REPORT SUMMARY
Central and Southern Florida Project
Comprehensive Everglades Restoration Plan
Broward County Water Preserve Areas

Study Authority: The Broward County Water Preserve Areas (BCWPA) project was authorized by Sections 601(b)(2)(C)(iv), 601(b)(2)(C)(v), 601(b)(2)(C)(vi), and 601(b)(2)(ix) of the Water Resources Development Act of 2000 (WRDA 2000) subject to the requirements of Section 601(b)(2)(D) of WRDA 2000, which states, in part:

> ***Section 601, Water Resources Development Act of 2000***
> *PUBLIC LAW 106–541—DEC. 11, 2000*
> *(b) COMPREHENSIVE EVERGLADES RESTORATION PLAN.—*
> *(2) SPECIFIC AUTHORIZATIONS.—*
> *(C) INITIAL PROJECTS.—The following projects are authorized for implementation, after review and approval by the Secretary, subject to the conditions stated in subparagraph (D), at a total cost of $1,100,918,000, with an estimated Federal cost of $550,459,000 and an estimated non-Federal cost of $550,459,000:*
> *(iv) Water Conservation Areas 3A/3B Levee Seepage Management, at a total cost of $100,335,000, with an estimated Federal cost of $50,167,500 and an estimated non-Federal cost of $50,167,500.*
> *(v) C-11 Impoundment and Stormwater Treatment Area, at a total cost of $124,837,000, with an estimated Federal cost of $62,418,500 and an estimated non-Federal cost of $62,418,500.*
> *(vi) C-9 Impoundment and Stormwater Treatment Area, at a total cost of $89,146,000, with an estimated Federal cost of $44,573,000 and an estimated non-Federal cost of $44,573,000.*
> *(ix) North New River Improvements, at a total cost of $77,087,000, with an estimated Federal cost of $38,543,500 and an estimated non-Federal cost of $38,543,500.*
> *(D) CONDITIONS*
> *(i) PROJECT IMPLEMENTATION REPORTS. –Before implementation of a project described in any of clauses (i) through (x) of subparagraph (C), the Secretary shall review and approve for the project a project implementation report prepared in accordance with subsections (f) and (h).*
> *(ii) SUBMISSION OF REPORT. – The Secretary shall submit to the Committee on Transportation and Infrastructure of the House of Representatives and the Committee on Environment and Public Works of the Senate the project implementation report required by subsections (f) and (h) for each project under this paragraph (including all relevant data and information on all costs).*

Study Sponsor: The South Florida Water Management District (SFWMD) is the non-Federal Sponsor for the implementation of this project as part of the Comprehensive Everglades Restoration Plan (CERP). Announced in October 2004 by the Governor of Florida, the State and the SFWMD have committed over $1.5 billion in additional funds via "certificates of participation" to accelerate design and construction activities on certain CERP projects, including the BCWPA project through a program known as "Acceler8". To ensure appropriate and timely coordination of Federal activities necessary to support the Acceler8 program, the Administration through the Department of the Army and the Department of Interior have committed to align resources and workloads to produce project implementation reports consistent with the State of Florida's construction schedules. The SFWMD has been involved throughout the BCWPA Project Implementation Report (PIR) development process and has indicated their intent to proceed to construction.

Study Purpose and Scope: In accordance with WRDA 2000 and the programmatic regulations (Section 385.26), a Project Implementation Report (PIR) is required to be completed prior to implementing any component of CERP. The Broward County Water Preserve Areas PIR bridges the gap between the conceptual level of detail contained in the April 1999 *Final Integrated Feasibility Report and Programmatic Environmental Impact Statement* and the detailed design necessary to prepare plans and specifications required to proceed to construction. This PIR documents the planning process and all relevant assumptions and rationale for project decision making. All planning analyses, including economic, environmental, water quality, flood protection, real estate, and plan formulation, conducted during the planning phase are documented and included in this PIR. The purpose of this PIR is to reaffirm the plan identified in the 1999 Restudy Plan to determine that the project objectives and benefits have not changed and that the project can be implemented in a cost-effective manner. This project if constructed will perform two functions: 1) retain natural system water by reducing seepage loss from Water Conservation Area (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 PIR also optimizes the seepage management area and impoundments and formulates for system-wide environmental benefits in the Everglades. The PIR serves as the vehicle for Congressional authorization of the Broward WPA features as currently defined and deauthorization of the previously authorized features. The Broward County Water Preserve Areas project is comprised of three components and a portion of a fourth of the 68 projects identified in the 1999 Restudy Plan.

Project Location/Congressional District: The BCWPA study area is located along the eastern edge of the remaining Everglades ecosystem and the western edge of developed portions of Broward County. The southern portion of the project also extends into Miami-Dade County. The proposed project area includes the Water Conservation Area 3A/3B Seepage Management Area (WCA 3A/3B SMA) and the affected C-11 and C-9 drainage basins. The C-11 and C-9 drainage basins are located predominately within Broward County, between I-75/I-595 in the north and include areas just south of the C-9 Canal in Miami-Dade County. The eastern and western boundaries of the two drainage basins are the Intracoastal Waterway and WCA 3A and 3B, respectively. The proposed project would affect the following Florida Congressional Districts: 17, 19, 20, 21, 22, 23 and 25. The project location is shown in **Figure 1**.

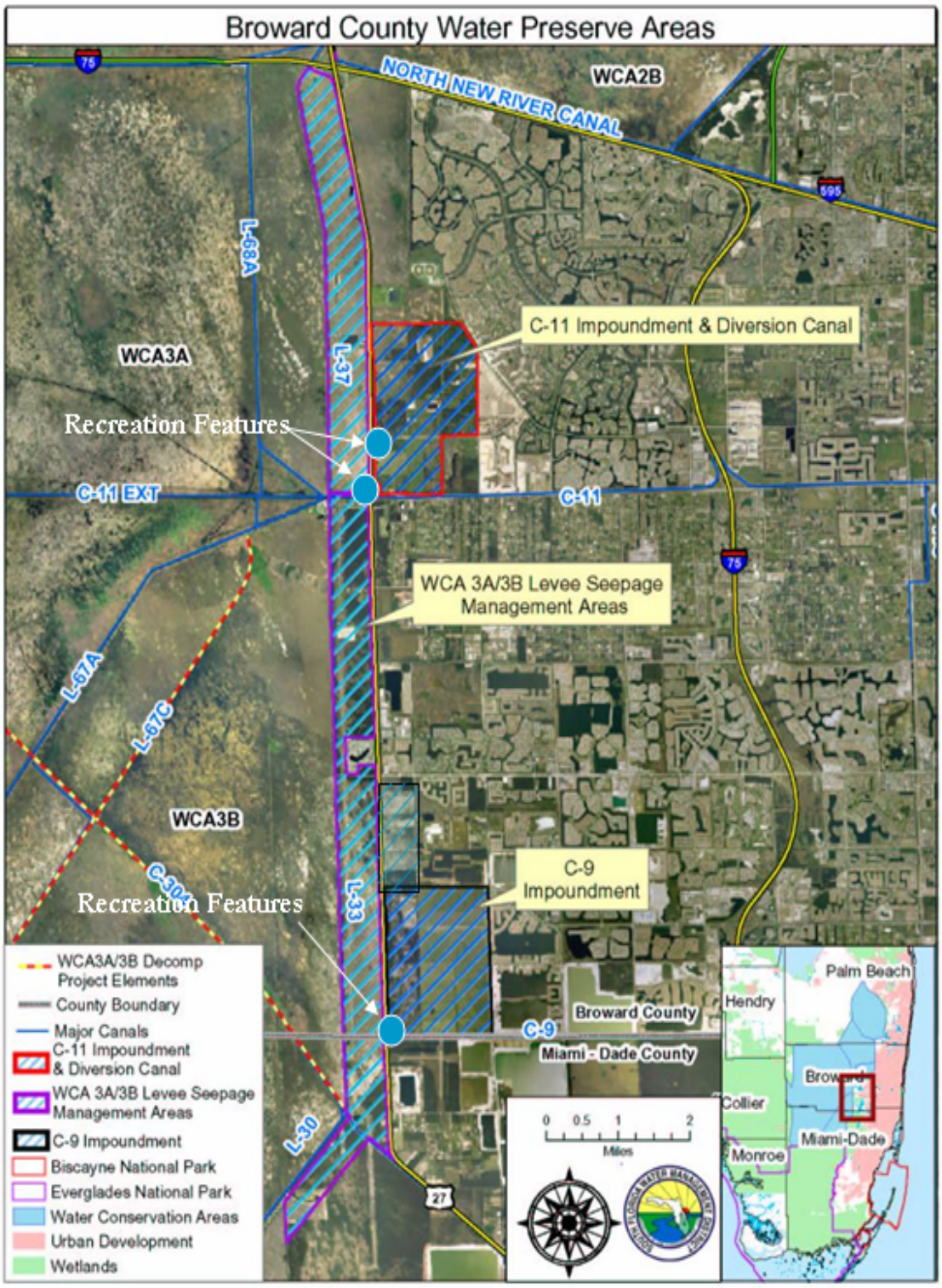

FIGURE 1: PROJECT AREA MAP

Prior Reports and Existing Water Projects: The following prior reports are related to the proposed BCWPA Project: Water Supply Preserves (Everglades Coalition/National Audubon Society, 1994); Analysis of Water Supply Potential for Area B, the Everglades Buffer Strip, and the Hillsboro Basin: Phase 3b, East Coast Buffer Feasibility Study (SFWMD, 1996);, Water Preserve Areas: Land Suitability Analysis (USACE/SFWMD, 1996);, Water Preserve Areas: Defining Biological Functions and Spatial Extent (National Audubon Society, 1997); Central and Southern Florida Project, Comprehensive Review Study – Final Integrated Feasibility Report and Programmatic Environmental Impact Statement, (USACE and SFWMD, April 1999); Water Preserve Areas Integrated Feasibility Report and Supplemental Environmental Impact Statement (Draft), (USACE and SFWMD, October 2001). The recommendations of these prior planning efforts and reports included a buffer and above-ground storage at the Broward County Water Preserve Areas location.

Federal Interest: The BCWPA are 3 and a portion of a fourth of the components of the CERP. The BCWPA Project, as presented in this PIR, is essentially the same project as was envisioned in the CERP as authorized in WRDA 2000. Although there have been no changes in the project's scope since the completion of the Central and Southern Florida Project Comprehensive Review Study Feasibility Report in 1999 (known as the "Restudy"), the project has since been optimized for performance. Based on the system formulation and evaluation, the selected plan is expected to provide an aggregated total of approximately 544,000 average annual habitat units 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 303,000 average annual habitat units for sawgrass and 241,000 average annual habitat units for snail kite are expected from the selected plan. The project will have a direct affect to approximately 563,000 acres in the Water Conservation Area. Additionally, the selected plan will increase the spatial extent of habitat for fish and wildlife in the WCA 3A/3B SMA compared to future without-project conditions. These habitat units do not include the ecological benefits that are provided by a replacement mitigation plan that is required.

STUDY OBJECTIVES

Problems and Opportunities: Nearly half of the original Everglades ecosystem has been converted to agricultural and urban uses. Additionally, the hydrology of the remaining Everglades has become altered by the operation of the C&SF Project. The ecological effects of these human-induced changes have generally resulted in:

- A substantial reduction in habitat quality and availability for fish and wildlife;
- A reduction in the system-wide levels of primary and secondary production and changes in the proportions of community types within the remaining system;
- An increase in the concentrations of pollutants in remaining natural system surface waters and sediment;

- A reduction in average annual flows and negative changes in the timing, duration, and magnitude of surface water stages;
- The lowering of regional ground water tables;
- Reductions in the extent of long hydroperiod refugia; and
- Alterations of salinity levels in estuaries.

As a result of project implementation, there are opportunities to:

- Improve hydroperiods and hydropatterns in WCA 3A and 3B during the dry season by reducing seepage out of WCA 3A and 3B through the creation of a SMA in the vicinity of the impoundments.
- Improve hydroperiods and hydropatterns in WCA 3 and Everglades National Park (ENP) during the wet season by storing excess water presently discharged into WCA 3.
- Reduce the frequency and duration of water shortage restrictions in Lower East Coast (LEC) Service Areas 2 and 3 by providing a supplemental source to regional water during dry periods.
- Increase the spatial extent of the natural system.

Planning Objectives: Project-specific objectives were developed by integrating the project problem statements with the overall CERP ecologic goals, which include increasing the spatial extent of natural areas, improving habitat function and quality, and improving native plant and animal abundance and diversity. In addition to the objectives, project constraints were developed to ensure that the proposed project would not reduce levels of service for flood protection and quantities of water available for municipal, industrial, and agricultural water supplies. The project delivery team also took into consideration resource and legal and policy constraints in developing objectives and constraints for this project.

Project Objectives
Objective 1: Restore habitat function and species diversity in WCA 3.
Objective 2: Increase the spatial extent of wetland function.
Objective 3: Improve hydroperiods and hydropatterns in WCA 3.
Objective 4: Reduce the loading of excess nutrients into WCA 3.
Objective 5: Reduce seepage out of WCA 3.
Objective 6: Maximize the amount of water retained in the natural system.

Planning Constraints: The following constraints affecting plan formulation were identified by the project team:

- Maintain existing (Savings Clause [Section 601 (h)(5) of WRDA 2000]) levels of flood protection to agricultural and urban lands.
- Maintain levels of service for existing (Savings Clause) legal users.
- Minimize impacts to cultural, historical and archaeological resources.
- Minimize adverse socioeconomic impacts on the local and regional economies.
- Avoid, minimize, or provide compensatory mitigation for any impacts to pre-existing compensatory mitigation sites within the project area under Section 404 of the Clean Water Act.

ALTERNATIVES

Plan Formulation Rationale:

The formulation process focused on affirming that above-ground storage reservoirs, conveyance, and seepage management features for this project identified in the CERP and Section 601(b)(2)(C)(iv-vi and ix) are a cost-effective solution to achieving system-wide benefits in the South Florida ecosystem and the benefits of the project. Various configurations and storage volumes (including associated conveyance features and water control structures) were evaluated for the two impoundments and compared to the "No Action" alternative. The initial formulation evaluated the project components individually and then combined to determine their dependencies. The WCA 3A/3B Seepage Management Area was considered a necessary component of any plan that was evaluated and was included in all of the alternatives. A final array of four structural plans was then evaluated using a cost effectiveness analysis. These four alternative plans were compared using a system formulation and evaluation approach to identify the alternative plan that maximized net system-wide benefits of the comprehensive plan per unit of cost. This was accomplished by evaluating different types of environmental benefits (habitat units) for specific key attributes of the Everglades ecosystem (ridge and slough community, snail kites, and tree islands) as part of a system formulation and evaluation analysis (i.e., the alternative plan plus all of the other projects in the CERP compared to the future without-project condition). An incremental analysis was performed as part of the system-wide evaluation.

Evaluations of the final array of alternatives were conducted on a system-wide basis in the context of the rest of CERP, and the selected alternative plan was justified on a next-added incremental basis (as if this project was the only project to be constructed in CERP in addition to any CERP projects that have been authorized). The project described in this PIR will still achieve the benefits of the project as originally described in the CERP in a cost-effective manner.

Management Measures and Alternative Plans: Management measures included both structural and non-structural elements. Management measures and subsequent alternative plans for this project were consistent with those that were produced during prior planning efforts. These measures include:

- Control Water Levels in L-37 and L-33 borrow canals through existing pump stations
- Stormwater Treatment Area/Above-Ground Impoundment
- Aquifer Storage and Recovery (ASR)
- Levee Construction
- Basin Divide Structure
- Sheet Pile Wall
- Canal Improvements
- Purchase Land/Buffer
- Deep Well Injection
- S-9 Discharges to tide via C-11

The initial array of alternative plans was developed in multiple stages. The first stage took the Restudy plan as a starting point and from that four preliminary alternatives were developed sequentially based on results of the preceding alternatives. All of the preliminary alternatives included the three components (C-11 Impoundment, C-9 Impoundment, and SMA, plus a portion of the North New River Improvements Project, which includes conveyance infrastructure within the study area). The second stage took those four alternatives and split them into "options" consisting of combinations of the three components. This was done to show any dependencies amongst the individual components of the project. These "options" were then subjected to a screening process. Also included in the analysis was the "No Action" alternative.

The criteria used for initial screening included the reduction in S-9 discharge greater than 50%, the beneficial wet season effects, the beneficial dry season effects and no basin flooding impacts

All alternatives that did not meet the minimum criteria were eliminated from further consideration. The remaining alternatives shown in **Table 1** were then subjected to a secondary screening process. The secondary screening process compared the alternatives based on benefits expressed in Habitat Units (HUs) and project costs.

TABLE 1: INITIAL ARRAY OF ALTERNATIVES

Alt	Component configuration	Total Combined HUs (Ave Annual - rounded to nearest 1,000)	Cost (Average Annual)
No Action	Not Applicable	-	-
A1	C-11 + C-9 + SMA	495,000	$37,002,000
A2	C-11 + C-9 + SMA	553,000	$41,532,000
A3	C-11 + C-9 + SMA	561,000	$41,532,000
A4	C-11 + C-9 + SMA	544,000	$35,956,000
F1	C-11 + SMA	161,000	$34,778,000
F2	C-11 + SMA	195,000	$35,943,000
F3	C-11 + SMA	187,000	$35,943,000
F4	C-11 + SMA	189,000	$34,778,000

Final Array of Alternatives: A cost effectiveness analysis was then performed to screen out non-cost effective plans. Based on the cost effective analysis, four plans, A1, A2, F1 and F3, were eliminated since they produced less output at greater costs than other plans. The cost effective plans are A3, A4, F2 and F4 and these remaining plans are considered the final array of alternatives

TABLE 2: FINAL ARRAY OF ALTERNATIVE PLANS

	"No Action"	**Alt F2**	**Alt F4**	**Alt A3**	**Alt A4**
C-11	N/A	1,734 ac (2 compartments) a) 1,119 ac @ 6' deep b) 615 ac @ 2' deep	1,695 ac (2 compartments) a) 205 ac @ 2' deep b) 1,490 ac @ 4' deep	1,734 ac (2 compartments) a) 1,281 ac @ 6' deep b) 453 ac @ 4' deep;	1,695 ac (3 compartments) a) 2 totaling 205 ac @ 2' deep b) 1,490 ac @ 4' deep
C-9	N/A	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	N/A	Buffer strip with three proposed structures. Operations of the structures adjusted. (4,312 ac)	Buffer strip with three proposed structures. Operations of the structures adjusted. (4,312 ac)	Buffer strip with three proposed structures. Operations of the structures adjusted. (4,312 ac)	Buffer strip with three proposed structures. Operations of the structures adjusted. (4,312 ac)
Total Storage	N/A	7944 ac-ft	6370 ac-ft	20,326 ac-ft	13,326 ac-ft
Total Cost	$0	$529,197,000	$511,467,000	$604,723,000	$519,299,000

Table 3 summarizes the results of the planning analyses conducted throughout the project. Most of the criteria were best rated on a three point scale where the criteria were judged on whether objectives were met, partially met, or not met at all. Other criteria had other data associated with it. The selected alternative plan was further refined based on more a more detailed analysis.

TABLE 3: KEY PLAN SELECTION CRITERIA OF FINAL ARRAY OF ALTERNATIVES

		No Action	Alt F2	Alt F4	Alt A3	Alt A4
Meets Objectives and constraints		0	1	1	1	2
	Increase spatial extent of desirable wetland habitat	0	1	1	2	2
	Improve hydroperiods and hydropatterns	0	1	1	1	2
	Reduce nutrient loading	0	1	1	2	2
	Mitigate impacts to cultural, historical and archaeological resources	0	2	2	2	2
	Minimize adverse socio-economic impacts	NA	2	2	2	2
	Meet mitigation requirements	NA	2	2	0	2
Performance measures	Snail Kite habitat HUs (average annual, net)	0	28,838	37,947	259,881	240,553
	Sawgrass March/Cattail Expansion Rate Reduction HUs (average annual, net)	0	166,519	151,406	301,160	303,228
Solve seepage problems		0	1	1	1	2
Cost Effectiveness/Best Buy		NA	Yes/No	Yes/No	Yes/Yes	Yes/Yes
Incremental Cost Analysis		NA	NA	NA	$323.03	$66.12
P&G Criteria	Acceptability	NA	0	0	1	2
	Completeness	NA	1	1	1	2
	Efficiency	NA	1	1	2	2
	Effectiveness	NA	1	1	1	2

0 = Does not meet
1 = Partially meets
2 = Meets

Alternative A4 was determined to best meet all of the criteria set for this project; therefore, Alternative A4 was the selected alternative plan.

Key Assumptions: The basic assumption was that water captured and stored in the impoundments and SMA and released for urban water supply and resource protection needs results in a reduction of water withdrawn from the natural system. The project was not specifically formulated for recreation; however, a recreation plan was added to the selected

alternative plan consistent with the project goals and objectives. System and project benefits were determined with large scale hydrologic models.

Recommended Plan: The selected alternative plan of the BCWPA Project was further refined based on additional engineering and design. This additional refinement would not change the selected plan. The BCWPA Project includes the following features: the C-11 Impoundment and associated flow diversion canal and structures, the C-9 Impoundment and the WCA 3A/3B SMA. Included within these features are the necessary conveyance improvements for the North New River for this project. The plan also includes compensatory mitigation features which also provide storage in extreme events. The following is a general description of the location and design of selected plan features.

The C-11 Impoundment includes an approximately 1,253-acre above-ground impoundment with an effective interior storage of 1,068 acres at 4.3-feet deep with an adjacent 565 acres required to construct a 475-acre interior wetland marsh area 1-foot deep and 13 acres for an additional 13-acre created marsh. This component is located in western Broward County, adjacent to and east of US Highway 27. The northern boundary of this component is approximately 3.5 miles south of the I-75/US-27 Interchange. The southern boundary 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. In addition to a perimeter levee, the C-11 Impoundment includes an inflow pump station, a gated ogee spillway, three gated culverts, one ungated culvert, two fixed weirs, an emergency overflow spillway, and perimeter seepage control canals. The design for this feature also includes additional levees to protect and manage water levels in the adjacent wetland mitigation area.

The C-9 Impoundment includes an approximately 1,804-acre above-ground impoundment with an effective interior storage of 1,641 acres with a 4.3-foot deep pool with approximately 247 acres required 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. This component is located in southwestern Broward County, adjacent to and east of US 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 approximately 1.3 miles in length from north to south. In addition to a perimeter levee, the C-9 Impoundment includes an inflow pump station, a seepage control pump station, a gated ogee spillway, three gated culverts, one ungated culvert, two fixed weirs, an emergency overflow spillway, and perimeter seepage control canals.

The WCA 3A/3B SMA feature footprint consists of 4,633 acres of short hydroperiod wetlands that have been heavily invaded with exotic vegetation species (primarily Melaleuca and Brazilian pepper). The relatively narrow strip of land is oriented north-south, approximately one-half mile wide and approximately 11 miles long. The site is located immediately west of US Highway 27, from I-75 south to about one mile south of the Miami Canal along the L-37, L-33, and a portion of L-30 levees. West of the site are WCAs 3A and 3B. South of the site are the Pennsuco wetlands. There are two trailer parks (Jones and Holly Lakes) and a Florida Power and Light (FP&L) transmission line and electrical substations located within this feature. These existing

structures necessitate design elements to provide continued access and to prevent additional flood damages potentially caused by project implementation. The SMA will be surrounded by a perimeter levee (with associated borrow canals). The SMA receives inflow as seepage from WCA and from the existing L-37 and L-33 borrow canals. Creation of the SMA will enable water stages to be held at a higher elevation within the SMA, creating a step-down effect adjacent to WCAs 3A and 3B and thereby limiting seepage of natural system water out of those areas. Natural system water will be separated from urban runoff in the SMA by internal levees. Upon full build-out of CERP, natural system water collected in the SMA will be directed via the conveyance system south into the Central Lake Belt Storage Area or directly to Northeast Shark River Slough. The C-502B Conveyance Canal (connecting the C-11 Impoundment to the C-9 Impoundment) also traverses the SMA. The primary project activity within the SMA will allow for restoration of wetland hydroperiod. Additional activities include continued removal and control of nuisance exotic vegetation, supplemental native wetland plantings in areas dominated by exotic plant species, and restoration of wetland habitat by regrading uplands, which are planned as mitigation measures.

The BCWPA projects authorized in WRDA 2000 will be recommended for deauthorization and these components described above will be recommended for authorization as one project with three features.

Systems/Watershed Context: The study explicitly considered the needs of and potential impacts to areas within the Everglades ecosystem upstream and downstream of the project area. The proposed BCWPA project includes three components and a portion of a fourth of 68 different components that comprise the CERP. The selected plan for the BCWPA project is consistent with the BCWPA project components originally formulated for in the CERP and it was formulated to optimize system-wide benefits in furtherance of CERP goals and objectives. The evaluation of project effects demonstrated that the BCWPA Project will benefit a significant area of the Everglades watershed.

Environmental Operating Principles: The proposed BCWPA Project is consistent with the seven Environmental Operating Principles in affirming the project's commitment to environmental restoration. These principles foster unity of purpose on environmental issues, reflect a new tone and direction for dialogue on environmental matters, and ensure that employees consider conservation, environmental preservation and restoration in all Corps activities. The proposed project would help to reverse declining conditions in the Everglades and provide for a return to sustainable, diverse conditions in the natural system. Beneficial effects in the environment were predicted utilizing a peer-reviewed, scientific model for the hydrological network of 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 direct compliance with all pertinent laws and would be 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 development and evaluation was accomplished via an integrated, interagency team, using the combined knowledge and scientific and technical expertise of a team of professionals experienced in South Florida ecosystem restoration and in consideration of public input provided throughout the study process. Additionally, project implementation involves

adaptive assessment (monitoring) and management (actions taken to address monitoring results) activities to ensure that the BCWPA Project will achieve project objectives.

Independent Technical Review (ITR): Independent Technical Review was performed for the project throughout the planning process and prior to each of the following project milestones: Feasibility Scoping Meeting, Alternative Formulation Briefing, and Draft PIR. For the Final PIR, in coordination with the Mississippi Valley Division (Restoration Center of Expertise) an external ITR team was established consisting of team members from the Wilmington District Regional Planning Center, the Wilmington District Regional Engineering Center, and the Savannah District. The project delivery team responded to all of the comments received from the ITR team and all issues have been resolved and certification provided.

EXPECTED PROJECT PERFORMANCE

Project Costs: Table 4 includes a breakdown of the cost of the BCWPA Project including construction, lands and damages, pre-construction engineering and design costs, recreation and interest during construction. The costs are rounded to the nearest $10,000 and are at October 2006 price levels.

TABLE 4: BROWARD COUNTY WATER PRESERVE AREAS PROJECT SUMMARY OF COSTS FOR THE SELECTED PLAN (OCTOBER 2006 PRICE LEVEL - 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
Recreation	**$1,930,000**
Cultural Resource Preservation	$190,000
Construction Cost	**$378,950,000**
Non-Construction	
Lands and Damages	$308,920,000
Planning, Engineering and Design	$30,310,000
Construction Management	$28,800,000
Non-Construction Cost	**$368,030,000**
TOTAL FIRST COST	**$746,980,000**

Equivalent Annual Costs and Benefits

Table 4. Economic Costs and Benefits of Recommended Plan ($ Rounded)

Item	Restoration		Recreation		Total Costs	
	Allocated Costs	Benefits	Allocated Costs	Benefits	Allocated Costs	Benefits
Investment Cost ($)						
First Cost	744,750,000		2,230,000		746,980,000	
Interest During Construction [3]	44,500,000		20,000		44,520,000	
Total	789,250,000		2,250,000		791,500,000	
Annual Cost ($)						
Interest and Amortization [1]	45,210,000		130,000		45,340,000	
OMRR&R [2]	5,790,000		190,000		5,980,000	
Monitoring Cost	480,000				480,000	
Subtotal	51,480,000		320,000		51,800,000	
Annual Benefits						
Non-monetary						
Ecological Function [4] (Avg. Annual Habitat Unit for WCA)		544,000				544,000
Cattail Expansion Reduction Rate		303,000				303,000
Snail kites		241,000				241,000
Monetary (Recreation$)[5]				1,230,000		1,230,000
Net Annual Recreation Benefits				910,000		910,000
Recreation Benefit-Cost Ratio				3.8 to 1		3.8 to 1
Recreation Benefit-Cost Ratio (at 7%) [6]				3.5 to 1		3.5 to 1

[1]Based on October 2006 price levels, 4.875 percent rate of interest, and a 40-year period of analysis.
[2] Operation, Maintenance, Repair, Replacement, and Rehabilitation
[3] Project Based on 4 year construction schedule
[4] Ecological Function – term used to measure the net average annual habitat units in Water Conservation Area 3. The attributes chosen would best show the ecological response within this habitat.
[5] Recreation Benefits reflect 2007 unit day values from EGM, 07-03
[6] Per Executive Order 12893

Cost Sharing: The total first cost of the project, including the value of lands, easements, right-of-ways, relocations and disposal (LERRDs) and pre-construction engineering and design (PED) costs will be shared equally between the Federal government and the non-Federal sponsor as described in **Table 5**. The non-Federal sponsor will provide cash or manage a portion of construction as necessary to meet its 50% share of the total first cost of the project to be balanced according to Section 601 of WRDA 2000 to maintain a 50/50 cost share as measured cumulatively for the entire CERP Program. Section 601 of the WRDA 2000 and USACE policy requires that the non-Federal sponsor must obtain and provide certification of LERRDs necessary for project implementation.

TABLE 5: TOTAL FIRST COST APPORTIONMENT FOR THE BCWPA PROJECT (OCTOBER 2006 PRICE LEVEL ROUNDED TO NEAREST $10,000)

Item	Non-Federal Cost	Federal Cost	Total Cost
PED	$ 15,160,000	$ 15,150,000	$ 30,310,000
Lands & Damages	$258,130,000	$ 50,790,000	$308,920,000
Construction Management	$ 14,400,000	$ 14,400,000	$ 28,800,000
Construction Costs	$ 85,800,000	$293,150,000	$378,950,000
Total	**$373,490,000**	**$373,490,000**	**$746,980,000**

Section 601(b)(2) of the WRDA of 2000 specifies that adaptive assessment and monitoring will be cost shared equally by the Federal Government and the non-Federal sponsor (SFWMD). These adaptive management costs have been allocated to construction and operations and maintenance (O&M) for budgeting purposes. The implementation of the recreation features are cost shared equally by the Federal government and non-Federal sponsor and the O&M is 100% Non-Federal responsibility.

Project Implementation: The SFWMD is the Non-Federal Sponsor for this project. The SFWMD proposes to initiate construction on the Water Preserve Areas project (including features of the BCWPA Project) as part of the State's Acceler8 plan prior to implementation of the Federal project. The Broward County Water Preserve Areas Acceler8 project is consistent with the plan recommend in the Final PIR.

SFWMD commenced engineering design in late 2004 under the Acceler8 program with survey and subsurface geotechnical investigations. It is anticipated that full scale construction on the C-9 Impoundment and the WCA 3A/3B SMA by the SFWMD will begin in 2008. The construction of the C-11 Impoundment and required canal modifications is also expected to begin in 2008. Detailed design of the C-9 Impoundment, C-11 Impoundment and the WCA 3A/3B SMA is currently being conducted by the SFWMD with coordination and review by the USACE under the Acceler8 program. All detailed design and construction will be coordinated with the Corps. Crediting for work performed by the SFWMD will be subject to project authorization and adherence to USACE design standards and regulations. LERRDs will be the responsibility of the SFWMD and currently 95% of all required lands have been acquired.

The evaluation of beneficial water made available by the BCWPA Project indicates that the project makes additional beneficial water available in WCA 3B and Everglades National Park. This additional beneficial water produced by the project will be reserved or allocated for the natural system in accordance with WRDA 2000.

Operation, Maintenance, Repair, Rehabilitation, and Replacement (OMRR&R): Annual operations and maintenance costs were estimated for the construction features of the recommended plan for the BCWPA Project. The operation and maintenance costs were determined by extrapolation from operational costs histories supplied by the SFWMD using industry standard cost data and data from past and projected cost trends. Operation and maintenance activities include such items as mowing, erosion control, pump maintenance, levee road maintenance, and building maintenance. The annual (OMRR&R) costs for the restoration features are estimated to be $5,790,000. The ecologic and water quality monitoring is estimated to be $480,000 and is not expected to exceed 5 years. It should be noted that the ecological monitoring is to evaluate the benefits needed for the compensatory mitigation requirements. Recreation OMRR&R costs have been estimated at approximately $190,000. The Non-Federal Sponsor is responsible for 100 percent of the OMRR&R recreation costs.

Key Social and Economic Factors: 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 minor 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 in the center of the impoundment which will be adversely affected by the project. Mitigation measures identified as part of this consultation will be detailed in a Memorandum of Agreement (MOA).

Stakeholder Perspectives and Differences: Stakeholders such as non-governmental groups and the public were given the opportunity to attend and provide their views at project delivery team (PDT), Regional PDT meetings, public meetings and scoping meetings. For this project there have been over 50 public meetings that were coordinated by the Non-Federal Sponsor or the USACE.