

SECTION 12

**COMPLIANCE WITH ENVIRONMENTAL
REQUIREMENTS**

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SECTION 12

COMPLIANCE WITH ENVIRONMENTAL REQUIREMENTS

The alternative plans were considered in relation to compliance with Federal environmental review and consultation requirements.

12.1 NATIONAL ENVIRONMENTAL POLICY ACT OF 1969

Environmental information on the project has been compiled and a Draft Programmatic Environmental Impact Statement (PEIS), Central & Southern Florida Project Comprehensive Review study, was prepared on October 1998. A systematic interdisciplinary approach to planning has been utilized; alternatives have been studied, developed and described, and ecological information has been developed and utilized. A notice of availability for the Draft PEIS was published in the Federal Register, Volume 63, Number 205, on October 23, 1998. The Draft PEIS was coordinated with state, Federal and local agencies, native American Tribes, non-governmental agencies, and the public for seventy-one days until December 31, 1998. A Final PEIS has been prepared incorporating comments and recommendations provided by state, Federal and local agencies, native American Tribes, non-governmental agencies, and the public and including a compilation of reviewer comments and agency responses in **Appendix N**. This Final PEIS is being circulated in accordance with the National Environmental Policy Act for a period not less than thirty days.

12.2 FISH AND WILDLIFE COORDINATION ACT OF 1958

In response to the requirements of this Act, the U.S. Army Corps of Engineers has and will continue to maintain continuous coordination with the U.S. Fish and Wildlife Service and the Florida Game and Freshwater Fish Commission during all stages of the planning and implementation of this project. Previous to completing the Draft PEIS, the Florida Game and Fresh Water Fish Commission submitted a Fish and Wildlife Coordination Act report on August 6, 1998. The U.S. Fish and Wildlife Service also submitted, under separate cover, a Draft Fish and Wildlife Coordination Act report dated August 7, 1998.. The comments provided as a part of these reports were reviewed by the Corps and served to provide a framework for future investigation of scenarios and modifications to the Initial Draft Plan. Following release and coordination of the Draft PEIS and prior to completion of the Final PEIS, the U.S. Fish and Wildlife Service, submitted a Final Fish and Wildlife Coordination Act Report (as a supplement to the draft) on March 1, 1999. The Florida Game and Fresh Water Fish Commission also submitted two additional Fish and Wildlife Coordination Act Reports (Part II and Part III) on

January 19, 1999 and February 19, 1999 respectively. These reports are included in their entirety in **Annex A**.

The Fish and Wildlife Service and Florida Game and Fresh Water Fish Commission recognize that while implementation of the Comprehensive Plan should result in widespread restoration of natural systems in south Florida, the plan also continues to include some unresolved issues. These remaining issues are a source of concern among the resource agencies. Both of the Fish and Wildlife Coordination Act reports contain recommendations for addressing these concerns. An interagency effort was begun in September 1999, led by the Alternatives Evaluation Team, to better define, prioritize, and develop a strategy to resolve each of these concerns. Although resolution of these issues is on a fast track, the Alternatives Evaluation Team has shown that substantial new technical information, to be provided by additional research and modeling, will be required to address these efforts. The Restudy is committed to seeking resolutions to these concerns, in an interagency, consensus-building setting. Issue resolution will be an important function of the RECOVER process that will help guide the program through implementation. The following paragraphs contain recommendations as presented in the Fish and Wildlife Coordination Act Reports prepared by the U.S. Fish and Wildlife Service and Florida Game and Fresh Water Fish Commission and responses to the recommendations prepared by the Corps.

12.2.1 U.S. Fish and Wildlife Service draft Fish and Wildlife Coordination Act Report Recommendations

Comment #1 – The Department of Interior recommended that all progress toward achieving ecosystem restoration be continuously evaluated in a scientific forum. A peer-reviewed science-based adaptive management strategy, coupled with a sound monitoring program, is the recommended means for integrating all the past knowledge of the south Florida ecosystem with recent findings of the scientific community. Based on the monitoring information, the interagency adaptive management team will prepare annual reports and provide recommendations to decision-makers on how to proceed. This strategy will ensure that refinements to the Initial Draft Plan will be based on the best and most recent information. The annual reports will also be an avenue for keeping the general public fully informed.

Response – A specific strategy has been developed for conducting regular, science-based evaluations to determine how well the components of the Recommended Plan achieve the ecological targets set by the performance measures. A team of senior ecologists and hydrologists will compare actual ecological responses with predicted responses, as a basis for considering changes in plan components and for improving and redefining overall ecological measures of restoration success. The products of this internal review will be independently reviewed on a regular basis by the Science Advisory and Review Panel, appointed by the South Florida Ecosystem Restoration Task Force. The measures of ecological

responses will be determined through a regional, integrated monitoring program. All evaluations and recommendations will be made widely available for review by means of annual reports.

Comment #2 – Proper sequencing of presently authorized projects and the components to be authorized in the C&SF Restudy must be determined and followed. Effective sequencing of actions proposed by the C&SF Restudy (relative to each other and to existing authorized projects) must be thoroughly analyzed and integrated in construction schedules.

Response – A multi-agency team, similar to the Alternative Development and Alternative Evaluation Teams, was formed to develop the implementation plan. The team has developed guidelines for the development of the implementation plan, an initial packaging of components, and initial sequencing of projects for the draft report. The implementation plan has been reviewed by the AET and other members of the Restudy team and has been considerably expanded in scope and detail in the final feasibility report.

Comment #3 – The Department of Interior strongly supported the completion of feasibility studies on the Water Preserve Areas, the Indian River Lagoon, and initiation of a feasibility studies on Southwest Florida, and Biscayne Bay.

Response – The Corps of Engineers completed a Reconnaissance Report for Biscayne Bay in 1995. The study proposed the development of a multi-phase modeling system to investigate the effects of Federal projects on water circulation, biological communities, and water quality in the bay. The first phase, which includes development of a hydrodynamic model with associated surface and groundwater models, is presently underway. The Biscayne Bay Feasibility Study is cost-shared with Miami-Dade County. The Indian River Lagoon and Water Preserve Areas Feasibility studies are currently ongoing and alternatives are being assessed by their respective inter-agency study teams. The NEPA process in support of regulatory actions for Southwest Florida has been ongoing for the past year and a draft Environmental Impact Statement will be coordinated in the near future with state, Federal and local agencies, native American Tribes, and the public.

Comment #4 – The Department of Interior recommended that Other Project Elements that provide the most significant ecological benefit receive the highest priority for future detailed planning and implementation.

Response – The Department of Interior participated in the evaluation of the Other Projects Elements. This evaluation is described in **Appendix A5**. Based on this evaluation, and adjustments to the scope of the plan, nineteen Other Project Elements are recommended for inclusion in the Comprehensive Plan.

Comment #5 – Recreational opportunities in the natural areas of south Florida must be considered in detailed project design and in policy development as well as the perception that Federal lands are receiving restoration priority over state lands.

Response – Concur. Recreation is one of the C&SF Project purposes and future planning should attempt to minimize impacts which may affect existing recreation resources, while still restoring the natural functions and values inherent in a restored Everglades ecosystem. The Recommended Comprehensive Plan has been developed to benefit all natural areas of the ecosystem, not just Federal lands.

Comment #6 – Aquifer Storage and Recovery should be used in combination with surface storage reservoirs since the reservoirs would modulate peak flows to the wells. For water quality reasons, it would be preferable to recover the water from Aquifer Storage and Recovery wells into a buffer zone area designated for this purpose rather than directly into natural environments. Other water storage options should be investigated in the event Aquifer Storage and Recovery cannot be implemented on the scale proposed for the Restudy.

Response – A number of the construction features that involve surface storage include Aquifer Storage and Recovery features. Post-treatment of water withdrawn from Aquifer Storage and Recovery wells is included in the Comprehensive Plan but further planning and design, including pilot projects, will be needed to address the water quality effects of water recovered from these facilities.

Comment #7 – Opportunities for removal of structures that impede restoration should be a guiding principle; addition of structures must be clearly demonstrated to be unavoidable before being included in designs.

Response – The Restudy Team investigated a number of alternatives to remove barriers between natural areas in the Everglades. The Comprehensive Plan is a compromise between fully reconnecting the Everglades by removing the barriers that hinder continuous sheetflow and achieving ecologically based targets in the Everglades. Future refinements to the plan will reflect the importance of connectivity at a landscape scale and the desire of the team to reduce fragmentation along with the other problems artificial structures cause.

Comment #8 – Detailed design of all components should continually consider approaches that will promote passive systems over intensely active management.

Response – The Corps of Engineers prefers low cost and low energy consumption features to high cost features, as long as they produce the desired results. Preliminary studies have shown that passive management may work very

well within Everglades National Park but less well in the bounded Water Conservation Areas, for example. Future studies will promote passive systems wherever they create and protect natural hydropatterns and the habitats that depend on them.

Comment #9 – Policies governing Clean Water Act authorization of wetland mitigation within the study area must be consistent with the goals of the C&SF Restudy. Enhancement of wetland function attributable to the C&SF Restudy should not be credited to other interests who are required to mitigate for wetland functional losses. As a policy, using lands inside the C&SF Restudy boundary to replace wetland functional losses occurring outside the C&SF Restudy boundary should be prohibited. To meet the stated goal of “increasing the spatial extent of wetlands” wetland mitigation should supplement, not supplant ecosystem restoration benefits attributable to the C&SF Restudy. Information on the location of features proposed in the C&SF Restudy must be made accessible to reviewers of permit applications, and all permit decisions must be compatible with the design and purposes of the C&SF Restudy.

Response - For unavoidable impacts to existing Regulatory mitigation sites, separable mitigation, on a case by case basis will be developed in subsequent phases of the project. This mitigation will be derived from sources other than the benefits identified in this report. The Corps of Engineers and the U.S. Fish and Wildlife Service are members of the interagency team developing the South Florida Comprehensive Conservation, Permitting and Mitigation Strategy. When completed, this strategy should provide consensus based guidance regarding the siting of mitigation sites, including banks, in relation to proposed features of the Comprehensive Plan. In addition, the Mitigation Bank Review Team should work closely with the Restudy Team and potential mitigation bankers regarding opportunities for environmentally compatible private mitigation banks in the project area that will supplement, not supplant, potential benefits of the Comprehensive Plan.

Comment #10 – Land acquisition funding should receive priority before restoration opportunities are lost. Although current activity is largely dependent on willing sellers, the Department of Interior finds that eminent domain procedures will likely be required to complete the plan.

Response – Lands, which can be identified as required for implementation of the plan, should be acquired as soon as possible from willing sellers to the extent possible. Normally, eminent domain may be used to acquire lands for authorized projects: (1) in the event the lands identified for the plan cannot be acquired from willing sellers; (2) only after the completion of necessary documents that identify what particular lands are required for the plan and approval of construction of the particular component by the State and Federal government; and (3) after execution

of a Project Cooperation Agreement between the U.S. Army Corps of Engineers and the non-Federal Sponsor.

Comment #11 – The Water Preserve Areas of Palm Beach, Broward and Miami-Dade Counties are an essential feature of the C&SF Restudy that should proceed rapidly to detailed design, while preserving areas of existing high habitat value and providing fish and wildlife habitat enhancement features in others. The Department of Interior recommends that land acquisition in this critical area be accelerated and that the U.S. Army Corps of Engineers begin an expedited Feasibility Study of the area as soon as possible before restoration opportunities are supplanted by continued urban and agricultural development. Water storage and treatment in other portions of the C&SF Restudy area should also minimize impacts on fish and wildlife habitat.

Response – The Water Preserve Areas of Palm Beach, Broward and Miami-Dade Counties are essential features of the C&SF Restudy and are proceeding as part of the ongoing Water Preserve Areas Feasibility Study estimated for completion in September 2001. This study will take the features identified in the recommended plan in Palm Beach, Broward and Miami-Dade Counties and further formulate their concept in a Project Implementation Report that contains appropriate NEPA documentation.

Comment #12 – The Department of Interior recommended that an equivalent Task Team for invasive exotic animals be established, similar to the statewide strategic plan for managing and controlling exotic pest plants, being developed by the South Florida Ecosystem Restoration Task Force and Working Group Exotic Pest Plant Task Team.

Response – Concur. However, the issue of invasive exotic animals in south Florida reaches beyond the scope of the Restudy. The Department of Interior should present this recommendation to the South Florida Ecosystem Restoration Task Force so appropriate agencies can be tasked to develop a plan.

Comment #13 – The Department of Interior recommended that further refinement of the Initial Draft Plan be completed prior to release of the Final Integrated Feasibility Report and Programmatic Environmental Impact Statement. These refinements are described in Recommendations 13a - 13e, below.

Comment #13a – Total overland flow volumes to Florida Bay, through Shark River Slough, and Taylor Slough, should be increased to more fully reach Natural System Model targets, without adversely affecting the Water Conservation Areas, particularly eastern Water Conservation Area 3A, and 3B

Response - The Alternatives Evaluation Team has coordinated a process for creating a stronger technical consensus and a refined set of performance measures pertaining to the ecological implications of recovering various hydrological targets, including flow volumes, in the Shark Slough and Taylor Slough estuaries. The current range of technical opinion is that the combination of meeting or substantially improving a number of different hydrological targets, rather than a single parameter such as flow volume, is the best route to ecological restoration. The hydrological priorities suggested by the Conceptual Ecological Models, and in numerous documents of the Department of the Interior, indicate that hydroperiod duration and stages are the hydrological targets which can best be related to ecological needs. The southern Everglades sub-team of the Alternatives Evaluation Team developed multiple performance measures to gauge the effects of alternative plans on different needs of the system. The timing of flows, duration of hydroperiods, and stages were considered the higher priority restoration targets for the southern Everglades slough systems. The team chose to protect critical dry season flows even if wet season depths were somewhat reduced. Where an array of hydrological parameters are used to evaluate alternative plans, some weighting of the different values is necessary as a means of dealing with ecological priorities and modeling uncertainties. Because the U.S. Geological Survey (Bales et al. 1997) suggested that the Natural System Model could not be reliably used to simulate discharges (flows) in pre-drainage Florida, any targets based on predicted pre-drainage flows were weighted accordingly.

Comment #13b – The Corps should continue to seek opportunities that are not dependent on wastewater reuse in order to restore more natural flows to Biscayne Bay. Two Other Project Elements would benefit Biscayne Bay with or without the additional water that may be available through reuse facilities. These two Other Project Elements are entitled: South Dade Agriculture Rural Land Use and Water Management Plan and Biscayne Bay Coastal Wetlands. The Department of Interior believes that these projects and any others developed to improve ecological conditions in Biscayne Bay should be given priority. Under any future circumstances, total flow volumes to Biscayne Bay should be no less than those simulated in the 1995 Base.

Response – Concur. Additionally, investigations of less expensive forms of wastewater treatment will be explored that may substantially reduce the cost of that feature. As a point of clarification, the OPE Biscayne Bay Coastal Wetlands, is included as a part of the Comprehensive Plan. The South Dade Agricultural Rural Land Use and Water Management Plan is one of the Critical Projects nominated by the Working Group. This project is not included in the Comprehensive Plan as an OPE. Rather, it is considered to be a research/data collection activity that may be useful during the Project Implementation phase. In addition, this project (or a subset thereof) is being undertaken through the Biscayne Bay Feasibility Study.

Comment #13c – Restoration goals for minimum flows of fresh water to the St. Lucie Estuary and the elimination of regulatory releases to the estuary from Lake Okeechobee would be generally met in the Initial Draft Plan. However, runoff generated within the St. Lucie drainage basin is still significantly greater than the restoration target. The Department of Interior recommended further hydrologic modeling efforts be undertaken to restore the St. Lucie Estuary prior to release of the Final Programmatic Environmental Impact Statement. Moreover, this important restoration effort should be highlighted as a priority for future analysis and refinement under the authority of the U.S. Army Corps of Engineer's Indian River Feasibility Study.

Response – Hydrologic modeling of the St. Lucie Basin is ongoing although new information was not available for the Final Programmatic Environmental Impact. The Indian River Feasibility Study was initiated to ensure the modeling and analysis necessary to support the restoration effort continues beyond the completion of the Comprehensive Plan.

Comment #13d – The Department of Interior expressed concern that the C&SF Restudy does not include an adequate plan for treatment of water destined to be returned to the natural system. The Department of Interior recommended that specific pollutant loading targets be established and an implementation plan developed to reach defined targets within the watershed. Finally, planning should not be limited to nutrient loading; a variety of water quality parameters and pollutants also need to be addressed (e.g., pesticides and mercury contamination).

Response – The Comprehensive Plan includes stormwater treatment areas and other treatment facilities (e.g., aeration of Aquifer Storage and Recovery-recovered water) for treatment of water prior to return to the natural system. Except for total phosphorus (e.g., Taylor Creek/Nubbins Slough Stormwater Treatment Area [Component W2], L-28 Interceptor Modification Stormwater Treatment Areas [Component CCC6]), the stormwater treatment areas were not designed considering specific pollutant load and concentration targets. The State of Florida's Everglades Forever Act addresses specific phosphorus and non-phosphorus pollutant targets in the Everglades Protection Area; however, specific targets have not yet been developed for all pollutants in other impaired water bodies within the study area.

Under the Federal Clean Water Act, the State of Florida and Miccosukee and Seminole Tribes are required to identify impaired water bodies within their jurisdictions and develop specific pollution loading targets (Total Maximum Daily Loads). This requirement applies to all pollutants contributing to the impairment of the water body. While these actions are outside the scope of the Restudy, it is expected that development of Total Maximum Daily Loads will be integrated into

the overall implementation of Restudy components. Specific targets, as they are developed, will be considered during future detailed design activities.

Comment #13e – The Department of Interior believes that water supply for all users (urban, agricultural, natural system) cannot be met in the year 2050, unless unconstrained water demands by urban and agricultural users is reevaluated. The Department of Interior recommended that a guaranteed water allocation to the natural system be developed and instituted as soon as possible.

Response - The Alternatives Evaluation Team has developed a process to better define the technical issues associated with any potential, future conflicts among water requirements for natural, agricultural and urban portions of the total system. In the future, as a part of the RECOVER program, an interagency task team would be assigned to determine the specific water supply issues that could result in conflicts and to make recommendations for prioritizing and preventing these conflicts. The Comprehensive Plan does include water conservation in both the future without plan condition and as a component of the recommended plan. A total reduction in urban water supply demands of 18 percent is estimated to occur as a result. All increases in water supply to agriculture are based on using high efficiency low volume irrigation now required as a part of the South Florida Water Management District's consumptive use permitting process. There are provisions in Florida law (Chapter 373) for the South Florida Water Management District to provide water for the natural system. These include establishing and implementing minimum flows and levels, implementing hydropattern restoration for the Everglades Protection Area and any other natural systems which are being restored, reserving water quantities necessary for the protection of fish and wildlife, and limiting consumptive use permit allocations to prevent harm to the water resources.

Comment #14 – The Department of Interior noted that the Restudy is proposing as many as 225 deep storage wells (Aquifer Storage and Recovery) as an option to improve water supply. In order to ensure the feasibility of regional Aquifer Storage and Recovery facilities, and the long term management of each site, the Department of Interior recommended the initiation of an Aquifer Storage and Recovery feasibility study including hydrologic modeling to evaluate technical uncertainty associated with regional scale Aquifer Storage and Recovery proposed in the Restudy. The feasibility study should investigate placing water removed from storage wells into "buffer zones", before being discharged into the natural environment, and other water storage options in the event that Aquifer Storage and Recovery cannot be implemented on the scale proposed for the Restudy.

Response – Aquifer Storage and Recovery is an important component in the Comprehensive Plan. It is recognized that there are technical and regulatory issues associated with the regional scale Aquifer Storage and Recovery components,

therefore, pilot projects have been recommended prior to embarking upon full scale implementation of the technology. In addition, section 7 of the report includes a discussion of the potential alternatives to the Aquifer Storage and Recovery components.

Comment #15 – The Department of Interior recommended that improvements be made to hydrologic models that will be used in detailed planning for Restudy components to better account for water flows, including groundwater flow, identifying areas where more data are needed, securing better topographic data, particularly in critical areas, and addressing water quality concerns.

Response – Concur. The Corps and South Florida Water Management District have developed more detailed models that will be used for the Water Preserve Area Feasibility Study. It is anticipated that additional, more detailed models and data will need to be developed as the Restudy progresses into the detailed planning and design phase for other areas where modifications to the project will be made.

12.2.2 U.S. Fish and Wildlife Service final Fish and Wildlife Coordination Act Report Recommendations

Comment #1 – The final plan as implemented should include components from the D13R₄ scenario that can provide an improved capability for delivery of additional water to Everglades National Park and Biscayne Bay up to the amount in the D13R₄ scenario by capturing additional runoff from urban areas. The Implementation Plan should include a phased approach to provide for improvement and eventual full recovery of the WCAs, ENP, Biscayne Bay and those other natural areas that have been adversely affected to by the C&SF Project.

Response – The Corps has committed to implementing a final Comprehensive Plan that increases the capability for delivery of additional water to Everglades National Park and Biscayne Bay. Approximately 253,000 acre-feet of additional water, from urban canal basins, has been identified in the D13R₄ scenario that may provide this additional source of water. Implementation of this type of scenario necessitates resolving water quality issues prior to hydrologic restoration. Furthermore, the Corps is committed to protecting the environmental integrity of the Water Conservation Areas, such that incorporation of any elements of D13R₄, or future plan features which capture, store and convey additional water to ENP and BNP, will not adversely affect conditions in the Water Conservation Areas. Finally, the Implementation Plan includes a phased approach, as described in correspondence dated February 19, 1999 from the Corps to the U.S. Fish and Wildlife Service and Everglades National Park, providing clarification on the Comprehensive Plan.

Comment #2 - The Corps should give high priority to examining those groups of components related to movement of water from the central Everglades to the southern Everglades, including but not limited to, L-29 and L-67 A and C. The final Comprehensive Plan should be flexible enough to develop and substitute components during implementation that significantly reduce the operational and ecological trade-offs in balancing the restoration of flow patterns and volumes with the maintenance of appropriate water depths in the remnant Everglades, particularly in the WCA 3B/Pennsuco Wetlands/Northeast Shark Slough areas.

Response - The Comprehensive Plan has demonstrated flexibility in capturing, storing, and conveying water to various areas in the system to meet natural system and urban/agricultural demands. This was most recently illustrated during the scenario process that resulted in D13R₄ that was evaluated by the Alternative Evaluation Team. D-13R₄ was described in the Department of Interior Fish and Wildlife Coordination Act Report, dated March 1, 1999, as having "... demonstrated the flexibility in the conceptual plan for more closely approaching restoration targets for the southern Everglades and Biscayne Bay." The Corps is therefore confident that indeed, the Comprehensive Plan is sufficiently robust in its ability to meet restoration of flow volume, depths, duration and distribution of flows, while maintaining appropriate depths elsewhere in the system.

The components mentioned will be revisited during detailed design. The Corps, through an interagency process, has developed an Implementation Plan that will continue to consider ecological priorities (see **Section 10**). Section 10.5.1.4 of the Implementation Plan describes a series of factors and rules to consider in developing the sequence of project implementation. These factors included: components that have physiographic and functional connectivity, provide immediate benefits, contribute to the overall system, components that may be implemented through ongoing projects, and components that need to be implemented to avoid lost opportunity potential.

Comment #3 - The Department of Interior recommends that the Corps not commit to the specific details of the L-67 levee component as conceived in either Alternative D13R or the D13R₄ scenario.

Response - All of the more than sixty components contained in the Comprehensive Plan were formulated and evaluated with a great deal of involvement from state, Federal and local agencies. This particular component was developed and evaluated through the Restudy interagency plan formulation process (AET/ADT), including U.S. Fish and Wildlife Service, and the National Park Service staff, and was done in response to a desire for more passive features over mechanical, engineered solutions. This component makes maximum use of passive features eg. earthen plugs and weirs, and is fundamental to the overall restoration of flows to the southern Everglades, while approaching appropriate depths in

Water Conservation Area 3B. However, as we progress into more detailed planning, we will be willing to consider more suitable methods to achieve the same goals.

Comment #4 - The use of the currently designed S-140 as a means to restore hydropatterns in northern WCA 3A needs to be further evaluated during the PIR process and in detailed design. The Department of Interior suggests a better balance between the use of the S-140 as a point of discharge and a series of inflow structures to spread out flow along the northern and western boundary of WCA 3A.

Response - Concur. This plan feature will be further evaluated during detailed planning, including preparation of appropriate NEPA documentation, to determine the precise implementation strategy for the S-140 in order to meet hydroperiod targets in northern WCA 3A without incurring unacceptable adverse impacts such as an expansion and proliferation of cattails.

Comment #5 - Until the Comprehensive Plan is implemented, surface water flows for Biscayne National Park and the bay should meet or exceed the 1995 base condition. Furthermore, there should be neither any annual or seasonal net loss in the total volume or any reduction in the spatial and temporal distribution of combined surface and groundwater flows.

Response - Concur in part. To the extent that the C&SF Project currently controls fresh water flows to Biscayne National Park, and the bay, operation of the Project will strive to meet or exceed 1995 base condition target flows. Only if there should arise a consensus conclusion, based on development of new performance measures for Biscayne Bay, that alternative flow patterns may be beneficial for restoration of the bay, would the Corps consider reducing flows below the 1995 base.

Comment #6 - Every effort should be made to find sources storage and means of distribution of water to Biscayne Bay that a) require minimal water treatment, b) are likely to receive adequate funding and have the greatest probability of success, and c) can achieve current and future restoration targets, with reasonably predictable environmental and economic consequences. Wastewater reuse should be considered as a last resort.

Response - Concur. The use of waste water reuse is already acknowledged to be a "last resort" feature in that the expense of building, operating and maintaining waste water reuse facilities is very high relative to other features. See component BBB; South Miami-Dade County Reuse, Section 9.1.8.24 of main report.

Comment #7 - Studies to verify restoration targets for Biscayne National Park and the bay should be funded and prioritized early during the implementation

phase. The Biscayne Bay Feasibility Study, in particular, must be given a very high priority.

Response – The Biscayne Bay Feasibility Study is ongoing. Its first phase includes development of a hydrodynamic and circulation model for the bay. Later phases will investigate water quality and ecological baseline restoration needs. It will be vital for Department of Interior to play an active role in the development of this study as it progresses.

Comment #8 - The Department of Interior recommends that sufficient water treatment capacity be built into the Plan to handle the increased water volumes needed to achieve the hydrologic characteristics as were observed under D13R4. Furthermore, the Department of Interior recommends that the Comprehensive Integrated Water Quality Plan be given priority and that specific funding be identified for this purpose in WRDA 2000.

Response – The Corps and its planning partners share these concerns and recognizes their significance in terms of creating potential significant adverse impacts to the natural area. The Corps is committed to full resolution and consensus based solutions to water quality issues prior to implementing hydrologic modifications throughout the south Florida ecosystem including the Everglades and Biscayne Bay. The Comprehensive Integrated Water Quality Plan will be initiated under the existing authorization for the Restudy, Section 309(l) of the Water Resources Development Act of 1992 (Public Law 102-580).

Comment #9 - The Department of Interior re-emphasizes its recommendation described in a February 18, 1999 Planning Aid Letter, that the 2010 case study be revisited to see if optimizing reservoir performance, reordering the implementation schedule, or phasing components into increments, would improve performance of the Comprehensive Plan by the year 2010.

Response – The 2010 case study was conducted to help to provide additional information relating to the sequencing of Comprehensive Plan components. Subsequently, the Comprehensive Plan schedule has been refined in an effort to expedite restoration efforts. The project implementation report process will also look for opportunities to enhance the performance of individual components through the detailed planning and design phases of implementation.

Comment #10 - High priority needs to be placed on further refinement of the Natural Systems Model early in the implementation of the Comprehensive Plan. Particular attention needs to be placed on the assumption that the ground elevation in the SFWMM is equivalent to the NSM model elevation south of Tamiami Trail, when evidence supports the fact that subsidence has occurred south of the Trail.

Response – Concur. Although further refinement of the NSM is an ongoing scientific information need and not a project feature of the Restudy Comprehensive Plan per se. The Corps and its sponsor agency, the SFWMD, actively support further development and refinement of the NSM in cooperation with the Department of Interior.

Comment #11 - The Comprehensive Plan should include support for development and verification of a peat accretion model, development of a risk analysis for chronic and acute loss of soil, and research on the effect of water depth on the expansion of cattails in the areas of greater soil subsidence in northern WCA 3A. The Corps and cooperating agencies should develop and test active management techniques that accelerate recovery of damaged soils in the WCAs.

Response – Concur. These are laudable and worthwhile research initiatives and the information derived from them will certainly help to improve performance of the Comprehensive Plan. Although the monitoring and adaptive assessment budget does not specify support for particular information needs, funds may be periodically programmed in support of these key information needs. The Corps looks forward to working cooperatively with the Department of Interior on these efforts.

Comment #12 - The Corps should support an ongoing and in-depth scientific review throughout implementation to help achieve the most appropriate balance in restoration of flows, patterns, volumes, and depths in maximizing overall ecosystem benefits.

Response – The Corps has supported, and will continue to support ongoing independent scientific peer review throughout the implementation of the Comprehensive Plan. Section 10.4.3 provides a more detailed review of past efforts and the plans for future peer review of the Comprehensive Plan including a discussion on the proposed Science Advisory and Review Panel to be appointed by the South Florida Ecosystem Restoration Task Force.

12.2.3 Florida Game and Fresh Water Fish Commission, Fish and Wildlife Coordination Act Report, Part I Recommendations

Comment #1 – Both Alternative D and D-13R perform very well for the lake; however, if regional Aquifer Storage and Recovery fails to perform adequately, we strongly recommend that the contingency plans avoid transferring the brunt of the storage lost to any part of the natural system.

Response – Concur. **Section 7** of the report includes a discussion of potential alternatives to Lake Okeechobee Aquifer Storage and Recovery.

Comment #2 – The Florida Game and Fresh Water Fish Commission recommended that the U.S. Army Corps of Engineers work closely with staff of the Florida Game and Fresh Water Fish Commission's Division of Fisheries to reduce or eliminate the potential for impingement and entrainment of fishes by new pumping facilities.

Response – Concur.

Comment #3 – In order to rectify hydrologic problems in Water Conservation Area 2B, every attempt must be made in the future to identify why the modeled alternatives, particularly Alternative D-13R, have failed to provide hydropatterns that would be conducive to an Everglades landscape. The Florida Game and Fresh Water Fish Commission suggested that the first area to be investigated is the operation of Water Conservation Area 2A and 2B.

Response – There is a clear understanding of the existing problem, but there is a lack of feasible solutions. The problem is related to the severed flow paths of the historic Everglades. When water is introduced to the northwestern side of Water Conservation Area 2A, at Natural System Model like values, water will pond along the southeastern side because the natural flow lines cannot be maintained in the remnant Everglades. Removal of the levee between Water Conservation Area 2A and 2B only exacerbates the problem. Because Water Conservation Area 2B has no natural outflow zone, water cannot flow through in a natural manner. Alternative D-13R, like other alternatives, provides an outflow at the southern rim of Water Conservation Area 2B, but it cannot remove water at the rate that water accumulates in Water Conservation Area 2B, even if there was an area in which to store the excess water. Complete flow through during a wet season would result in a larger dry season demand. At the time of alternative development, no solution existed. Clearly, more effort is needed to find appropriate targets and feasible solutions for these areas.

Comment #4 – Hydrologic performance in northeastern Water Conservation Area 3A should be improved during further modeling efforts. It is possible that changes in Stormwater Treatment Area 3/4 operational rules alone could lead to improved performance. Additional storage to the north, or the development of structures that would provide a more balanced distribution of inflows to the Water Conservation Areas during high rainfall periods, may also need to be included in the final plan.

Response – The operation rules for Stormwater Treatment Area 3/4 are based upon water quality and hydrologic characteristics of the treatment area and should not be changed. The problem again is related to the severed flow path of the historic Everglades. Water cannot flow from the area as it did under historical conditions. Water spread at the northeastern side of Water Conservation Area 3A

for hydropattern improvement ultimately combines with water from Water Conservation Area 2A (unnaturally) and causes ponding since it can no longer flow in historical directions. Alternative D-13R removes a limited amount of the water that ponds in eastern Water Conservation Area 3A and passes it to Northeast Shark River Slough via the Central Lake Belt.

Comment #5 – The Florida Game and Fresh Water Fish Commission recommended that the U.S. Army Corps of Engineers and the South Florida Water Management District run a sensitivity analysis to determine whether the L-67A canal can be extended farther south and still capture the hydrologic benefits that the currently proposed design is anticipated to accomplish. In addition, it is the Florida Game and Fresh Water Fish Commission understanding that the removal of the L-29 levee automatically included removal of the L-29 canal, as well. In short, we would strongly support a design that clearly aids in restoring the overall hydrologic characteristics of the predrainage system; however, we would be opposed to removing canals that currently provide recreational fishing benefits when that removal provides little or no hydrologic restoration benefit. The Florida Game and Fresh Water Fish Commission recommended that the U.S. Army Corps of Engineers work in close cooperation with the their Division of Fisheries during the detailed design phase in order to determine the degree to which recreational amenities can be maintained and to fully mitigate for any losses (e.g., by designing the Water Preserve Areas so that they support recreational fishing).

Response – Concur in part. The Water Preserve Areas and the storage reservoirs proposed for the Caloosahatchee River Basin, north of Lake Okeechobee, St. Lucie Basin and the Everglades Agriculture Area may have recreation benefits, which could, in part, offset those lost due to filling canals within the Everglades. Those opportunities should be fully explored during the detailed design phase. Canals have been shown to function more than simply interrupting the natural hydrology of the Everglades, however. They also transport exotic plants and animals into relatively pristine areas, transport nutrients, and biocides from urban and agricultural areas into the natural system, and facilitate overdrainage of natural areas. For these reasons, it has been among the restoration objectives of the Restudy to address this previous negative impact of the C&SF Project.

Comment #6 – Because the long-term ecological effects of shifting to a hydroperiod longer than Natural System Model predictions in northern and central Water Conservation Area 3A are unknown, further modeling and design of the preferred alternative should include an effort to develop operational flexibility within the Everglades watershed. Operational and structural details should be explored that will allow hydroperiods within the remnant Everglades to be reduced in some regions without causing an overall loss of flow to more downstream parts of the system. The use of the S-140 structure and an associated spreader-canal system would be an example, as it might allow more water to be discharged into

central Water Conservation Area 3A, if it became desirable to send less water into northern Water Conservation Area 3A as a means of discouraging cattail expansion.

Response – Concur. Further modeling, which will include structural and operational changes, will be explored during the detailed design phases of the project in an effort to improve the hydrologic performance of the recommended plan.

Comment #7 – The U.S. Army Corps of Engineers and local sponsor should work with the U.S. Geological Survey and others to expedite the collection of high-resolution topographic data in Rotenberger and Holey Land Wildlife Management Areas and throughout the Water Conservation Areas and Everglades National Park.

Response – Concur. High-resolution topographic data is needed for future modeling efforts for both South Florida Water Management Model and Across Trophic Levels System Simulation model, as well as future operational water management decisions. The Corps of Engineers is committed to working with the South Florida Water Management District and other agencies in achieving this goal.

Comment #8 – A concerted effort is needed to ensure that performance measures are developed that can more accurately predict the responses of peat soils, tree island vegetation communities, and wildlife (including wading birds) to hydrologic changes. Such measures should be scientifically supportable as best current estimates of ecological responses to changed hydrologic conditions, and they will need to be developed prior to detailed design of structures and operations that will alter hydrologic conditions within the Everglades watershed. Performance measures developed during the Restudy were acceptable for comparing between model runs, however existing measures are not yet sufficient to use as "real world" management goals.

Response – The Conceptual Ecological Models developed by teams of south Florida scientists will be used as a basis for further refining a set of ecological performance measures and targets. The conceptual models identify the hydrological stressors and ecological attributes (indicators) for each major landscape feature in south Florida. Workshops are planned for the purpose of reviewing the models, and for developing the specific measures and targets for the ecological attributes, which are shown by the models to be the best indicators of how these systems respond to the restoration efforts.

Comment #9 – In order to avoid unintended shifts in vegetative structure, the Comprehensive Plan should include two well-crafted sections: (1) an implementation plan that allows for careful staging of hydrologic changes so as to avoid large environmental "shocks" that could induce ecological damage to the

marsh communities; and (2) an adaptive management strategy that ensures that monitoring is well designed and comprehensive over the total system. It will be crucial for monitoring results to be evaluated within an objective scientific framework, and to be acted upon expeditiously. Maintaining flexibility in water management actions in response to monitoring results will be critical during project implementation. Water management changes likely to be identified as part of an adaptive management process would generally take place on a time scale of months-to-years; hence, operational flexibility need not be incompatible with a system in which passive forms of water management play a dominant role.

Response – The draft Integrated Feasibility Report and Programmatic Environmental Impact Statement includes an implementation plan (**Section 10**). This implementation plan has been considerably expanded in scope and detail in the final Integrated Feasibility Report and Programmatic Environmental Impact Statement. It has also undergone independent review by agencies prior to incorporation into the final report. Recommendations in this plan for how plan components should be grouped, and for the sequencing of components during implementation, will be designed to maximize ecological benefits, and minimize or avoid ecological damage. The Conceptual Ecological Models should be used to link an adaptive assessment strategy with a well focused, regional monitoring program.

Comment #10 – The Florida Game and Fresh Water Fish Commission recommended that, if ecological restoration is to become a reality, a process be established to coordinate and balance the responsibilities and goals of the many resource and water management agencies responsible for different parts of the south Florida ecosystem.

Response – A multi-agency team, similar to the Alternative Development and Alternative Evaluation Teams, was formed to develop the implementation plan. The team has developed a set of guidelines for the implementation plan that includes continuing the multi-agency approach used throughout the Restudy process. The implementation plan also includes a RECOVER process that will provide continuing re-analysis of the Comprehensive Plan, refinement of performance measures and targets, implementation of the monitoring program, and the development and implementation of adaptive assessment protocols.

12.2.4 Florida Game and Fresh Water Fish Commission, Fish and Wildlife Coordination Act Report, Part II Recommendations

Comment #1 - The Florida Game and Fresh Water Fish Commission is concerned with the restoration of portions of the Water Conservation Areas, Shark River Slough in Everglades National Park, and the St. Lucie estuary. The performance of alternative D-13R may provide insufficient flow volumes to Shark River Slough as predicted by the NSM. Further concerns are with the performance of D-13R with respect to the Water Conservation Areas including: extended

hydroperiods in much of WCA-3A, particularly south of I-75; deep water in eastern and northeastern WCA-3A and; extremely high and low water levels predicted in WCA-2B.

Response - The Corps shares the concerns of the Florida Game and Fresh Water Fish Commission with regard to possible further adverse environmental impacts to certain areas of the Water Conservation Areas identified with D13R and scenario D13R4. The Corps, in its correspondence to the Florida Game and Fresh Water Fish Commission and U.S. Fish and Wildlife Service, dated February 19, 1999 stated its emphatic support for resolving the remaining operational problems of the Water Conservation Areas associated with implementation of the Comprehensive Plan and in not adversely impacting the Water Conservation Areas during development of scenarios designed to send more water to Everglades National Park and Biscayne National Park.

Comment #2 - The Florida Game and Fresh Water Fish Commission is concerned with the need to treat water discharged from the new S-140 structure. The Florida Game and Fresh Water Fish Commission recommends an expansion of the S-140 allowing more water to be shunted to areas further south and a gradual rehydration of northern areas be implemented to allow areas time to acclimate to the new water regime. A water quality treatment facility is also recommended to be added upstream of the new structure.

Response - Additional water quality treatment has been added to the Comprehensive Plan in the form of the Miccosukee Tribe Water Management Plan which includes a 900 acre facility which will treat water from tribal lands. Furthermore, additional water quality analyses will be conducted during the detailed design phase of implementing this component.

Comment #3 - Accurate and up to date topographic information needs to be collected in order to ensure future hydrologic restoration success.

Response - Concur. The Corps agrees that this is a key information need, necessary to resolve the uncertainty associated with several project features such as those designed to restore sheet flow. See response #7, Section 12.2.3, above.

Comment #4 - Most of the Other Project Elements do not contain sufficient information at a level of detail on which to base an assessment of their potential impacts on fish and wildlife. The Other Project Elements will have to be reviewed under the Fish and Wildlife Coordination Act individually as they are further developed.

Response - Concur. As stated in the report, the Other Project Elements will need to be further evaluated during detailed planning and design. Preparation of

Project Implementation Reports will include appropriate NEPA documentation and the Corps will continue to coordinate with the Florida Game and Fresh Water Fish Commission and the U.S. Fish and Wildlife Service under the Fish and Wildlife Coordination Act for each separable project element.

Comment #5 - The removal of canals, which are in some cases, important recreational amenities, must be well justified in terms of hydrological and ecological benefits. The Florida Game and Fresh Water Fish Commission is further concerned with the potential loss of existing recreation access points, particularly off the Tamiami Trail. The Florida Game and Fresh Water Fish Commission recommends providing suitable alternative access sites for those access sites removed under the Comprehensive Plan.

Response - Concur. At this time, modeling has shown that removal of certain levees and canals is necessary for the overall restoration of sheet flow and in attaining hydroperiod targets within the natural areas. One of the principal goals of the Restudy since the reconnaissance phase was the re-establishment of sheet flow and to reduce fragmentation (caused largely by canals and levees) of the ecosystem. The removal of levees and canals as specified in the Comprehensive Plan, is expected to advance these goals as well as to reduce the overdrainage of natural areas and slow the rapid conveyance of pollutants and exotic plants and animals that are often associated with canals. The loss of recreational access points eg. along the L-29, may ultimately be compensated for by establishing new recreational amenities on project features proposed under the Comprehensive Plan. The extent of removal of canals and levees to meet ecological objectives will be further evaluated in the detailed design phase of these project modifications. At this time the Florida Game and Fresh Water Fish Commission will be called upon to play an active role in plan formulation and evaluation.

Comment #6 - The Florida Game and Fresh Water Fish Commission recommends retaining portions of existing levees internal to the Water Conservation Areas and restore these remnant levee sections such that they provide a similar function as natural tree islands. This restoration initiative would be carried out only to the extent that the remnant levee sections, replanted with native trees and vegetation, would not inhibit the restoration of sheet flow.

Response - This is an interesting and innovative idea and one which should receive consideration during future detailed design. This idea fits well with the Restudy concept of adaptive assessment and monitoring in that the precise design (size, scale, location, and type) of project features will be further evaluated during future detailed studies, based on this programmatic document. The Corps looks forward to working with the Florida Game and Fresh Water Fish Commission to further evaluate this proposal during the detailed planning phase.

Comment #7 - The Florida Game and Fresh Water Fish Commission recommends that the Corps seek authorization, at least at the conceptual level, for the entire Restudy Comprehensive Plan.

Response - The Corps, as noted in Section 10.6.1, has proposed to seek Congressional approval of the Comprehensive Plan as a framework and guide for authorization. In addition, a series of pilot projects and specific components are proposed for initial authorization in the Water Resources Development Act of 2000.

Comment #8 - Close coordinated under Fish and Wildlife Coordination Act will be necessary throughout the refinement and implementation of the comprehensive plan in order to ensure that the intended benefits to fish and wildlife are realized.

Response - Concur. The Corps fully intends to continue coordination with the FGFWFC and USFWS under the Fish and Wildlife Coordination Act throughout the detailed planning and design phase. Furthermore, the Corps looks to expand the existing role of the FGFWFC under the Cooperating Agency Agreement currently in effect between all agencies (40 CFR, Part 1501.6(6)(3)).

12.2.5 Florida Game and Fresh Water Fish Commission, Fish and Wildlife Coordination Act Report, Part III Recommendations

Comment #1 - The Florida Game and Fresh Water Fish Commission assessment of D-13R₄ is that while providing additional flow to Everglades National Park and Biscayne National Park, these benefits come at great cost to Water Conservation Area 2A and Water Conservation Area 3B, which would fare worse than they do under the 1995 or 2050 Base Cases.

Response - Concur. See response to comment #1, Section 12.2.4, above.

Comment #2 - The Florida Game and Fresh Water Fish Commission expressed concern with the feasibility of implementing D-13R₄ in terms of treating urban runoff to acceptable standards necessary for discharge into natural areas without significant adverse impacts to native flora and fauna.

Response - Concur. See response #8, Section 12.2.2, above

Comment #3 - The Florida Game and Fresh Water Fish Commission expressed concern over the lack of accurate topographic information that led to the conclusion that substantially more water than that provided by D-13R is needed in Shark River Slough, thus leading to the development of the D-13R₄ scenario and additional impacts to the Water Conservation Areas. The Florida Game and Fresh Water Fish Commission suggests that if soil subsidence south of Tamiami Trail

were factored into model assumptions for the NSM then it is very possible that less water would be necessary to achieve desirable water depths in Shark River Slough.

Response - Concur. Sensitivity modeling has been done and the Corps is awaiting those results. See response #3, Section 12.2.4, and response #7, Section 12.2.3, above.

Comment #4 – Improvements to one region of the natural system should not be done at the expense of another region within the natural system.

Response – The Corps is fully committed to restoration of the natural system to the utmost extent possible. Development of the Comprehensive Plan has produced the best overall framework for restoring the natural system, given the level of information and evaluation tools currently available. In some instances, construction of the plan elements may result in localized adverse impacts to upland and wetland resources. Conceptually, these impacts have been determined to be justified in order to enhance the overall system hydrologically and ecologically. Siting of such facilities in subsequent phases of this project will endeavor to avoid or minimize adverse impacts to sensitive upland and wetland resources areas, and the Corps will coordinate with the U.S. Fish and Wildlife Service and Florida Game and Fresh Water Fish Commission, and other agencies as appropriate. In some instances, however, potentially adverse impacts, or plan underperformance relative to restoration targets, may result in certain areas of the system, in an attempt to improve performance in critically important areas. The study team will attempt to improve performance of the plan, while reducing ecological trade-offs to these areas of the natural system during the detailed planning phase which is already underway. The Implementation Plan for instance, includes a phased approach to provide for improvements and the maximum ecological benefits to the WCAs, Everglades National Park, Biscayne Bay, and those other areas that have been adversely affected by the C&SF Project. The Corps remains committed to resolving any outstanding operational problems and seeks full consensus on trade-offs wherever they may occur, with a view to implementing the best plan, which is acceptable and beneficial to all.

12.3 ENDANGERED SPECIES ACT OF 1973

Formal consultation was initiated on June 11, 1998, and a preliminary programmatic biological opinion was received from the U.S. Fish and Wildlife Service on August 7, 1998 (see **Annex B**). The U.S. Fish and Wildlife Service has confirmed, by letter dated March 1., 1999, the preliminary programmatic biological opinion as the final biological opinion (see Annex B). This project is in full compliance with the Act. The Corps will reopen consultation with the U.S. Fish and

Wildlife Service upon initiation of future tiered feasibility studies under this programmatic EIS.

12.4 NATIONAL HISTORIC PRESERVATION ACT OF 1966

The study is in partial compliance at this stage. Consultation with the Florida State Historic Preservation Officer has been initiated. Cultural resources investigations are ongoing to determine effects to historic properties. When completed, results will be coordinated with the State Historic Preservation Officer and the Advisory Council on Historic Preservation.

12.5 CLEAN WATER ACT OF 1972

The study is in partial compliance at this stage. Full compliance will be achieved with issuance of a Section 401 permit from the State of Florida. A Section 404(b) Evaluation is included in this report as **Annex C**.

12.6 CLEAN AIR ACT OF 1972

Coordination with the U.S. Environmental Protection Agency and the Florida Department of Environmental Protection, Air Quality Division determined the proposed project is in partial compliance with the Clean Air Act. No permits will be required at this stage of planning. Full compliance will be achieved with receipt of comments on the Final Programmatic Environmental Impact Statement from the U.S. Environmental Protection Agency.

12.7 COASTAL ZONE MANAGEMENT ACT OF 1972

The study is in partial compliance at this time. Full compliance would be achieved with receipt of comments from the Florida State Clearinghouse. A Federal consistency determination in accordance with 15 CFR 930 Subpart C is included in this report as **Annex D**.

12.8 FARMLAND PROTECTION POLICY ACT OF 1981

Coordination with the U.S. Department of Agriculture, Natural Resources Conservation Service in Gainesville, Florida to meet the requirements of the Farmland Protection Policy Act is ongoing. Almost all land in central and southern Florida used for agricultural production has been designated unique farmland. This land has a unique combination of soil quality, location, growing season, and

moisture supply for producing high value food and fiber crops. The Initial Draft Plan includes several components that may require land in central and southern Florida to be removed from agricultural production. When detailed design information that locates each of the plan components becomes available, it can be determined how many acres of unique farmland will be affected. The Natural Resources Conservation Service will then be asked to complete the required Form AD 1006 to inventory the loss of acres of unique farmland from agricultural production.

12.9 WILD AND SCENIC RIVER ACT OF 1968

The Northwest Fork of the Loxahatchee River is designated a Wild and Scenic River. This resource is not expected to be negatively impacted, and in fact, should benefit from implementation of the proposed Comprehensive Plan. The study is in full compliance.

12.10 ESTUARY PROTECTION ACT OF 1968

The study is in full compliance. The Recommended Plan takes into account the restoration of all the estuaries in the project area. The Draft Fish and Wildlife Coordination Act report (**Annex A**) discusses the restoration components for each of the estuaries and the benefits to the estuaries.

12.11 FEDERAL WATER PROJECT RECREATION ACT OF 1965

The project is in full compliance at this stage. The effects of the proposed action on outdoor recreation have been considered. Continued recreation planning would be performed during detailed project engineering and design.

12.12 RESOURCE CONSERVATION AND RECOVERY ACT OF 1976

This law has been determined to be not applicable, as there are no items regulated under this act either being disposed of or affected by this project.

12.13 TOXIC SUBSTANCES CONTROL ACT OF 1976

This law has been determined to be not applicable, as there are no items regulated under this act either being disposed of or affected by this project.

12.14 MARINE PROTECTION, RESEARCH, AND SANCTUARIES ACT OF 1972

This Act is not applicable. Ocean disposal of dredged material is not proposed as a part of the C&SF Restudy.

12.15 RIVERS AND HARBORS APPROPRIATION ACT OF 1899

The study is in full compliance. The proposed work would not obstruct navigable waters of the United States.

12.16 COASTAL BARRIER RESOURCES ACT

This Act is not applicable. The study area is not in a designated Coastal Barrier Resources Act unit.

12.17 SECTION 904 OF THE 1986 WATER RESOURCES DEVELOPMENT ACT

Section 904 of the 1986 Water Resources Development Act requires that the plan formulation and evaluation process consider both quantifiable and unquantifiable benefits and costs of the quality of the total environment, and preservation of cultural and historical values. The study and report are in full compliance.

12.18 SECTION 307 OF THE 1990 WATER RESOURCES DEVELOPMENT ACT

Section 307 of the 1990 Water Resources Development Act establishes, as part of the water resources development program, an interim goal of no overall net loss of the Nation's remaining wetlands, and a long-term goal of increasing the quality and quantity of the Nation's wetlands. The recommended plan is in full compliance.

12.19 E.O. 11988, FLOODPLAIN MANAGEMENT

The study is in full compliance. The considered alternatives support avoidance of development in the flood plain, continue to reduce hazards and risks associated with floods and to minimize the impact of floods on human safety, health and welfare, and restores and preserves the natural and beneficial values of the base flood plain.

12.20 E.O. 11990, PROTECTION OF WETLANDS

The study is in full compliance. By nature of the project, it involves work in wetlands, and no practicable alternative to working in wetlands exists. Losses and degradation to the beneficial values of wetlands are minimized, and such values are preserved and enhanced. The public has been involved in early planning.

12.21 E.O. 12114, ENVIRONMENTAL EFFECTS ABROAD OF MAJOR FEDERAL ACTIONS

This executive order is not applicable to this study.

12.22 E.O. 12898, ENVIRONMENTAL JUSTICE

Executive Order 12898 requires the Federal government to achieve environmental justice by identifying and addressing disproportionately high adverse effects of its activities on minority and low-income populations. It also requires the analysis of information such as the race, national origin, and income level for areas expected to be impacted by environmental actions. Populations at risk have been profiled in Appendix E (Socio-Economics) in Section 2 (Population and Economy) and Section 12 (Other Social Effects). This profile data includes racial/ethnic population distribution, aged population, percentage of households below the poverty threshold, income, and unemployment, by county for the 16-county study area, as well as for the State and Nation for ranking comparison purposes. Section 12 (Appendix E) also discusses potential community impacts, acknowledging that some negative economic impacts may occur, particularly in rural areas where agricultural land may be converted to water storage facilities. On the one hand, it is acknowledged that the rural communities where reservoirs may be sited are characterized by low income and high unemployment populations, and therefore may be vulnerable to the effects of this part of project implementation. On the other hand, these are areas of low population, so that the affected populations are likely to be small. Further analysis of community impacts will be undertaken when more specific site information is obtained. During detailed implementation of the C&SF project modifications, facilities will be sited with care regarding low income, minority, and other at-risk populations, so as to minimize adverse effects, and if adverse effects cannot be avoided, affected parties will be engaged in dialogue to determine appropriate mitigation.

One of the largest anticipated economic impacts of project implementation (Appendix E, Section 11, Regional Economic Impacts) would be as a result of project spending on construction, land purchases, operation and maintenance. As with all Corps of Engineers projects, contracting action to implement the C&SF Comprehensive Plan will comply with The Small Business Act, as implemented by

the Federal Acquisition Regulations and its supplements. Adhering to this policy helps to ensure that a certain percentage of contracting will be directed toward small and disadvantaged firms, which would have a significant positive economic effect on minorities.

Executive Order 12898 also requires Federal agencies to identify the need to ensure the protection of populations relying on subsistence consumption of fish and wildlife, through analysis of information on such consumption patterns, and communication to the public of associated risks. Potential patterns of subsistence consumption of fish and wildlife resources by Native American Tribal members and others, to the extent they exist, are likely to be positively enhanced by the outcome of the Comprehensive Plan. Implementation is expected to increase ecological values in the Everglades natural system, likely resulting in improved opportunities for those engaged in subsistence consumption.