundment includes approximately 578 acres to construct an approximate 475-acre buffer marsh along the northern portion of the project area and an additional 13-acre created marsh.

The recreation site of C-11 will include a parking area for visitors to the impoundment along with a proposed canoe launch with a platform walkway, an information kiosk, shaded benches, footbridges, and other small amenities.

C-9 Impoundment

The C-9 Impoundment is located in southwestern Broward County, adjacent to and east of U.S. Highway 27. The northern boundary of the project is approximately 10.7 miles south of the I-75/US-27 Interchange. The southern boundary of this feature is the C-9 Canal. The impoundment is approximately 1.4 miles in width from east to west and is approximately 1.3 miles in length from north to south.

The C-9 Impoundment consists of an above-ground impoundment located in the western C-9 Basin. Major elements of this feature include canals, levees, and water control structures. The impoundment area includes approximately 1,804 acres to construct an above-ground impoundment with an effective interior storage area of 1,641 acres with water levels fluctuating up to 4.3 feet above grade. The purpose of the C-9 Impoundment feature is to collect and store runoff from the western C-9 Canal Basin in the impoundment, along with providing additional storage for runoff diverted from the western C-11 Basin. C-11 Basin runoff will be directed to the C-9 Impoundment via the C-502B Borrow Canal which traverses the WCA 3A/3B SMA feature. The impoundment pool will assist in reducing seepage from WCA 3B and the WCA 3A/3B SMA, thereby increasing groundwater recharge in the vicinity of the impoundment, and provide an additional source of water for meeting the municipal and agricultural water supply demands and for preventing saltwater intrusion into drinking

water aquifers. Water will be released from the impoundment to the C-9 Canal to help maintain canal stages during the dry season, recharge south Broward County wellfields, and improve groundwater elevations in the C-9 Basin. Seepage from the impoundment will be collected and returned to the impoundment. The C-9 Impoundment includes approximately 247 acres to construct an adjacent 234-acre 1-foot deep wetland marsh area and approximately 136 acres required to construct a 105-acre 2-feet deep wetland marsh area, adjacent to the existing C-9 Canal.

A stormwater treatment area (STA) is associated with both the C-11 and the C-9 impoundments when other CERP projects (including the Lake Belt Storage Area projects) are implemented, which will necessitate treatment of stored runoff prior to delivery to natural system areas. However, the BCWPA Project does not involve delivering stored water to natural system areas at this time; therefore, the implementation of the STA associated with the C-11 and C-9 impoundments is not included for implementation as part of the BCWPA Project. Future CERP projects requiring water quality treatment will address conversion of the C-11 and C-9 impoundments to STAs.

The recreation site at C-9 will consist of a parking area for visitors to the impoundment along with a proposed information kiosk, shaded benches, footbridges, a canoe launch with a platform walkway, and other small amenities for visitors.

WCA 3A/3B Seepage Management Area

The WCA 3A/3B SMA is an approximately 4,633-acre area bounded by WCAs 3A and 3B to the west and U.S. Highway 27 to the east. Major elements of this feature include levees, canals, and water control structures. The purpose of this feature is to establish a buffer area creating a hydraulic head for reducing seepage out of WCAs 3A and 3B. This will improve hydropatterns for fish and wildlife habitat in those areas, particularly during dry periods by maintaining longer inundation periods within adjacent Everglades marsh areas. The WCA 3A/3B SMA also includes bridges to maintain access to existing structures within the SMA and flood damage reduction features (pumps, levees, seepage canals) to protect existing features within the SMA from higher water levels. The 3A/3B SMA includes a full-length protective levee that functions to separate wetland or natural area water (seepage and precipitation) from agricultural and urban runoff and other water sources with different water quality constituents. The 3B SMA also includes a diversion conveyance canal that functions in transference of excess water from the Western C-11 Basin to the C-9 Impoundment and in the future to North Lake Belt Storage Area (NLBSA). The C-502B Borrow Canal connecting the C-11 Impoundment to the C-9 Impoundment traverses the WCA 3A/3B SMA feature.

The 3A/3B SMA recreation area will consist of a parking area for visitors along with a footbridge over the C-11 Canal that connects the north and south areas of the SMA. The foot bridge allows people to move around the S-9 pump. Two canoe launches are proposed: one in 3A and one in 3B each accessing the borrow canal inside the project along the L-37 levee. The conceptual design proposes an information kiosk, shaded benches, a footbridge, two canoe launches with platform walkways, two bike racks, and other small amenities.

Compensation for Impacts to Existing Mitigation Sites

The general guiding principle for CERP projects is that unavoidable impacts to wetlands and other aquatic resources are expected to be offset by the environmental benefits derived from the overall comprehensive restoration of the south Florida ecosystem. However, the Restudy identified compensatory mitigation may be required in circumstances where project implementation adversely impacts established mitigation sites. The Restudy also states that in such cases compensatory mitigation measures should be provided from a separate plan on a case-by-case basis, and not from benefits claimed by the Comprehensive Plan. Implementation of the BCWPA Project will adversely impact wetland mitigation sites established under Department of the Army (DA) Regulatory Permits pursuant to Section 404 of the Clean Water Act (404 mitigation sites).

The selected plan will result in unavoidable, impacts to existing 404 mitigation sites located within both of the impoundment footprints. Within the proposed C-11 Impoundment site there are three existing DA permitted wetland mitigation areas (Weston Increment III, which consists of two sites; and White Construction located near the two northern borrow pits). Within the proposed C-9 Impoundment site there are three existing DA permitted mitigation areas (Sunset Lakes, Bregmann tract, and the Florida Department of Transportation "chimney" site). The majority of the existing mitigation areas are of low ecological value although the mitigation activities described by the DA permits have been completed and the permittees have fulfilled their legal obligations pursuant to the applicable permits. The two Weston Increment III mitigation areas are of moderately high ecological value and have been deemed successful mitigation areas. Impacts to the permitted mitigation areas have been avoided and minimized to the maximum extent possible. The selected plan includes a compensatory mitigation plan to replace the permitted 404 mitigation sites. This mitigation plan provides environmental benefits above and beyond those required to justify the Federal project and provides benefits in excess of those required to offset impacts to existing 404 mitigation sites.

As stated above, the Restudy recognizes the replacement mitigation plan should be separate from the project benefits. In order to be ecologically successful, the mitigation areas within the impoundments need additional water (above and beyond what would be provided in a rainfall driven system) which will be supplied by the project. The ecological lift that will occur as a result of the replacement mitigation in the impoundments is not being counted for project benefits i.e., habitat units; however, the storage provided by the replacement mitigation areas, though not used to justify Federal participation in the project, will contribute to project benefits downstream. Additionally, the ecological lift provided by the mitigation activities within the SMA is not included as a project benefit.

PROJECT COST ESTIMATE AND COST APPORTIONMENT

The total initial cost of the project, $746,980,000, including costs for lands, easements, rights-of-way, relocations, and disposal (LERRD) and pre-construction engineering and design (PED) costs will be shared equally between the Federal government and the non-Federal sponsor according to Section 601 of the Water Resources Development Act of 2000 (WRDA 2000) to maintain a 50/50 cost share as measured cumulatively for the entire CERP Program. Section 601 of WRDA 2000 and USACE policy requires that the non-Federal sponsor must obtain and provide certification of LERRDs necessary for project implementation. Additional costs for hazardous, toxic, or radioactive waste (HTRW) removal or remediation are estimated at $4,800,000 and will be the responsibility of the non-Federal sponsor.

BCWPA PROJECT COSTS (OCT 2006 PRICE LEVELS) (Initial cost rounded to the nearest $10,000)	
Ecosystem Restoration Elements	**TOTAL**
Construction	
Relocations	$3,330,000
Reservoirs	$9,670,000
Roads, Railroads, and Bridges	$1,680,000
Channels and Canals	$121,730,000
Levees and Floodwalls	$85,320,000
Pump Plant	$69,590,000
Floodway Control & Diversion Structure	$85,510,000
Cultural Resource Preservation	$190,000
Recreation	$1,930,000
Sub-Total Construction Cost	**$378,950,000**

Non-Construction	
Lands and Damages	$308,920,000
PED	$30,310,000
Construction Management	$28,900,000
Sub-Total Non-Construction Cost	**$368,030,000**
TOTAL INITIAL COST	**$746,980,000**

BENEFITS OF THE SELECTED PLAN

CERP project alternatives are evaluated and selected based on the alternative's contributions to the goals and purposes of the CERP. The alternative plan that is selected should be the plan that provides cost-effective means of achieving environmental and economic benefits on a system-wide basis. System-wide is defined in the CERP Programmatic Regulations as "pertaining to south Florida ecosystem as a whole."

The selected plan is integral for achieving the system-wide ecosystem restoration and other water-related needs, goals and objectives for CERP and for this area of the south Florida region. The BCWPA Project will contribute to the environmental restoration of south Florida by providing regional water storage that will reduce demands on the Everglades and Lake Okeechobee for water supply. Anticipated fish and wildlife habitat benefits of the project include reduction of withdrawals of water from Lake Okeechobee and Everglades wetlands, reestablishment of natural hydropatterns within existing natural areas, and improvement of water quality in WCA 3. Based on the system formulation and evaluation, the selected plan is expected to provide an aggregated total of 543,781 average annual habitat units for all Everglades ecosystem attributes beneficially affected by the project, in comparison to the "No Action" alternative. Everglades ecosystem attributes beneficially affected include the ridge and slough landscape (one of the defining landscape attributes of the pre-drainage Everglades), tree islands (another defining landscape attribute of the pre-drainage Everglades), and the Everglades snail kite (a Federally-listed endangered species that inhabits the Everglades ecosystem). An estimated 303,228 average annual habitat units for sawgrass and 240,553 average annual habitat units for snail kite are expected from the selected plan. Additionally, the selected plan will increase the spatial extent of functional habitat for fish and wildlife in the WCA 3A/3B Seepage Management Area compared to future without-project conditions. These habitat units do not include the ecological benefits that are provided by the replacement mitigation plan.

The selected plan will provide additional water for the natural system in WCA 3B and ENP, which will be reserved or allocated for the natural system by the

State of Florida. The results indicate that the project makes up to 50,000 acre-feet of beneficial water available to the Everglades National Park on an annual basis. The median value (water year) of water made available in Everglades National Park is approximately 15,000 acre-feet. The results also indicate that beneficial water is made available by the project in WCA 3B in both the wet season and dry season. The median value (water year) of water made available in WCA 3B is approximately 2,000 acre-feet. This incremental water produced by the project will be reserved or allocated for the natural system in accordance with the requirements of WRDA 2000. The selected plan also provides additional water to meet agricultural, municipal, and Tribal water supply needs.

Further, the BCWPA Project is the building block upon which implementation of other CERP projects necessary to fully achieve ecosystem restoration objectives in ENP and Biscayne Bay depends (e.g., WCA 3A Decompartmentalization; WCA 2B Flows to ENP; North and Central Lake Belt Storage Areas). Aquifer storage and recovery (ASR) components of CERP, which lessen the reliance on surface water deliveries from the natural system to meet water supply and aquifer protection needs associated with the BCWPA Project, will not function without the storage infrastructure provided by the selected plan. The water storage, seepage management, and conveyance functions necessary for this area of south Florida, which are provided by the selected plan, cannot be provided by other projects in the CERP.

Project implementation will not reduce the quantity of beneficial water available to fish and wildlife in WCA 3A, but will transfer a portion of the water budget from pumped discharges at the existing S-9 pump station to water retained in the WCAs as a result of the seepage management feature. The transfer of a portion of the existing legal source for the WCAs and downstream ENP from pumped discharges at the S-9 pump station to rainfall retained in the natural system via seepage management is one of the purposes of the project. However, this transfer of a portion of the existing legal sources of water for the WCAs and ENP does not preclude operations of the C&SF Project to make supplemental deliveries to the WCAs during drought conditions to compensate for water supply releases from the WCAs to the Lower East Coast.

The benefits of the project will begin to accrue immediately upon completion of construction and initiation of operation of the selected alternative plan. Aggregated together, the selected plan produces approximately 544,000 combined average annual habitat units for the ecosystem indicators within the project area. The average annual cost per the combined average annual habitat units generated by the project is approximately $95. The project will have a direct affect to approximately 563,000 acres in the Water Conservation Area resulting in a cost per effected acre of $1,327.

ADVERSE EFFECTS OF THE PLAN

Adverse effects of the plan will be offset by the significant beneficial effects of the selected plan. The design of the selected plan minimizes impacts to existing wetlands, 404 mitigation sites, and fish and wildlife habitat, affected by project features and includes environmentally responsible design features. Except for the existing 404 mitigation sites, no separable fish and wildlife habitat, or flood damage mitigation is required. Adverse effects to the existing 404 mitigation sites will be compensated for as previously described.

Permanent habitat losses due to wetland and upland conversion within the footprint of project features would be offset by the gain in habitat quality in the Everglades (including ENP) and within the WCA 3A/3B SMA feature. There will be no adverse impacts on minority or disadvantaged populations associated with project implementation.

To minimize adverse effects to cultural resources eligible for listing on the National Register of Historic Places, the C-11 Impoundment footprint has been modified. The embankment and the seepage canal have been realigned to exclude two sites from the impoundment. The realignment has resulted in the loss of storage volume but is not sufficient to change any of the project's benefits. Consultation is ongoing with the Federally recognized Indian Tribes, State Historic Preservation Officer (SHPO), and other interested parties to determine the best way to proceed with one site, located within the footprint of the impoundment which will be adversely affected by the project. Mitigation measures identified as part of this consultation for the third site will be detailed in a Memorandum of Agreement (MOA) to be executed by the USACE, SHPO and the SFWMD.

Potential adverse effects of a temporary nature include emission of dust, mobilization of sediments and generation of noise during construction of proposed structures, including excavation, earth moving and embankment and impoundment construction. USACE construction specifications include appropriate requirements to maintain noise generation, local water contamination and air emissions within required limits.

PROJECT JUSTIFICATION

The CERP Programmatic Regulations provide that individual projects must be justified based on their ability to provide benefits that justify costs on a next-added increment basis. Next-added increment is defined as "the next project to be added to a system of projects that includes only those projects that have been approved…and are likely to be implemented by the time the project evaluation is completed." Since no CERP projects have been approved yet, the next-added

increment baseline for the BCWPA Project does not include any other CERP projects. Similar to the procedures for evaluating and selecting the plan, system-wide environmental benefits of the selected plan were quantified on a next-added increment basis.

Section 601(f)(2)(A) of WRDA 2000 provides that in carrying out an activity authorized under WRDA 2000, the Secretary of the Army may determine that the activity is justified by the environmental benefits derived by the south Florida ecosystem and that no further economic justification is necessary, provided that it is determined that the activity is cost-effective. This report contains data and evaluations demonstrating that the selected plan is the most cost-effective means of achieving system-wide benefits for the south Florida ecosystem and the benefits of the project. The selected plan is justified through its incremental contribution toward improving the functions and quality of fish and wildlife habitat in WCAs 3A and 3B and ENP, and within the WCA 3A/3B SMA. In addition, improved salinity was observed in the estuarine portion of the C-9 canal. Optimization of operations is expected to further improve performance in all areas affected by the project.

"ACCELER8"

The State of Florida has developed a plan called "Acceler8" for the purpose of accelerating design and construction of a number of critical restoration projects consistent with the CERP but prior to one or more of the following: administration approval, congressional committee resolution, congressional authorization, or Federal construction funding. The State anticipates the Acceler8 program will provide immediate environmental, social, and economic benefits in the south Florida region. All Acceler8 projects must be specifically authorized by Congress before becoming a part of the Federal CERP. The SFWMD is the state agency responsible for water resources management in south Florida and acts as the non-Federal sponsor for Federal water resources projects, including CERP. The SFWMD is also the lead agency for the State on implementing the Acceler8 plan and will need to acquire the Department of the Army permits under Section 404 of the Clean Water Act prior to construction.

The Acceler8 program consists of eight projects, including "Water Preserve Areas." The Water Preserve Areas Acceler8 project involves several components, including the C-11 Impoundment, the C-9 Impoundment, and the WCA 3A/3B SMA (see www.Acceler8Evergladesnow.org). The USACE and SFWMD anticipate that the SFWMD will accelerate construction and achievement of benefits of certain CERP projects by obtaining required permits and initiating construction upon completion of the Final EIS for the Federal CERP project.

The SFWMD proposes to initiate construction on the Water Preserve Areas project (including elements of the BCWPA Project) prior to implementation of the Federal project. The USACE is proceeding with two separate and independent but related actions: the planning evaluation of the Federal project and the regulatory evaluation of the SFWMD's proposed project, both of which are described in this Final PIR/EIS. The SFWMD's Acceler8 project is consistent with the plan recommended in this document. Therefore, it is anticipated that this Final PIR/EIS will serve as the basis for the Regulatory Division's NEPA evaluation of the SFWMD's proposed action.

Concurrent with this Final PIR/EIS, the Regulatory Division of the USACE is circulating a Public Notice which describes the Acceler8 project and provides additional information applicable to the regulatory evaluation not included in the Final PIR/EIS. The Public Notice is available for public and agency review at the same time as the Final PIR/EIS. For details of the SFWMD's proposed Acceler8 project or a copy of the Public Notice, the reader is referred to the Jacksonville USACE District web site at:
http://www.saj.usace.army.mil/pao/hotTopics/acceler8.htm.

ENVIRONMENTAL OPERATING PRINCIPLES

This report and the selected plan for the BCWPA Project are consistent with USACE's seven "Environmental Operating Principles." These principles were adopted in 2002 to foster unity of purpose and consistency on environmental issues in USACE projects, reflect a new tone and direction for dialogue on environmental matters, and to ensure that USACE employees consider conservation, environmental stewardship, preservation, and restoration concepts in all Corps of Engineers activities throughout the lifecycle of USACE projects (http://www.hq.usace.army.mil/cepa/envprinciples.htm).

Consistent with the Environmental Operating Principles, agencies, stakeholders, and the public were all encouraged to participate and provide commentary throughout the development of this project through the posting of project documents, public meetings, and requests for comments.

The selected plan would help to reverse declining conditions in the Everglades ecosystem and provide for a return to sustainable, diverse conditions in one of the most unique natural system areas in the United States. Beneficial effects in the environment were predicted utilizing a peer-reviewed, scientific model for simulating hydrologic conditions in south Florida. No adverse effects on the human environment were forecast as part of the modeling analysis. The proposed BCWPA Project and PIR/EIS are in compliance with all pertinent laws and applicable policies, and the project is consistent with other restoration activities in south Florida occurring as part of the CERP. In taking a watershed

approach, the BCWPA Project would be one of many projects that will beneficially affect the remaining, contiguous ecosystem of south Florida.

PROJECT ASSURANCES AND THE SAVINGS CLAUSE

As a result of laws passed by both the Federal government and the State of Florida, CERP PIRs are required to ensure the interests of the stakeholders, including the Federal government and the State of Florida, are adequately addressed by the project being recommended for approval and implementation.

The basic principles and methodologies used to identify water were based on the procedures and guidance contained in draft Programmatic Regulations Guidance Memorandum 4 ("Identifying Water Needed to Achieve the Benefits of the Plan") which was available at the time this PIR was being developed. The Savings Clause evaluations were based on the draft Programmatic Regulations Guidance Memorandum 3 ("Savings Clause Requirements"). An analysis of the Savings Clause (WRDA 2000) requirements showed that the BCWPA Project does have an elimination and transfer of sources that has no adverse effect on existing legal sources of water.

Overall, the project design is consistent with attaining project goals and objectives. Operational flexibility will lead to increased benefits by further minimizing potential high flows to the estuary as well as by minimizing discharges (and associated sediment loads) to the freshwater marshes.

SELECTED PLAN IMPLEMENTATION

Detailed design of the BCWPA Project will be accomplished by the SFWMD as part of the State of Florida's Acceler8 program. Detailed design will be coordinated and reviewed by the USACE. All features will be designed in accordance with USACE regulations and standards. Activities during the construction phase will be in accordance with the Acceler8 program and will be the responsibility of the SFWMD. Crediting for work performed by the SFWMD will be subject to project authorization and adherence to USACE design standards and regulations. Lands, Easements, Relocations, Right-of-Ways and Disposals (LERRDs) will be the responsibility of the SFWMD. A Draft Operating Manual is included with this report. An Interim Operating Manual modifying the Draft Operating Manual will be completed during the Detailed Design Phase reflecting any design modifications that occur during detailed design. A Final Operating Manual will be prepared following completion of operational testing and monitoring which occurs at the end of the construction phase. The USACE and SFWMD will share in the responsibilities for conducting water management operations during operational testing and monitoring of the project.

PUBLIC AND AGENCY COORDINATION

As required by the NEPA, a scoping letter (dated September 28, 2004) for the BCWPA Project was mailed to Federal, State, and local agencies, Native American Tribes, private organizations, and interested parties to solicit their views, comments, and information about resources, study objectives, alternatives, and important features within the study area. Scoping for a prior feasibility study (the WPAFS) was initiated on June 23, 2000; circulation and noticing of initiation of the draft feasibility study occurred in July 2000. These prior scoping and public and agency coordination efforts helped to accomplish early identification of issues in the BCWPA Project area. Information related to the project area was incorporated into the planning for the BCWPA Project.

Through the public participation process of the outreach and NEPA scoping no high and adverse impacts became known. There was sufficient public input to feel confident that scoping was successful and that the breadth of the potential impacts were communicated and understood by the public. Therefore with no high and adverse impacts, there is nothing that would require a disproportionate impact analysis. Thus, this NEPA process has found no evidence of high, adverse and disproportionate impacts.

The proposed action has been coordinated with the U.S. Fish and Wildlife Service (USFWS) and the National Marine Fisheries Service (NMFS) in accordance with Section 7 of the Endangered Species Act; with the NMFS under the Magnuson-Stevenson Fisheries Act; with the USFWS and the Florida Fish and Wildlife Conservation Commission (FWC) under the Fish and Wildlife Coordination Act; the State Historic Preservation Officer (SHPO) under the National Historic Preservation Act and Archaeological and Historic Preservation Act (AHPA); Natural Resources Conservation Service under the Farmland Protection Act; and the Florida Department of Environmental Protection (FDEP) under the Coastal Zone Management Act and Clean Water Act. In addition, it has been coordinated and noticed to the U.S. Environmental Protection Agency (USEPA), U.S. Department of Agriculture (USDA), U.S. Department of Health (USDOH), U.S. Geological Survey (USGS), National Park Service (NPS), Florida Department of Transportation (FDOT), Florida Department of Health (FDOH), and others by individual and coordination letters notifying agencies of the preparation of the Draft EIS. All agencies were invited to participate in the PDT that conducted project formulation and evaluations. USFWS, FWC, and FDEP have all been active project team participants.

AREAS OF CONTROVERSY

There are no areas of controversy.

UNRESOLVED ISSUES

A Phase II Cultural Resources survey has found that three sites located within the C-11 Impoundment area contain human remains and have been determined to be potentially eligible for inclusion to the National Register of Historic Places. A prehistoric site to the south of the C-11 Impoundment area is a known mortuary site and will be avoided. To minimize adverse effects to cultural resources eligible for listing on the National Register of Historic Places the C-11 Impoundment footprint has been modified. The embankment and the seepage canal have been re-aligned to exclude two sites from the impoundment. Consultation is ongoing with the Federally recognized Indian Tribes, State Historic Preservation Office (SHPO), and other interested parties to determine the best way to proceed with third site, located in the center of the C-11 Impoundment and adversely affected by the project. Mitigation measures identified as part of this consultation will be detailed in a MOA to be executed by the USACE, SHPO and the SFWMD. Currently the MOA is in draft form.

MAJOR FINDINGS AND CONCLUSIONS

The BCWPA Project is integral for achieving the CERP system-wide ecosystem restoration and other water-related goals and objectives. Further, this project is a critical building block upon which implementation of other CERP projects will be able to fully achieve ecosystem restoration objectives in ENP and Biscayne National Park. The BCWPA Project includes the WCA 3A/3B Seepage Management Area, the C-11 Impoundment and the C-9 Impoundment and Stormwater Treatment Area, which were initially authorized CERP components. These components are mutually dependent and their benefits are interdependent. It is recommended that they be authorized as a single project with three features known as the Broward County Water Preserve Areas Project and that the three initially authorized projects be deauthorized.

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