

## RECORD OF DECISION

### Central and Southern Florida Project Comprehensive Review Study

I have reviewed the Final Integrated Feasibility Report and Programmatic Environmental Impact Statement (EIS) for the Central and Southern Florida (C&SF) Project Comprehensive Review Study (Restudy). I have also reviewed all correspondence, including comments on the Draft and Final EIS and all pertinent documents for this project. Based on this review and views of the other agencies, native American Tribes, non-governmental organizations, and the public, I find the final recommendation in the Final EIS to be technically sound, economically justified, in accordance with environmental statutes, and in the public interest. Thus, I approve the C&SF Comprehensive Plan for implementation.

The purpose of the Restudy was to evaluate conditions within the study area, make recommendations to modify the C&SF Project to restore important functions and values of the Everglades and south Florida ecosystems, and to plan for the water resources needs of the people of south Florida for the next 50 years. The recommended Comprehensive Plan will function as a framework and guide for modifications to the C&SF Project. The recommended Comprehensive Plan contains 68 components, including Other Project Elements (OPEs), Critical Restoration Projects, water quality treatment facilities, and other modifications, principally through the creation of approximately 217,000 acres of new reservoirs and wetlands based water treatment areas. This plan increases the supply of fresh water for the Everglades and south Florida ecosystem and improves the quantity, quality, timing, and delivery of water to the natural system. The recommended Comprehensive Plan includes the following structural and operational changes to the existing C&SF Project:

- Construction of 181,250 acres of surface water storage reservoirs with a capacity to store 1,543,270 acre-feet of water;
- Water Preserve Areas (WPAs) consisting of multi-purpose water management areas in Palm Beach, Broward, and Miami-Dade Counties between the urban areas and the eastern Everglades;
- Aquifer storage and recovery (ASR) wells around Lake Okeechobee, in the WPAs, and in the Caloosahatchee River Basin capable of pumping as much as 1.6 billion gallons of water a day;
- Construction of 35,600 acres of Storm Water Treatment Areas (STAs);
- Removal of more than 240 miles of project canals and internal levees within the Everglades;

- **Modifications to 11,000 acres of existing limestone quarries in the Lake Belt region of northern Miami-Dade County for water storage for urban areas and the natural environment;**
- **Construction of new wastewater reuse facilities and modifications to an existing waste water reuse facility to supply up to 220 million gallons a day of treated, clean water to the natural system; and**
- **Pilot projects to address uncertainties associated with some of the physical features that are proposed in the recommended plan.**

**A number of operational components have also been identified in the recommended Comprehensive Plan and will, in most instances, occur in conjunction with related construction features. The operational features included in the Comprehensive Plan include: a modified Lake Okeechobee regulation schedule; environmental water supply deliveries to the Caloosahatchee and St. Lucie Estuaries; modifications to the regulation schedules for Water Conservation Areas 2A, 2B, 3A, 3B and the current rainfall delivery formula for Everglades National Park (ENP); Modified Holey Land Wildlife Management Area Operations Plan; Modified Rotenberger Wildlife Management Area Operations Plan; a modification for coastal wellfield operations in the Lower East Coast (LEC); LEC utility water conservation; and operational modifications to the southern portion of L-31N and C-111.**

**The Corps is committed to implementing the final plan in a manner that provides more water for ENP and Biscayne Bay. Up to about 245,000 acre-feet of additional water may be available from urban sources. Assuming this water can be treated to acceptable standards, and does not result in unacceptable adverse impacts to other areas of the natural system, this water may be used to enhance overland flow and ecological conditions in ENP and Biscayne Bay. The Corps is further committed to solving any outstanding operational problems in the Water Conservation Areas (WCAs) associated with the Comprehensive Plan.**

**Finally, the following studies are recommended to investigate additional improvements needed to support the restoration, protection, and preservation of the south Florida ecosystem: (1) Florida Bay and Florida Keys Feasibility Study; (2) Southwest Florida Feasibility Study; and (3) Development of a Comprehensive Integrated Water Quality Plan.**

**All practicable means to avoid or minimize environmental harm from the alternative selected have been adopted. In addition to the recommended Comprehensive Plan, several alternatives were formulated and evaluated by the interagency study team preceding selection of the final recommended plan. The Starting Point was the first alternative plan formulated. It combined many features considered to solve system-wide problems and incorporated experience from the Restudy Reconnaissance study and the Lower East Coast Regional Water Supply Plan. The evaluation of the Starting Point showed the need for increased water storage throughout the system to meet ecological restoration and water supply objectives. In addition, the Starting**

Point included extensive seepage control components to keep more water in the natural system. Alternatives 1-6 were formulated following evaluation of the Starting Point. Alternative 1 was formulated to overcome the water storage shortfalls and to reduce negative impacts of aggressive seepage management. Alternative 2 continued to show the need for improved seepage management and greater storage throughout the system. However, storing water in additional surface reservoirs became more costly and other non-traditional storage options, such as ASR wells would have to be considered. Alternative 3 substantially increased water storage capacity by including a series of ASR components. None of the plans until now had attempted to reestablish unrestricted sheetflow (connectivity) throughout the remaining Everglades. Alternative 4 included partially decompartmentalizing the remaining natural system by removing canals and levees. Removal of certain structures was shown to restore more natural hydroperiods, however removal of others resulted in unintended adverse effects most notably to Lake Okcechobee, water supply and parts of the WCAs. Alternative 5 attempted to address the problems resulting from alternative 4, but despite substantial improvements, the timing and distribution of water in the Everglades remained a problem. Alternative 6 was formulated to further address the previous problems with alternatives 4 and 5. This plan also added wastewater reuse components in an effort to try to get more water to the southern Everglades. Throughout this iterative process, the engineering design of components was improved such that the alternatives were no longer comparable on an equal footing. Thus, alternatives 3, 4, 5, and 6 were modified to reflect more current design assumptions that would make them comparable and improve their performance. These alternatives then became A, B, C, and D. The Starting Point and alternatives 1 and 2 were determined to be inferior to the other alternatives in achieving the planning objectives at levels that would be acceptable and were dropped from further consideration. The individual components common to and different in each of the alternatives is provided in Tables 7-5 and 7-6 of the Final Integrated Feasibility Report and Programmatic EIS. Alternative D was initially selected as the preferred alternative plan. It was later improved by a series of iterative modeling and evaluation steps leading to the final recommended Comprehensive Plan, D-13R. Alternative D-13R is the environmentally preferred alternative. While the other alternatives did provide additional knowledge on restoring the larger ecosystem and did result in various levels of restoration for some areas, they generally did not result in an acceptable level of restoration success on a regional ecosystem scale and/or resulted in unacceptable environmental or socio-economic consequences. The no action alternative was examined but considered unacceptable because it did not provide a solution for nor meet the goals and objectives established by the Restudy team.

The Restudy made maximum use of state-of-the-art hydrological and ecological modeling, water quality analyses and developed and evaluated hundreds of performance measurement criteria using interagency, inter-disciplinary study teams. The study team, in conjunction with input from the public and other agencies, identified the most suitable and beneficial plan components for south Florida ecosystem restoration and urban and agricultural water supply, as well as how the components should be implemented for maximum benefit. The Jacksonville District considered all applicable laws, executive orders, regulations, and local government plans in evaluating the alternatives. Formal consultation with the U.S. Fish and

Wildlife Service under Section 7 of the Endangered Species Act was satisfactorily completed. All terms and conditions specified in the final programmatic biological opinion, dated March 1, 1999, will be complied with. The Department of Interior and the Florida Game and Fresh Water Fish Commission prepared and submitted final Fish and Wildlife Coordination Act Reports providing recommendations as to how to optimize the recommended Comprehensive Plan for fish and wildlife benefits and means to avoid or minimize adverse impacts to these resources. The Corps sought every feasible means to incorporate these measures into the final plan and is committed to sending additional fresh water to Everglades National Park and Biscayne Bay, beyond the amount suggested in the final plan. This commitment must be weighed however with consideration of potential other related adverse impacts in the WCAs and elsewhere. The Florida State Clearinghouse has agreed that the recommended plan is consistent with the Florida Coastal Zone Management Program. The State Historic Preservation Officer has also stated that, at this conceptual level, no significant cultural or archeological resources are likely to be impacted. Under the Restudy Programmatic EIS, future NEPA documents will be prepared and coordinated, as appropriate, for separable project features as part of the Project Implementation Report process.

Technical and economic criteria used in the formulation of alternative plans were those specified in the Water Resources Council's Principles and Guidelines. In view of the above I find any adverse affects of the proposed action, described in the Programmatic EIS, to have been avoided and/or minimized to the extent practicable, and am confident that the recommended plan best meets the overall objectives of the Restudy. The proposed action is consistent with all applicable laws, regulations, national policy, and administrative directives. The total public interest will best be served by implementing as expeditiously as possible, the recommended Comprehensive Plan as described in the Final Integrated Feasibility Report and Programmatic EIS.



Joseph W. Westphal  
Assistant Secretary of the Army  
(Civil Works)

1 JUL 1999

Date