APPENDIX H

CORRESPONDENCE, COMMENTS, AND RESPONSES
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## CORRESPONDENCE, COMMENTS, AND RESPONSES

**FOR THE FINAL PROJECT IMPLEMENTATION REPORT AND ENVIRONMENTAL IMPACT STATEMENT, MARCH 2004**

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APPENDIX H

CORRESPONDENCE, COMMENTS, AND RESPONSES
FOR THE FINAL PROJECT IMPLEMENTATION REPORT
AND ENVIRONMENTAL IMPACT STATEMENT
MARCH 2004

The Indian River Lagoon – South Draft Project Implementation Report (PIR) was released to the public 12 December 2004. Notification of the report’s availability was provided in the Federal Register December 19, 2003. A period of time was set aside in accordance with the National Environmental Policy Act to provide all interested parties an opportunity to comment on the contents of the Study. The comment period was open through 10 February 2004.

During the comment period, a public meeting was held in Jensen Beach, Florida for all interested parties. The meeting was held January 13, 2004, included a formal presentation given by Indian River Lagoon - South Team Members. The public meeting provided an opportunity for the public to become familiar with the major concepts associated with the PIR through review of displays and interaction with Indian River Lagoon - South Team Members. Detailed information regarding the public meetings is available in Section 9 of this report.

Comment letters were received from Federal, State, and local governments, various non-governmental organizations, and individuals. Section H.1 presents a summary of the letters received during the comment period, Section H.2 presents the comments and the responses prepared by Indian River Lagoon - South Team Members, and Section H.3 includes copies of all letters received. Other relevant correspondence is also included in this Appendix.

It should be noted that the numbering of the Appendices has changed from the draft report to the final report. This is due to the incorporation of Appendix J (Design Refinements to C-44 Components) into Appendix B (Engineering Design and Modeling). Therefore, Appendices K, L, and M from the draft report have been renamed in the final report to Appendices J, K, and L respectively.
H.1 LETTERS RECEIVED DURING THE COMMENT PERIOD OF THE
DRAFT INTEGRATED PROJECT IMPLEMENTATION REPORT
AND EIS

More than 44 letters, faxes, and e-mailed comments were received during
the comment period. The following is a summary of the agencies, governments,
organizations, and individuals that submitted comments:

LOCAL SPONSOR
South Florida Water Management District (SFWMD)

FEDERAL AGENCIES
US Environmental Protection Agency (EPA)
US Dept of Interior, Office of Environmental Policy and Compliance (DOI)

STATE AGENCIES
Florida House of Representatives (FHOR)
Florida Department of Transportation (FDOT)
Florida Department of State (FDOS)
Florida Fish And Wildlife Conservation Commission (FFWCC)
Florida Department of Environmental Protection (FDEP) / Clearinghouse

LOCAL GOVERNMENTS
Town of Ocean Breeze Park (TOBP)
Town of Jupiter (TOJ)
Broward County Board of County Commissioners (BCBCC)
Collier County Board of County Commissioners (CCBCC)
County Coalition for Responsible Management of Lake Okeechobee and St. Lucie
and Caloosahatchee Estuaries (CCRMLO), including

Lee County       Palm Beach County
Martin County    Glades County
Okeechobee County Hendry County
St. Lucie County Highlands County

Lake Worth Drainage District (LWDD)
Lee County Board of County Commissioners (LCBCC)
Martin County Board of County Commissioners (MTCBCC)
Monroe County Board of County Commissioners (MRCBCC)
Palm Beach County Board of County Commissioners (PBCBCC)
St. Lucie County Board of County Commissioners (SLCBCC)
Collier County Board of County Commissioners (CCBCC)

CHAMBERS OF COMMERCE
Chamber South (Cs)
Greater Miami Chamber of Commerce (GMCC)
Greater Miami Hispanic Chamber of Commerce (GMHCC)

TRIBAL
Seminole Indian Tribe of Florida (SITF)

MINORITY ORGANIZATIONS
NAACP Florida Chapter (NAACPFC)

NON-GOVERNMENT ORGANIZATIONS
Audubon of Florida (AF)
Environmental & Land Use Law Center (AF&ELULC)
Martin County Conservation Alliance (MCCA)
United Waterfowlers Florida (UWFF)
Florida Population Connection (FPC)
Environmental Studies Council, Inc. (ESCI)
Florida Wildlife Federation (FWF)

INDIVIDUALS / PRIVATE CITIZENS
Private Citizen, Maggy Hurchalla (MH)
Marine Industries Association (MIA)
Private Citizen, Joe Jensen (JJ)
Private Citizen, B Dawson (BD)
Private Citizen, M.E. Dawson (MED)
Private Citizen, James Grey (JG)

H.2 COMMENTS & RESPONSES

The comments summarized represent those received from the general public, numerous private organizations and the various governmental agencies. These comments were used to make appropriate and corresponding changes to the report and appendices. It should be noted that any page numbers referenced within the comments might have changed between the draft and final report.
H.2.1 LOCAL SPONSOR

H.2.1.1 South Florida Water Management District (SFWMD)

Comment SFWMD 1 — Support: The Indian River Lagoon is considered the most biologically diverse estuary in all of North America. Over 4000 species of plants and animals have been found in its waters. For decades the Central and Southern Florida Flood Control Project (C&SF Project) has directed excessive amounts of nutrient and sediment laden freshwater into the St. Lucie River and the Indian River Lagoon. As a part of the Comprehensive Review Study, the Indian River Lagoon – South Project Implementation Report was undertaken to rectify the freshwater impacts and to restore the Indian River Lagoon, St. Lucie River and Portions of the tributary watersheds to the habitats that existed prior to the implementation of the C&SF Project.

The success of this plan is dependent upon its many contributors. The U. S. Army Corps of Engineers and the South Florida Water Management District (SFWMD) played key leadership roles. However, without the skilled and tenacious support of Martin and St. Lucie counties, the important contributions from the Florida Department of Environmental Protection and numerous other state and federal agencies, this plan would not be the example of environmental restoration that it surely is. Finally, the plan received its most valued support from the citizens of Martin and St. Lucie Counties, especially through organizations such as the St. Lucie River Initiative, the Rivers Coalition, the Conservation Alliances of Marin and St. Lucie Counties and the Indian River Citrus League.

Response: No response required.

H.2.2 FEDERAL AGENCIES

H.2.2.1 United States Environmental Protection Agency (USEPA) Letter dated February 2, 2004

Comments USEPA - 1: Environmental Impact Statement (Back of the Draft Report) Although the DSEIS quantifies (in metric tons and percentage of the 2050 base load) the levels of total phosphorus and total nitrogen reduction for various components of the project (e.g., STA’s, storage areas), it is unclear as to what such reductions would mean on a broader, ecosystem basis. That is, would these reductions by themselves or in combination with other ongoing or planned...
CERP projects reduce the phosphorus and nitrogen loads sufficiently to fully meet freshwater and/or estuarine water quality restoration targets? If not, are the measures being proposed for the IRLS project capable of being modified to perform such treatment?

Similarly, we noted (pg 6-21 – Section 6- that “vegetated STAs are designed to remove at least 80% of the incoming phosphorus load in water captured by the reservoirs.” As suggested above would such a reduction be sufficient to support ecosystem restoration targets?

Response: Restoration of the estuary depends on: 1) reduction of incidents of fresh water flush-out (restoration of optimal salinity regime); 2) Reduction of nutrient delivery; 3) Reduction of muck delivery and removal of excessive muck deposits, so that the estuary can cleanse itself through natural processes; 4) Restoration of substrate for re-colonization by desirable benthic species. The whole point of the PIR analysis was to achieve an optimum and cost-effective combination of structures and management measures that foster restoration. In the context of an optimum combination of actions, the ecosystem restoration sub-team of the IRL-S planning team concluded that the level of nutrient removal that the recommended combination of reservoirs/STAs and restored natural areas would achieve is sufficient to support a very significant restoration of the estuary. For additional information please refer to the Water Quality Single Purpose Report in Appendix A of the Final PIR.

Comment USEPA - 2: Volume 1- Section 6 Page 6-21 states that “any habitat usage of the STAs by any species is purely incidental. “We encourage the implementation of measures discouraging STA use by wildlife for habitat since STAs act as sinks that would likely be contaminated with mercury and other metals typical in South Florida. As such, designing STAs with waters deeper than 18 inches to preclude wading birds is recommended, as well as other restrictive measures. Also, the eventual crowding of cattails and other STA vegetation would further reduce that habitat value for most wildlife, and thereby reduce the chances of concentrated contaminants progressing up the food chain at levels higher than STA benthic assemblages.

A major design/operational goal for the IRLS STAs should be to avoid STA dry-downs during prolonged dry seasons. It is vital that even during droughts, STA’s remain wetted to avoid/minimize the resuspension and release of high levels of sediment-bound pollutants upon their rewetting after the drought period. One design feature, which should be implemented for all of the STAs is the ability to route water directly (i.e., without being routed through a surface reservoir) to the STAs from nearby canals during dry seasons. This design feature would greatly enhance the long-term ability of the STAs to achieve water quality benefits over a wide range of climatological conditions.
Response: The U.S. Fish and Wildlife Service in conjunction with the Florida Fish and Wildlife Conservation Commission is developing recommendations for fish and wildlife enhancement for reservoirs and STAs planned for CERP. Both the FWS and FWC believe features that enhance fish and wildlife should be incorporated into the design of reservoirs and STAs when appropriate. We agree that contaminants could be a potential problem in some areas. Prior to considering any enhancement features it will be essential that contaminant levels at selected sites do not pose a risk to fish and wildlife. Any site determined to present a risk would not include enhancement features.

The STAs have been hydraulically designed to operate with depths up to 4 feet, however the actual operating depth will depend on such factors as water availability and target STA vegetation. The modeling, preliminary design, and draft operations of the project components included the requirement to maintain a minimum depth of 6 inches in the STAs. This water has been identified for reservation in accordance with WRDA 2000. The following comment will be added to the STA design section of Appendix B: “During detailed design, additional modeling and design consideration should be given to the ability to route water directly to the STAs from the project canals during dry seasons.”

Comment USEPA - 3: Volume 1 – Section 6; EPA strongly encourages minimizing the canal distance from the STAs to the IRLS receiving waters. This would help assure that the cleansed waters released by the STAs will not be re-contaminated by agricultural activities or other factors by long canal distances (miles) to the IRLS system. In essence, the water quality of STA waters should be maintained through proximal STA treatment and appropriate operational procedures in order to maximize water quality in the IRLS system. While we understand that successful land acquisition from willing sellers is critical to such proximal treatment, continued efforts should be made to minimize the flow distances of treated waters to receiving waters. These issues should be managed by the IRLS PDT’s interagency Design and Operations Teams, which as previously recommended, should include EPA and FDEP representatives.

Response: All proposed STAs have been located adjacent to the receiving waters (i.e., C-23, C-24, C-25 or C-44). The STAs would discharge directly into these receiving waters.

Comment USEPA - 4: Environmental Impact Statement; The DSEIS references the need to provide suitable (“appropriate”, “target”, “acceptable”) salinity levels by controlling freshwater inflows to the IRLS system. The range of desirable salinities for IRLS water should be quantified in parts per thousand. Similarly, seagrasses and oysters were listed as IRLS indicator species. What are the species of concern and their salinity requirements?
Response: The range of desirable salinities for the SLE and IRL, as well as the indicator species and their salinity requirements are discussed in Section 3, Appendix A and Appendix E of the final integrated PIR and EIS.

Comment USEPA – 5: Temperature; The revised Recommended Plan proposes that canal water be held in relatively shallow storage reservoirs and filter through shallower STAs. Since South Florida flora and fauna are naturally living near their thermal maximums, will increased water temperature resulting from shallow storage become an issue at the point of discharge when waters are released from the reservoirs and STAs into the IRLS receiving water? What are the expected residence times for the waters in storage and how much thermal elevation can be expected? We are pleased to note (pg L-9) that the temperature of the discharge water will be measured as part of the Ecological and Water Quality Monitoring Plan.

Response: The residence time for waters in storage is about 20 days (Appendix B). The discharge flows from the STAs relative to the flows of the receiving water are such that we do not anticipate that increased temperature will be an issue. Temperature will be monitored at the point of discharge. If during monitoring, it appears that temperature would become a problem changes can be made during the adaptive assessment process.

Comment USEPA – 6: Muck; Will the removed muck be tested for metal contaminants such as mercury, or will the disposal sites be appropriate for the disposal of such potential contaminants? Given the organic nature of muck, we note that its agricultural reuse as a soil additive is technically possible (pg. 6-24), but apparently not cost-effective due to its residual salt content. However, if acceptable from a contamination standpoint, additional research on recycling muck might be useful to utilize its organic value. Also, if the source of the muck in the drainage canals is not curbed, its accumulation – albeit now in storage reservoirs instead of IRLS waters – will continue to be a concern in terms of reservoir storage capacity and as a monitoring cost for its removal.

Response: In 2000 we collected 59 muck samples and tested them for toxic substances (including metals) and nutrients. The analysis included testing for metals such as mercury. No heavy metals were detected at levels that would restrict agricultural use. Refer to supporting documentation in Appendix B. The muck has been tested for metal contaminants. There does not appear to be contaminant concentrations that state or federal agencies would consider toxic. Additional testing will be conducted during Pre-construction, Engineering, and Design. Concur with the rest of the comment.

Turbidity
Comment USEPA - 7: - Page 6-103 references the state turbidity standard of 29 NTUs above background. We are aware that for dredging work near sensitive areas (e.g., corals), the COE may condition 404 permits to use a more conservative standard of "not to exceed 15 NTUs" above background. Would use of such a lower standard be appropriate for IRLS construction work in any sensitive project areas (e.g., potential dredging near seagrasses and other Submerged Aquatic Vegetation (SAVs))?

Response: There are no sensitive areas in the vicinity of the sites proposed for dredging muck. Currently seagrasses do not exist in this part of the SLE. The turbidity standard of 29 NTU above background is appropriate.

Comment USEPA – 8: SAVs; In the selected areas where muck is to be removed and artificial habitat provided (including artificial vegetation), would any attempts be made to also plant sprigs of natural seagrasses? If so, it should be noted that seagrass transplantations are often not successful due to stringent light, temperature and salinity requirements. Accordingly, these physical parameters should be allowed to stabilize within IRLS waters once muck dredging is completed and freshwater flows are regulated EPA will principally defer to the U.S. Fish and Wildlife Service regarding the feasibility of reintroducing natural seagrasses and the relative habitat benefits of natural SAVs versus the proposed artificial forms.

Response: There are no plans to plant sprigs of SAVs. Once the muck dredging is complete and the physical parameters conducive to SAV growth are stabilized it is expected that SAV will recruit naturally.

Comment USEPA - 9: NEPA ; Preferred Alternative – It is clear from the DSEIS that alternative 6 continues to be recommended by the COE and that it was the basis of the revised Recommended Plan. From a NEPA perspective, however, the alternative analysis of the DSEIS would have been improved if this alternative had also been identified as the NEPA “selected alternative”

Response: Noted.

Supplements - Although somewhat unclear, we assume the present document is a DSEIS to the FSEIS issued in 2002. Final documentation for this proposed project should more clearly state the type of EIS represented.

Response: Noted.

Comment USEPA - 10: Alternative 6 vs. 7; As discussed above, Alternatives 7a, 7b & 7 were added to further analyze Alternative 6. As indicated, 7a focused and expanded upon "estuary only" aspects of Alternative 6 while 7b focused and
expanded upon "watershed only" aspects of Alternative 6. This expansion is apparently why Alternative 7 (a combination of 7a & 7b) was significantly higher in implementation costs than Alternative 6. Given this, however, it is unclear why the habitat unit "outputs" (Table 6-3: pg. 6-48) for Alternative 7 are nevertheless exactly the same as for Alternative 6 (as opposed to also being greater for 7 than 6 due to the expansions). This should be clarified.

Response: Alternative 7 contains exactly the same natural areas as Alternative 6, so it makes sense that the watershed outputs accruing to the natural areas in Alternative 7 would be identical to Alternative 6. For the estuary, the study team considered whether changes in salinity or nutrient load from the larger reservoirs and STAs in Alternative 7 would affect predicted estuarine outputs. Modeling runs conducted on reservoirs sized at 150,000 acre-feet and 180,000 acre-feet (the difference between Alternative 6 and Alternative 7) did not show performance improvements in terms of improved salinity levels that could be translated (with existing models) into increased estuarine outputs. It was assumed that reduced nutrient loads (due to larger STAs in Alternative 7) would have improved estuarine water quality, but even the best available modeling tools did not have sufficient resolution to tease out additional changes in ecological outputs. Furthermore, Alternative 6 was formulated to achieve estuarine restoration targets (it achieves maximum ecological resource spatial extent using the Valued Ecosystem Component model and achieves the maximum quality value index), so any additional water quality improvement brought about by Alternative 7 does not manifest in terms of increased ecosystem outputs once the restoration targets are met.

Comment USEPA - 11: Above-Ground Storage; We agree that lands to be converted to storage reservoirs should not be productive lands such as high quality wetlands. Ideally, candidate lands for conversion should be degraded wetlands that are in need of restoration or enhancement and/or agricultural lands that are contributing (runoff) to the phosphorus and nitrogen water quality problems in South Florida and would be taken out of production.

Response: Noted.

Comment USEPA - 12: Exotics; EPA supports the proposed eradication or reduction of exotic and nuisance plants such as Brazilian Pepper and Melaleuca. Inclusion of such components was suggested (pg. 7-8) as part of a management plan for natural areas. We also support the use of greenways and wildlife corridors within or contiguous with such project natural areas (pg. 7-7).

Response: Noted.

Comment USEPA - 13: Cultural Resources; Page 6-104 indicates that 26 "recorded" historic and archaeological sites are found in the IRLS area and that
"[p]rior to project construction, cultural resource surveys will be conducted in the project area." If not already documented within the DSEIS, these sites should have been characterized/summarized in the document. We also assume that the SHPO has "stop-work" authority if an unexpected find is unearthed during project construction and that work will not continue until the SHPO is satisfied with the mitigation strategy, if any. A mechanism to execute such a contingency should be coordinated with the SHPO (including having a plan in place) so that any lapses in project construction time will be minimized.

Response: The DSEIS identifies the type and number of known historic and archeological sites associated with each proposed project component. It also identifies the potential for impacts to historic and archeological sites. All of the known sites are located within the Natural areas where the project designs can be modified to avoid impacts. Federal policies and procedures require that all unevaluated cultural resource sites be treated as if they are eligible for listing on the National Register of Historic Places until they are determined not eligible (through consultation with the SHPO). The EIS process is to identify known and potential project effects. Since, at this time, the actual project lands have not been finalized we cannot address specific impacts to specific cultural resources. However, we can identify that there is a potential for the project to adversely affect cultural resources and document that we will mitigate those effects. The Florida State Historic Preservation Officer has been consulted on the project and has concurred with our survey.

As identified in the EIS, surveys to locate archeological and historic sites and consultation with the SHPO will be completed before construction is authorized. If cultural resource sites will be adversely affected by any component of the project, a mitigation plan will be developed in consultation with the SHPO. The mitigation will be completed before construction on that portion of the project is started.

The procedures for compliance with Section 106 of the National Historic Preservation Act of 1966 (as amended) are detailed in 36 CFR Part 800. This includes the procedures for dealing with unanticipated discoveries. These procedures require the Federal agency to stop work and determine the actions needed to resolve adverse effects and provide the SHPO and any affected Tribes the opportunity to comment, as soon as unanticipated cultural material is identified. The Federal Agency, not SHPO, is responsible for compliance with the National Historic Preservation Act. The SHPO's responsibility is to advise and assist the Federal Agency. SHPO does not have any form of "stop work" authority.
H.2.2.2 US Department of Interior (DOI) Letter dated February 12, 2004

Comment DOI – 1: Volume 1 Main Report, Section 6 Plan Formulation and Alternative Evaluation (Revised); Subsection 6.3, Development of Alternative Plans; Subsection 6.3.4, Components Considered in Alternatives; Subsection 6.3.4.2, Stormwater Treatment Areas, Page 20:

The Department recommends that this section include a discussion of the ultimate fate of the nutrients in contaminated waters routed into Storage Reservoirs and into Stormwater Treatment Areas, particularly whether there will be seepage to ground water.

Response: Nutrients loads retained by stormwater treatment areas (STAs) or reservoirs will be incorporated in living matter, sequestered in sediments, or leach into the groundwater. Also, under the right conditions some nitrogen could be converted to gaseous N2, and leave through the atmosphere. Nutrients that leave the STAs or reservoirs via the groundwater system are not expected to result in violations of the state and federal drinking water standards that are the de facto groundwater quality standards in Florida. In general, phosphorus is expected to be bound to the sediments and not to be exported via the groundwater system to any large extent. Of the nitrogen species, nitrate is a concern in drinking water because excess levels of nitrate in water consumed by infants reduces the ability of blood to carry oxygen and thus causes "blue baby syndrome". Nitrate could pose a health risk if it was present in the groundwater seepage at levels exceeding 10 mg/l. However, the average inflow Nitrate + Nitrite concentration of basin inflows is approximately 0.15 mg/l. The concentration of nitrate in groundwater below the reservoirs will not exceed the inflow concentration. Thus, the STAs and reservoirs would not cause excess levels of nitrate in the groundwater.

Section 6.3.4 describes alternative components in a general sense, not to the level of detail or related to potential component effects as requested by the comment. The text in Section 6.3.4 will therefore not be modified, although the concern expressed by the comment has been considered and addressed.

Comment DOI – 2: Page 6-23; Section 6 Plan Formulation and Alternative Evaluation, Subsection 6.3.4.5. Artificial Habitat: The PIR states (Page iv, Summary) that artificial reef balls and artificial submerged aquatic vegetation (SAV) will be used to create 90 acres of habitat at sites where muck is removed. The PIR does not discuss the site conditions where the artificial SAVs are installed. Also, it does not address the effective stability or ultimate bioassimilation of this artificial habitat. To help clarify these ecological uncertainties, the report should explain the goals, including references, of the use of proposed artificial SAV, especially as opposed to the use of real SAV.
Response: Once the water quality targets for the SLE are met, there will be a lag in the time the estuary will respond to restoration efforts. Artificial habitats made up of reef balls, oyster shell hash and artificial SAV have been proposed to provide substrate for the early recruitment of oyster spat and juvenile fish.

The overall goal of placing the three different types of artificial habitats is to speed up the recruitment process for SLE indicator species.

To avoid instability and bioassimilation, a multi-agency team will conduct the site selection for the artificial SAV habitat, as well as the other artificial habitat types. This will be done during PED activities for this component.

Comment DOI–3: Summary, Page v; The draft PIR states that the Natural Storage and Water Quality Treatment Areas and the North Fork Floodplain Restoration would provide "... increased spatial extent of natural wetlands and uplands for wildlife." We concur with this benefit, but note that these areas are also expected to benefit the following federally listed species: Audubon's crested caracara, wood stork, bald eagle, Eastern indigo snake, red-cockaded woodpecker, Florida scrub jay, Everglade snail kite, and Florida panther.

Response: Referenced sentence in Summary has been modified to: “... increased spatial extent of natural areas and uplands for wildlife. These natural areas also support the conservation and recovery of at least 15 federally-listed plant and animal species, including Audubon's crested caracara, wood stork, bald eagle, Eastern indigo snake, red-cockaded woodpecker, Florida scrub jay, Everglade snail kite, and Florida panther.”

Comment DOI–4: Summary, Page viii; The Summary of Benefits Table is not referenced in the preceding text. It should be discussed or deleted. Also in this table, the total estuarine habitat units for the "without-project condition" differs from that presented in Table 6-16 on Page 6-75. Please clarify which table is correct. Table 6-21 on Page 6-99 and the Summary of Benefits Table on Page SEIS-x may also need to be modified.

Response: All the tables are correct. The Summary of Benefits Table in the Executive Summary shows average annual estuarine habitat units for the without project condition, as do Table 6-21 and the Summary of Benefits in the EIS. Table 6-16 shows a "snapshot" of conditions in 2050, as noted in the table footnote. The Summary of Benefits Table has been deleted from the Summary.

Comment DOI–5: Section 11, Pages 11-5 through 11-6; We strongly support recommendations (u) and (v) that recommend the reservation by the State of Florida of baseline, as well as project water, for the St. Lucie Estuary and recommend that actions to be taken in the event of changes in any adopted reservation. Water being made available by CERP projects over and above
existing levels cannot be treated as "stand alone" contributions toward restoration, because the benefits of "new" CERP water depend on the interaction between new and already-existing water in natural systems. Additionally, many natural areas within the CERP domain are not short of water but have too much, at least some of the time. We, therefore, strongly support the recommendation that the local sponsor act to protect baseline flows to the St. Lucie Estuary. A similar recommendation should be included for protection of baseline water that is to be retained in natural areas targeted for restoration as part of the IRLS plan.

Response: Noted; the issue of how the reservation of baseline flows will be accomplished is still being addressed as a policy issue associated with CERP implementation. However, the agreement between the Governor and the President required by Section 601(h)(2)(A) of WRDA 2000 requires that the State of Florida ensure that “water made available by each project in the Plan shall not be permitted for a consumptive use or otherwise made unavailable by the State until such time as sufficient reservations of water for the restoration of the natural system are made under State law in accordance with the project implementation report for that project and consistent with the Plan.”

Comment DOI – 6: Appendix K; Section 1.2.1, Page K-2; In the last sentence of the first paragraph, the phrase "These increments of" should be deleted from the sentence, so that it reads only "Water made available by the project. . . must be identified and subsequently reserved." Because the guidance memorandum on identification of water to be reserved has not yet been developed, the IRLS PIR should not presume that water made available by projects "must" be identified incrementally, only that this is the approach taken in this PIR, which is being completed prior to the issuance of the guidance memoranda.

Response: Noted; no programmatic presumptions about incremental identification of water have been made. The term “increments” (referring to the different deliveries of water expected to result from project implementation) applies to the analysis undertaken for this project only.

Comment DOI – 7: Appendix K; Section 2.1, Page K-7: In the first paragraph, following should be added to points (1) and (2): "Beneficial... effects. . . for the protection of fish and wildlife and restoration of the natural system within the watershed

Response: The “beneficial effects” referred to in this section are project effects associated with natural system restoration and project effects associated with other water related needs of the region. Therefore, it is inappropriate to add the suggested clarifying text, because it implies that the beneficial effects are only associated with restoration of the natural system.
Comment DOI – 8: Appendix K; Section 3.1, Page K-16; In the second paragraph, the appendix states that a key premise is to avoid double-counting of project water being identified. However, if project water moving through the regional system provides benefits to multiple natural areas, it should be identified for all affected basins. Although the form of water reservations has not been decided upon by the state of Florida, it seems probable that reservations would have to refer to specific basins or natural areas that are the beneficiaries of the reserved water. A quantity of water moving through the Central and Southern Florida system could therefore figure in more than one reservation, and thus should be identified for any basins in which the water is providing a project benefit.

Response: Concur with the comment.

Comment DOI – 9: Appendix K; Section 3.2, Pages K-16 through K-17; We support the use of volume-probability curves separated into wet- and dry-season time periods as a sound approach both to identify water to be reserved and to evaluate of effects on existing legal sources. We believe that for most natural areas; however, future PIRs will need to supplement these analyses with use of performance measures that consider changes in key hydrologic parameters affecting the natural system. Again, we anticipate that this procedure would be outlined in forthcoming guidance memoranda.

Response: The analysis of performance measures based on planning objectives is the basis for plan comparison and ultimately plan selection. The analysis of water delivered by the project is undertaken after a plan has been tentatively selected. The water that the tentatively selected plan makes available is a function of the relative attainment of desirable performance, as depicted by the performance measures. It is not necessary to establish post-plan selection performance measures to identify how the project affects water deliveries to the natural system and for other water related needs.

Comment DOI– 10: Appendix K; Section 3.2, Page K-17; In the first line of the page, please clarify what is meant by "with-project condition." Is this the model simulation that includes all other CERP project features, or the simulation that is used for the "next added increment" evaluation of the project? We believe that the latter modeling should be used as a basis for identifying water made available by the project and for conducting savings clauses analyses.

Response: With project condition » refers to the set of conditions/assumptions included in the future without project condition (see Section 4 of the August 2002 Feasibility Study report), against which the project is evaluated in order to determine project effects. No other CERP projects are included in the without project condition. As such, this is a next-added incremental analysis.
Comment DOI – 11: Appendix K; Section 4.3.1, Page K-27; In the second paragraph, we agree that the amount of water beneficially retained in the natural areas is appropriate as a measure of water to be reserved for natural areas restoration. We are concerned, however, that the measure proposed to evaluate how much beneficial water is retained is the amount of water being discharged consistent with target values. The logic presented in the appendix is that, "additional storage increases the amount of water available to be released." However, an increase in water discharged from a natural area will in general be a composite of both beneficial water being retained and detrimental water lost. The former would help maintain desired water elevations and hydroperiods, while the latter would reduce them. The appendix should more fully document the logic for treating all discharges from the natural areas as beneficial.

Response: The natural storage and treatment area features of this project (to which this analysis of water retained and discharged applies) were formulated to improve water levels and hydroperiods consistent with restoration principles, not reduce them. While it is hypothetically possible to discharge water in order to reduce water elevations and hydroperiods, that was not done for this project. Discharge volumes is simply a convenient way to measure project effects on these lands.

Comment DOI– 12: Appendix K; Section 5.3., Page K-32; In the second paragraph, the appendix does not include a quantitative analysis to determine whether or not existing legal sources of water for fish and wildlife would be eliminated or transferred as a result of the project. The rationale presented is that elimination or transfer of fish and wildlife sources of water was not considered (intended) as part of any of the study alternatives, and because most adverse effects on fish and wildlife in the study area are a result of excess fresh water. Although this rationale is probably adequate for the IRLS project, we do not support this as a general approach to evaluating effects of other CERP projects on existing sources of water for fish and wildlife. Elimination or transfer of an existing legal source need not be an intended project effect, but could be an unanticipated side-effect of project features that affect ground or surface water levels in or near existing wetlands, uplands, or tidal areas. Any future evaluation of existing legal sources for fish and wildlife should be based upon comparisons of quantitative performance measures for identified water-dependent habitats, and that effects should be evaluated at both the local project and regional scales.

Response: Noted and concur with the comment.

Comment DOI – 13: Appendix K; Section 7.2.4.1, Page K-68; This section discusses coordination of the Endangered Species Act between the FWS and the Corps of Engineers. The draft PIR states,
The USFWS has confirmed by letter dated April 2001, that it agrees with the biological assessment prepared for the project by the USACE. In February of 2001 the USACE requested concurrence from the USFWS under the provisions of the Endangered Species ACT(ESA) of 1973 (50 CFR 402) that the project would cause no adverse effect to listed species. The USFWS agreed with this summary in a letter dated March 2, 2001. This letter provides that the USACE perform surveys for Threatened and Endangered plants and for Caracara. Coordination with the USFWS will continue throughout project implementation.

As two points of clarification, in the March 2, 2001 letter, the FWS concurred with the Corps of Engineers' "not likely to adversely effect" determination, not a "no effect" determination as stated above. Second, in the February 2001 letter, the Corps of Engineers agreed to conduct detailed surveys for all listed species in appropriate habitat types on any newly acquired project lands. This not only includes Audubon's crested caracara and federally listed plants, but also Florida scrub jay, wood stork, red-cockaded woodpecker, Everglade snail kite, Florida panther, bald eagle, and eastern indigo snake.

Response: noted; changes to the text of this section have been made consistent with the Service's determinations.

H.3 STATE AGENCIES

H.3.1 Florida House of Representatives, (FHR) Letter dated January 12, 2004

Comment FHR – 1: Support: Moving forward as rapidly as possible with the IRL Plan is of critical importance to the overall Comprehensive Everglades Restoration Project and also to our local rivers and estuaries. I urge you to move forward with the review of the PIR as expeditiously as possible so that the IRL Plan will be complete the process in a timely manner and be available for funding in the Water Resources Development Act 2004 appropriations process.

Response FHR – 1: no response required

H.3.2 Florida Department of Transportation (FDOT) Letter dated January 29, 2004

Comment FDOT – 1: In return for our contribution, the Department will benefit from this action by receiving mitigation credits, assigned by the South
Florida Water Management District, the Army Corps of Engineers, or any other agency that has jurisdiction over the area, for the Indian Street bridge project in Palm City.

Response FDOT - 1: Noted, request coordination between FDOT, SFWMD, & ACOE regulatory branch, to discuss the potential construction of the Indian Street bridge

H.3.3 Florida Department of State (FDOS) Letter dated January 30, 2004

Comment FDOS – 1: Support; Strongly supporting the Indian River Lagoon – South Project.

Response FDOS – 1: No response required

H.3.4 Florida Fish and Wildlife Conservation Commission, Office of Environmental Services, (FFWCC) Letter dated February 4, 2004

Comments FFWCC - 1: *The plan needs to clarify that it will not stop the detrimental water releases from Lake Okeechobee.* The PIR needs to make the distinction up-front that large-scale water releases from Lake Okeechobee will periodically continue until other CERP projects (eg. Lake Okeechobee Watershed Project, Aquifer Storage and Recovery, and the Everglades Agricultural Area Reservoir) can address the water storage needs of the upper Everglades watershed. The plan was formulated to address the water inflows that originate within the watershed of Martin and St. Lucie counties. Therefore the project as planned would reduce the further degradation of the St. Lucie Estuary by inflows from the local watershed (the most damaging inflows), but will not address the releases of excess water from Lake Okeechobee.

Response: Concur. *The following statement has been added to the Summary and Sections 6 and 7 of the PIR: “The plan was formulated to address the water inflows that originate within the watershed of Martin and St. Lucie counties. Therefore the project as planned would reduce the further degradation of the St. Lucie River, St. Lucie Estuary, and southern Indian River Lagoon by inflows from the local watershed (the most damaging inflows), but will not address the releases of excess water from Lake Okeechobee. Future CERP projects will help to mitigate high Lake Okeechobee inflows, and those effects are accounted for in the estimation of benefits in Sections 6.5.3.3.5 through 6.5.3.3.9.”*
Comment FFWCC - 2: Impacts to state-listed species. Impacts to the 32 state-listed species potentially occurring in the project area could result from the construction, operation, and maintenance of the features described in the Indian River Lagoon South PIR (Table I). These impacts may include destruction of critical habitats, disturbance of bird nesting attempts, or disturbance of foraging areas due to construction or operations. Noise, lighting, and turbidity in surrounding areas and waters may occur during construction at the sites, and should be minimized as much as possible. Prior to detailed project planning and construction, surveys should be conducted at the site of each feature to further assess potential impacts to listed species.

Response: Concur. The Corps has agreed to perform wildlife surveys for threatened and endangered species in areas where they may occur. Surveys would be conducted during PED activities.

Comment FFWCC - 3: Many of the state-listed species inhabit similar habitats and therefore may experience similar impacts associated with the Indian River Lagoon South Project. Shorebirds such as the black skimmer (Rynchops niger) and least tern (Sterna antillarum) have been known to nest in ruderal habitats such as those that will occur in and around the footprints of reservoirs and stormwater treatment areas proposed in the project. Precautions should be taken to avoid negative impacts to these birds.

Response: Concur.

Comment FFWCC – 4: Several state-listed species of raptors and wading birds, such as the bald eagle (Haliaeetus leucocephalus), snail kite (Rostrhamus sociabilis), Florida sandhill crane (Grus canadensis pratensis), limpkin (Aramus guarauna), little blue heron (Egretta caerulea), reddish egret (Egretta rufescens), roseate spoonbill (Ajaia ajaja), snowy egret (Egretta thula), tricolored heron (Egretta tricolor), white ibis (Eudocimus albus), and wood stork (Mycteria americana), may roost, loaf, and forage in and around the proposed reservoirs, stormwater treatment areas, and natural storage areas. The FWC "Florida Atlas of Breeding Sites for Herons and their Allies, Update 1999" indicates that an active colony is located in the Cypress Creek tract of the natural storage areas. The restoration of this property should benefit this colony and wading birds in general. If nesting occurs at any of the plan's sites, precautions should be taken to minimize disturbance. The Florida Fish and Wildlife Conservation Commission and the Florida Department of Environmental Protection have developed recommended setback distances around wading bird colonies of 330 feet (100 meters) to prevent human disturbance of nesting sites.

Response: Concur. Precautions will be taken to minimize disturbance to nesting sites.
Comment FFWCC - 5: The FWC has described Strategic Habitat Conservation Areas (SHCA) for many of the state-listed species. The SHCAs depict private lands that are needed to meet the minimum conservation goals for a species or species group. Strategic Habitat Conservation Areas for wading birds and the Florida sandhill crane are located throughout the natural storage areas considered for preservation and restoration, including the Allapattah, Atlantic Ridge, Cane Slough #1, Cypress Creek, Monreve Ranch, North Fork of the St. Lucie River, St. Lucie Pinelands, Trail Ridge North, and the V2 Ranch properties. The preservation and restoration of these properties will result in benefits for wading birds. A Strategic Habitat Conservation Area for wading birds is also located on an area within the footprint of the C-23/24 North Reservoir. During detailed design, attempts should be made to minimize adverse impacts to habitats within the SHCA.

Response: We understand the importance of SHCAs to wading birds. However, at this time we cannot commit to avoiding impacts to the SHAC located within the proposed reservoir footprint. As mentioned in your letter SHACs are located throughout the properties proposed for natural storage and treatment areas. The preservation and restoration of the natural areas would greatly benefit wading birds by affording additional protection to the SCHAs located within the properties in addition to providing additional habitat by restoring degraded wetland areas. The overall lift provided by the natural storage areas outweighs the loss of smaller habitat areas that might be located within the footprints of proposed reservoirs and STAs.

During PED activities we will continue to coordinate with your agency and will consider designs that would minimize impacts to the greatest extent practicable.

Comment FFWCC - 6: Another group of animals that may potentially be impacted are those that inhabit dry sandy soils and ruderal habitats. Species such as the burrowing owl (*Speotyto cunicularia*), Florida mouse (*Podomys floridanus*), Florida pine snake (*Pituophis melanoleucus mugitus*), gopher frog (*Rana capito*), eastern indigo snake (*Drymarchon corais couperi*), and gopher tortoise (*Gopherus polyphemus*) may be present at the proposed project footprints, and appropriate surveys and precautions should be employed. These species should benefit from the restoration of upland habitats located in the natural storage areas. Activities that may impact burrows of gopher tortoises and burrowing owls are regulated by the FWC's permitting office in Tallahassee.

Response: As previously stated, wildlife surveys would be conducted during PED activities.
Comment FFWCC - 7: The FWC has developed Habitat Protection and Management Guidelines for some of the state-listed species potentially occurring within the project area. We recommend these guidelines be followed, as appropriate, during detailed project design, construction, and maintenance. A list of references is included at the end of this letter.

Response: Concur.

Comment FFWCC - 8: Overall, the large expanse of natural storage areas proposed for restoration will benefit all of the state-listed species previously mentioned. The diverse mosaic of habitats within these lands will result in the preservation of habitat that potentially would be lost to development in the future.

Response: Noted.

Comment FFWCC - 9: Incorporate fish and wildlife-friendly features. Features that will enhance habitats for fish and wildlife should be included in the design of the reservoirs and stormwater treatment areas where compatible with the proposed function of the component. Existing ditches and borrow pits placed within reservoirs could serve as deep-water refugia for aquatic organisms during low water / dry down conditions. When left in place within reservoir and stormwater treatment area footprints, dead trees can provide structure for wetland birds for foraging and roosting activities. The U.S. Fish and Wildlife Service and FWC are developing a list of suggested wildlife features that can be incorporated into the design of CERP project reservoirs and stormwater treatment areas.

Response: Concur, during the design of reservoirs and STAs fish and wildlife habitat features will be considered provided that they are compatible with the function of the project component.

Comment FFWCC – 10: Inclusion of the 92,130 acres of natural areas is integral to the IRL-South Plan. We believe that the proposed restoration of natural storage areas is the highlight of the entire plan and is integral for watershed preservation. These natural areas fulfill one of the overarching goals of CERP by increasing the spatial extent of natural areas in the system while also providing stormwater attenuation, water storage, water quality treatment, aquifer recharge, and wildlife habitat. With rapid development occurring throughout the state, Martin and St. Lucie counties contain some of the few areas within the Everglades watershed in which the expansion of natural areas can be accomplished. Additionally, the water storage and nutrient removal benefits gained by inclusion of the natural storage areas has allowed the reservoirs and stormwater treatment areas in the selected alternative
(Alternative 6) to be decreased in size. This decrease allows the proposed reservoir and stormwater treatment area footprints to impact less acreage in the watershed.

Response: Noted.

**Comment FFWCC - 11:** Include recreational access to the features. The IRL-South plan involves the creation of eight large reservoirs and stormwater treatment areas encompassing 21,341 total acres, and preservation and restoration of 92,130 acres of natural areas. The FWC requests that the potential for future public access, compatible with the project's goals and objectives, be designed into each of these features. Public access for wildlife viewing, fishing, hunting, and canoeing and kayaking, even if limited, will lead to increased support for the project. Additionally, public recreation can have a large positive effect on the local economy. Leaving areas that can be developed into parking and boat launch facilities will enhance the potential for public recreational opportunities that may be integrated into this project. The demand for recreational opportunities in south Florida is continuously increasing. Access to these features and natural areas will alleviate some of the pressure that is placed on existing public natural lands.

Response: Public access for recreation compatible with the project's goals and objectives is being considered. A recreation master plan for CERP, including the IRL-S project, is currently being prepared.

**H.3.5 Florida Department of Environmental Protection/State Clearinghouse (FDEP/CH) Letter dated February 17, 2004**

**Comment FDEP/CH – 1:** The plan includes an element that will use artificial substrate to support benthic community recovery. We are not aware of the success using artificial seagrass restoration measures. A more reasonable approach to the submerged aquatic vegetation (SAV) need may be to plant aquaculture-reared stock or transplant from local donor beds after the water quality targets for SAV are met.

Response: The proposed use of artificial SAV is not meant to replace natural SAV. The artificial SAV would be used as another form of artificial structure in conjunction with prefabricated reef material (i.e., reef balls, etc.) to provide habitat for benthic invertebrates and fish. Past experience with planting and/or transplanting SAV has shown survivorship of the plants to be low. In addition, planting SAV is labor intensive and very expensive. Once the water quality...
targets for SAV are met and appropriate substrate is exposed by muck removal, SAV is expected to repopulate naturally

H.4 LOCAL GOVERNMENTS

H.4.1 Mayor of Ocean Breeze Park – Dorothy Geeben (MOBP) Letter dated January 13, 2004

Comment MOBP – 1: Support: Having lived over one-half of my life on the Indian River Lagoon, fishing and boating with my husband during the 1950’s and 60’s, I care very deeply about the river and support the plan for it’s restoration.

Response: No response required

H.4.2 Mayor of Jupiter City (MOJC) Letter dated January 13, 2004

Comment MOJC - 1: The Town of Jupiter fully endorses the Indian River Lagoon Restoration Plan and thanks all who have championed this effort through the years.

Response: no response required

H.4.3 Lake Worth Drainage District (LWDD) Letter dated February 10, 2004

Comment LWDD – 1: The use of language for natural storage areas should avoid misconceptions about the intent and use of these areas. If the idea is to primarily restore these areas then the name of this component and its purpose should be more clearly reflected.

Response: Noted

Comment LWDD - 2: Because of the vast difference in the relationship between the stated quantity of 55 acre-feet of water and 8,800 acres of STAs, the Draft PIR should identify the methodology used to derive this figure of 55 acre-feet.
Response: To compute the volumes of water delivered to the STAs, hydrologic data from each month from 1965 through 1995 were analyzed. Using a hydrologic model, the volume of water delivered to all of the project STAs was aggregated into a single set of results. Results for annual average deliveries, wet season deliveries, and dry season deliveries were calculated separately. The assumption in the model was that the project reservoirs would be operated, when necessary, to deliver water to the STAs to maintain a minimum 6-inch depth of water to ensure that the STAs function as designed. When water depth in the STAs is 6 inches or greater, operation of the project to affirmatively deliver additional water to the STAs is not required. This difference between antecedent conditions (meaning adequate depth in the STAs is available most of the time) and operation of the reservoirs to deliver water to maintain adequate depths in the STAs accounts for the relatively small amount of project water “delivered” to the STAs. Only the amount affirmatively “delivered” as a result of the project operation plan is included in the amount of water identified to be reserved.

Comment LWDD - 3: The Draft PIR should include a discussion as to what is the most appropriate mechanism to protect this quantity of water for the STAs.

Response: Sections 2.1, 2.5.2, and 4.3.2 of Appendix K all discuss identifying water delivered to STAs as part of the water to be reserved for the natural system (i.e., “the most appropriate mechanism”) associated with project implementation. Operating the project to deliver water to the STAs when antecedent conditions are not adequate to maintain minimum depths is necessary to ensure that the STAs function as designed.

Comment LWDD - 4: Effects on Existing Legal Sources of Water; The Draft PIR should include a discussion of the methodology and land use assumptions for development of the 2050 demand projections. These demands should be tied to real time growth management and land use projections such as local government comprehensive plans or another similar land use data set.

Response: A description of 2050 conditions (land use, land cover, water supply demand, etc.) is contained in Section 4 of the August 2002 draft feasibility report and was the basis for the evaluation of the project’s effects, including effects on existing legal sources of water.

Comment LWDD - 5: Continue to provide the analysis of impacts on existing legal sources.

Response: Concur; CERP project effects on existing legal sources will be analyzed.
Comment LWDD - 6: Project Effect on Levels of Service for Flood Protection; The Corps should ensure that appropriate modeling tools, including stage and duration, are available and used in future PIRs to evaluate levels of service for flood protection.

Response: Concur with the comment. An appropriate modeling tool was used to evaluate the project’s effects on the level of service for flood protection. An evaluation of flow volumes at the existing water control structures was used to undertake this analysis for this project. However, other projects may analyze, if appropriate for that project, project effects on stages and duration of stages.

Comment LWDD - 7: A discussion on the relationship between future land use patterns and the potential impact on project purposes should be included in the Draft PIR. The integration between other state programs, such as regulation, and project purposes should be a specific focus of that discussion.

Response: The Federal water resources planning process integrates an identification and discussion of existing conditions and a projection of the future without-project condition for the area under study. These future projections consider impacts to the project purposes as we look at opportunities to improve conditions, which are associated with environmental restoration for the IRL-S project. This existing and future without-project assessment is discussed in detail in Sections 3 and 4 of both the Final Feasibility Report dated August 2002, and this Final Project Implementation Report, which include consideration of the points in this comment. These two sections better address Comment 7, rather than Section 6.4.2 referenced in the text preceding this comment. Noted

Comment LWDD - 8: Compliance with State CERP requirements; The water supply benefit to agriculture which creates opportunities for urban users and the environment should be described in the Draft PIR.

Response: Noted; the comment will be forwarded to the SFWMD for their further consideration in the preparation of this section to be included in future draft PIRs.

Comment LWDD - 9: The source and methodology for developing the municipal/industrial demands should be identified.

Response: Noted; the comment will be forwarded to the SFWMD for their further consideration in the preparation of this section to be included in future draft PIRs.

Comment LWDD - 10: This section should elaborate on the statements regarding competition between agricultural and environmental water supply.
Appendix H Correspondence, Comments, and Responses

Response: Noted, the comment will be forwarded to the SFWMD for their further consideration in the preparation of this section to be included in future draft PIRs.

Comment LWDD - 11: There should be an additional Table in this Section which describes agricultural demands, supplemental demands, the amount of demand met from the Floridan and the amount of demand met with reservoir sources.

Response: Noted, the comment will be forwarded to the SFWMD for their further consideration in the preparation of this section to be included in future draft PIRs.

H.4.4 Broward County Board of County Commissioners (BCBCC) Letter dated September 9, 2003

Comment BCBCC – 1: Support: Resolution strongly supporting the Indian River lagoon – South Plan.

Response: No response required

H.4.5 Collier County Board of County Commissioners (CCBCC) Letter dated September 10, 2002

Comment CCBCC – 1: Support: Resolution strongly supporting the Indian River lagoon – South Plan.

Response: No response required

H.4.6 County Coalition for Responsible Management of Lake Okeechobee and St. Lucie and Caloosahatchee Estuaries, including ; Lee County, Martin County, Okeechobee County, Palm Beach County, St. Lucie County (CCRMLO) Letter dated August 30, 2002

Comment CCRMLO – 1: Support: Resolution strongly supporting the Indian River lagoon – South Plan.

Response: No response required
H.4.7 Palm Beach County Board of County Commissioners (PBCBCC)
Resolution dated December 11, 2000

**Comment PBCBCC – 1:** Support: Resolution strongly supporting the Indian River lagoon – South Plan

*Response: No response required*

H.4.8 St. Lucie County Board of County Commissioners (SLCBCC)
Resolution dated December 11, 2000

**Comment SLCBCC – 1:** Support: Resolution strongly supporting the Indian River lagoon – South Plan.

*Response: No response required*

H.4.9 Monroe County Board of County Commissioners (MCBCC)
Resolution dated December 11, 2000

**Comment MCBCC – 1:** Support: Resolution strongly supporting the Indian River lagoon – South Plan.

*Response: No response required*

H.4.10 Greater Miami Chamber of Commerce (GMCC) Resolution dated December 11, 2000

**Comment GMCC – 1:** Support: Resolution strongly supporting the Indian River lagoon – South Plan.

*Response: No response required*
H.5 TRIBAL

H.5.1 Seminole Indian Tribe of Florida (SITF) Letter dated February 10, 2004

Comment SITF – 1: The use of language for natural storage areas should avoid misconceptions about the intent and use of these areas. If the idea is to primarily restore these areas then the name of this component and its purpose should be more clearly reflected.

Response: Noted

Comment SITF - 2: Because of the vast difference in the relationship between the stated quantity of 55 acre-feet of water and 8,800 acres of STAs, the Draft PIR should identify the methodology used to derive this figure of 55 acre-feet.

Response: To compute the volumes of water delivered to the STAs, hydrologic data from each month from 1965 through 1995 were analyzed. Using a hydrologic model, the volume of water delivered to all of the project STAs was aggregated into a single set of results. Results for annual average deliveries, wet season deliveries, and dry season deliveries were calculated separately. The assumption in the model was that the project reservoirs would be operated, when necessary, to deliver water to the STAs to maintain a minimum 6-inch depth of water to ensure that the STAs function as designed. When water depth in the STAs is 6 inches or greater, operation of the project to affirmatively deliver additional water to the STAs is not required. This difference between antecedent conditions (meaning adequate depth in the STAs is available most of the time) and operation of the reservoirs to deliver water to maintain adequate depths in the STAs accounts for the relatively small amount of project water “delivered” to the STAs. Only the amount affirmatively “delivered” as a result of the project operation plan is included in the amount of water identified to be reserved.

Comment SITF - 3: The Draft PIR should include a discussion as to what is the most appropriate mechanism to protect this quantity of water for the STAs.

Response: Sections 2.1, 2.5.2, and 4.3.2 of Appendix K all discuss identifying water delivered to STAs as part of the water to be reserved for the natural system (i.e., “the most appropriate mechanism”) associated with project implementation. Operating the project to deliver water to the STAs when antecedent conditions are not adequate to maintain minimum depths is necessary to ensure that the STAs function as designed.

Comment SITF - 4: Effects on Existing Legal Sources of Water; The Draft PIR should include a discussion of the methodology and land use assumptions for
development of the 2050 demand projections. These demands should be tied to real time growth management and land use projections such as local government comprehensive plans or another similar land use data set.

Response: A description of 2050 conditions (land use, land cover, water supply demand, etc.) is contained in Section 4 of the August 2002 draft feasibility report and was the basis for the evaluation of the project’s effects, including effects on existing legal sources of water.

Comment SITF - 5: Continue to provide the analysis of impacts on existing legal sources.

Response: Concur; CERP project effects on existing legal sources will be analyzed.

Comment SITF - 6: Project Effect on Levels of Service for Flood Protection; The Corps should ensure that appropriate modeling tools, including stage and duration, are available and used in future PIRs to evaluate levels of service for flood protection.

Response: Concur with the comment. An appropriate modeling tool was used to evaluate the project’s effects on the level of service for flood protection. An evaluation of flow volumes at the existing water control structures was used to undertake this analysis for this project. However, other projects may analyze, if appropriate for that project, project effects on stages and duration of stages.

Comment SITF - 7: A discussion on the relationship between future land use patterns and the potential impact on project purposes should be included in the Draft PIR. The integration between other state programs, such as regulation, and project purposes should be a specific focus of that discussion.

Response: The Federal water resources planning process integrates an identification and discussion of existing conditions and a projection of the future without-project condition for the area under study. These future projections consider impacts to the project purposes as we look at opportunities to improve conditions, which are associated with environmental restoration for the IRL-S project. This existing and future without-project assessment is discussed in detail in Sections 3 and 4 of both the Final Feasibility Report dated August 2002, and this Final Project Implementation Report, which include consideration of the points in this comment. These two sections better address Comment 7, rather than Section 6.4.2 referenced in the text preceding this comment. Noted
**Comment SITF - 8**: Compliance with State CERP requirements; The water supply benefit to agriculture which creates opportunities for urban users and the environment should be described in the Draft PIR.

*Response: Noted; the comment will be forwarded to the SFWMD for their further consideration in the preparation of this section to be included in future draft PIRs.*

**Comment SITF - 9**: The source and methodology for developing the municipal/industrial demands should be identified.

*Response: Noted; the comment will be forwarded to the SFWMD for their further consideration in the preparation of this section to be included in future draft PIRs.*

**Comment SITF - 10**: This section should elaborate on the statements regarding competition between agricultural and environmental water supply.

*Response: Noted, the comment will be forwarded to the SFWMD for their further consideration in the preparation of this section to be included in future draft PIRs.*

**Comment SITF - 11**: There should be an additional Table in this Section which describes agricultural demands, supplemental demands, the amount of demand met from the Floridan and the amount of demand met with reservoir sources.

*Response: Noted, the comment will be forwarded to the SFWMD for their further consideration in the preparation of this section to be included in future draft PIRs.*

**H.6 NON-GOVERNMENT AGENCIES**

**H.6.1 Marine Industries Association of the Treasure Coast (MIATC)**

*Letter dated January 12, 2004*

**Comment MIATC – 1**: Support: The MIATC Inc., on behalf of its members, employees and customers, strongly urges Congress to fully fund the CERP projects to clean and reduce the polluting water entering the St. Lucie Estuary and the Indian River Lagoon from the Okeechobee watershed in the WRDA 2004 bill.

*Response: no response required*

Comment AOF – 1: Support; In summary, on behalf of 40,000 Audubon members in Florida we urge the Corps to further the achievements of CERP by integrating the Natural Area Concept into other components of CERP, and to recognize that the health of the St. Lucy Estuary is interconnected with the recovery of Lake Okeechobee.

Response: no response required

H.6.3 United Waterfowlers Florida (UWFF) Letter dated January 14, 2004

Comment UWFF – 1: Addition/Support: Since these are public lands and wetlands that will be purchased and developed with public dollars I want to stress that public access should be incorporated at every opportunity. Having the outdoor community on your side will help to ensure that the funding levels are as high as possible.

Response: Noted


Comment FPC – 1: Support: I can’t tell you how impressed I’ve been to see a thorough, well-justified, environmentally sensitive restoration project. The Corps deserves a gold star for showing that restoring natural wetlands is good for the River as well as the wildlife.

Response: No response required

H.6.5 Martin County Conservation Alliance (MCCA)Letter dated January 21, 2004

Comment MCCA – 1: Volume 1 – Section 7; The Alliance supports muck removal in the St. Lucie Estuary. There can be no question of the harmful effects of the flocculent ooze that has accumulated on estuarine bottoms as a result of water management practices. The PIR is strangely inconsistent in all its references to muck removal. This weakness does not obviate the need for muck removal, but it subjects the plan to unnecessary criticism. All sections on muck removal should be quickly reviewed and rewritten to achieve consistency and accuracy. Where issues have not been decided, the options and the decision trees
for final solutions should be briefly referenced. The following should be addressed: Will muck removal address the four deep hot spots or seek to clean shallower areas to provide sustainable substrates for benthic organisms? All references to spreading muck on natural areas through a slurry pipe should be removed. Implementation should assure that all major construction precedes muck removal.

Response: Concur. The muck remediation component has been reviewed, redesigned and rewritten. The inconsistencies in the report have been eliminated.

Comment MCCA – 2: Discussion of the southern diversion canal continues to confuse the identified benefits of reducing C23 discharges with the added diversion of C24 discharges to C44. With the recognition that those flows diverted to C44 cannot be directed to Lake Okeechobee until nutrient issues are resolved, the possible negative impacts of increasing discharges at C44 require analysis. In the Feasibility Study the C23/C44 Diversion was clearly a separate component with separate planning and timing schedules. This allowed for resolution of the issues mentioned above. In the PIR rewrite, the southern diversion appears to have been folded into the larger C44 complex. This is inappropriate. That complex represents the first IRL project and should begin as soon as possible. The diversion should be delayed for further analysis and adaptive management.

Response: The diversion of existing flows via a canal connection and operating rules on new reservoirs and STAs reduces negative impacts from C-23 and C-24 to the middle estuary and provides more a natural freshwater flow pattern in the North Fork. Discharges from the C-24 outlet, S-49, are only shifted to the Northfork through the associated C-23/24 STA outlet. No C-24 flows are directed to the C-44 canal. Northerly diversion will direct approximately 64,500 acre feet from the C-23 basin and C-24 basin into the North Fork of the St. Lucie River. Residual C-23 flows, above the natural system flows through Bessey Creek, will be directed to the C-44 canal via the proposed new canal. New C-44 flows originating in C-23 will initially be discharged to the estuary through the S-80 structure. When nutrient inflow targets are established for Lake Okeechobee, it may be possible to allow C-23 diverted flows to enter the Lake. This change of operation for C-44 will happen only if an analysis of impacts to Lake Okeechobee is favorable toward this new source of water.

The C-23/C-44 diversion canal and associated STA acreage are included in the recommended plan as part of the C-44 reservoir and STAs component. The individual C-44 components from the feasibility study, including the C-23/C-44 diversion canal and associated STA acreage, are combined in this project implementation report as the result of a value engineering analysis.
Comment MCCA – 3: The most dramatic problems for the estuary come from mismanagement of Lake Okeechobee water levels. When the Lake is held too high, discharges to the estuary are more likely. High Lake levels cause damage to littoral zones with consequent negative impacts of the quality of the water discharged through C44. When Lake levels are too low for extended periods, long term water quality again suffers from littoral damage. These effects are dependent on water use permitting for Lake Okeechobee’s service area. High water demands on the Lake require excessively high water levels to store adequate irrigation water for drought years. High water demands also cause an increase in damaging low Lake levels. While the IRL Plan emphasizes improvements to correct impacts from the regional watershed, it also includes a reservoir on C44. This is the first in a series of storage reservoirs around Lake Okeechobee aimed at allowing more natural management of Lake waters by reducing water demands on the Lake. This year the estuary has suffered unnecessary damaging discharges because rules for Lake management were inadequate. From February to June, while Okeechobee was a foot above its regulation schedule, virtually no effort was made to gradually (at levels of minimal impact to the estuary) lower lake levels. In the fall, with the lake still too deep. Water was dumped from the Kissimmee into the Lake when water managers had announced that the Lake dike was in danger. While the Kissimmee was being over drained, the safety of the dike was further impaired and discharges to an already damaged estuary were increased. This situation will continue to recur unless the operations manual or the assurances section include solutions.

- Operation of the Kissimmee section of the system must assure that damaging Lake levels, dike safety problems and damaging discharges to the estuary do not result from Kissimmee drainage which can be avoided.
- The potential for increased water demand for Lake Okeechobee must be addressed.

The C44 reservoir which is part of the IRL Plan reduces water demand on Lake Okeechobee by partially supplying watershed demand from the reservoir. THAT BENEFIT MUST NOT BE LOST by further increasing demands on the Lake. If assurances are to be meaningful and if CERP is to meet the requirements of the Programmatic Regulations, the IRL PIR must contain binding requirements that the benefits to quantity and timing and distribution of water that affect successful management of Lake Okeechobee will not be lost to increased permitting or other operational decisions.

Response: In summary, this comment expresses concerns about the damaging effects of high water levels in Lake Okeechobee on the St. Lucie Estuary, adverse water quality effects on the estuary associated with the management of Lake Okeechobee, adverse effects on the estuary associated with regional water management practices (particularly the management of the Kissimmee chain of lakes and the Kissimmee River system), and the relationship between the State of
Florida’s consumptive use permitting program administered by the South Florida Water Management District and the storage of water in Lake Okeechobee to meet regional water use demands.

While it is acknowledged that flood control discharges from Lake Okeechobee have a harmful effect on the St. Lucie Estuary ecosystem, the scope of this project is limited to the St. Lucie Estuary watershed. Accordingly, the project operating manual addresses the operations of project features, and does not include operational changes or actions beyond the scope of the project. The “System Operating Manual” required by section 385.28 of the CERP programmatic regulations (to be developed by December 31, 2005) will be the vehicle for addressing the relationship between regional water management practices in Lake Okeechobee and the Kissimmee River system (including the chain of lakes) and the St. Lucie Estuary. The System Operating Manual is to be developed to “ensure that the goals and purposes of the Plan are achieved.” The goals and purposes of the Plan include restoring ecological function in Lake Okeechobee and the St. Lucie Estuary and making additional water available for the other water related needs of the South Florida region.

The PIR does not contain recommendations for modifications to the State of Florida’s consumptive use permitting program. The agreement between the President and the Governor required by Section 601(h)(2)(a) of WRDA 2000 specifically requires that the State of Florida will not take actions that would make the water necessary to achieve ecosystem restoration unavailable. The storage of additional water in Lake Okeechobee to be made available for consumptive use permitting is not addressed in the agreement; however, such actions would be addressed in the System Operating Manual referred to above and is the means for codifying the “binding assurances” recommended by the commentator.

Comment MCCA-4: Appendix G – Real Estate; The real estate costs of the IRL Plan have been substantially increased in the two years since the Feasibility Report was complete. There appears to be no detailed justification of these increases. The result, combined with excessive “contingency cost” applied only to real estate, is to assign unrealistically high prices, especially for acquisition of citrus. Since most of the reservoirs and structural components are located on citrus groves, this affects the total cost for the project. The per acre cost for citrus in the PIR is over $14,000. There are no sales of citrus in the region (short of urban conversions nearer to I-95) which have come anywhere near this price. The high point for citrus sales in the Treasure Coast was in the early nineties when the effects of the freeze that moved citrus south from Polk County were being felt. Over planting, canker and globalization have reduced per acre prices in the last decade. This can be confirmed with property appraisers in both Martin County and St. Lucie County. The negative effects of estimating costs
are twofold. First, it makes the project more vulnerable to criticism. Secondly, it becomes a self fulfilling prophecy which unnecessarily increases the cost of the project. If the PIR estimates costs at $14,000+ per acre, the District will pay that price and the Corps will not question it. The Corps would do well to check with County Property Appraisers to more accurately assess trends and costs in citrus acreage in the area for which IRL projects are planned.

Response: The Corps did an analysis of comparable sales of properties in both St Lucie and Martin Counties to provide value estimates for the project lands. Project lands were valued on a “gross” basis, therefore; only the overall value for different land uses was used to provide estimated land values for planning purposes. The estimate in the Feasibility Report in 2002 was based on sales data obtained prior to completion of the feasibility report. For the Project Implementation Report, more recent sales data was obtained. There are several sales of Citrus land adjacent to those in the project area ranging from $8,000 per acre to $12,500 per acre, particularly in St. Lucie County. Evidence of these citrus values in Martin County is not as strong, but there is an increase and the few sales analyzed still supports the conclusion. Citrus lands associated with the project are adjacent to corridors connecting I-95 and the Florida Turnpike. Citrus was estimated to be $10,000 per acre. The contingency on most real estate costs are due to uncertainties in estimating, these include, but are not limited to, uncertainties associated with such elements as valuation variance; negotiation latitude; number of condemnations; condemnation awards, costs and interest; relocation benefits payable; refinement of boundary lines during ownership verification; and increases in administrative costs. The 35% contingency on lands not acquired is associated with valuation variance; negotiation latitude; number of condemnations; and condemnation awards. Analysis was coordinated with the South Florida Water Management District, Independent Appraisers, St. Lucie, and Martin County Tax Assessors Offices. The value conclusions were influenced by these discussions.

H.6.6 Martin County Democratic Executive Committee (MCDEC) Letter dated January 21, 2004

Comment MCDEC – 1: Support: Resolution on the Protection of the Everglades

Response: No response required
H.6.7 Environmental Studies Council, Inc, Adrienne Moore, Council President (ESCI) Letter dated February 4, 2004

Comment ESCI – 1: Our quality of life is dependent upon your decision. Your assistance in making this happen is imperative. Thank you for the consideration I know you will give this project.

Response: No response required

H.6.8 Florida Wildlife Federation (FWF) Letter dated February 8, 2004

Comment FWF – 1: Local interests in the project area have identified a number of shortcomings in the PIR. With adaptive management, these need not be “show stoppers”, but they are quite important. The Federation urges the Corps to work with local interests to resolve these remaining issues while meeting the March 2004 deadline. Thank you for considering these comments

Response: Support, No response required

H.6.9 The Environmental and Land Use Law Center (ELULC) Letter dated February 10, 2004

Comment ELULC - 1: We are pleased to see that the Revised Plan responds to concerns raised regarding nutrient loading to Lake Okeechobee from C44. The sustainability of Lake Okeechobee is critical to the restoration of the Everglades as well as the St. Lucie River and the Indian River Lagoon. Serious water quality problems in the Lake are exacerbated by high nutrient backflows from C44. Recommend: Continuing adaptive management to address nutrient loading to Lake O.

Response: The IRL-S recommended plan reduces phosphorus loading to the Lake by 43% (see Table 6-15).

Comment ELULC - 2: Diversion Canal; It is unclear whether the Diversion Canal component has been modified from a stand alone component to be a part of the C44 reservoir / STA complex and what impact such a modification might have. This component was the most controversial aspect of the Plan and may require further study and analysis to better define its values and impacts. It is unclear if combining the diversion canal with the C44 complex will result in the canal being expedited from the schedule proposed in the feasibility study.

Recommend: the diversion canal remain a separate component of the plan, with separate design and cost estimates, and that its construction be deferred until C23 reservoirs are complete.
Response: The C-23/C-44 diversion canal and associated STA acreage are included in the recommended plan as part of the C-44 reservoir and STAs component. The individual C-44 components from the feasibility study, including the C-23/C-44 diversion canal and associated STA acreage, are combined in this project implementation report as the result of a value engineering analysis.

Comment ELULC - 3: Public Private Partnerships; Section 7.7.6 appears to endorse, without limitation, the public private partnership concept introduced by the SFWMD. We are concerned about the lack of process, or any particular safeguards to ensure the public benefit in any such process.

Recommend: Include safeguards to ensure: land needed for CERP projects will remain in public ownership; project designs meets Corps standards; all CERP goals and requirements will be met; and the benefits of lower cost and earlier completion will be achieved.

Response: noted

Comment ELULC - 4: Land Costs; Land costs appear to have risen 156% in the past two years. While some contingency based on uncertainty is appropriate, these prices appear to be excessive.

Recommend: Actual sales documented by the property appraiser should be reviewed.

Response: The estimate in the Feasibility plan in 2002 was based on sales data obtained prior to completion of the feasibility report in 2002. For the Project Implementation Report, more recent sales data were obtained. There are several sales of Citrus land adjacent to those in the project area ranging from $8,000 per acre to $12,500 per acre, particularly in St. Lucie County. Evidence of these citrus values in Martin County is not as strong, but there is an increase and the few sales analyzed still supports the conclusion. Citrus lands associated with the project are adjacent to corridors connecting I-95 and the Florida Turnpike. Citrus was estimated to be $10,000 per acre in the Project Implementation Report. Most of the project area are transitional lands with land uses being switched from a citrus production based market to a speculative market for future development. The analysis was coordinated with the South Florida Water Management District, Independent Appraisers, St. Lucie, and Martin County Tax Assessors Offices. The value conclusions were influenced by these discussions. The contingency on real estate costs are due to uncertainties in estimating. The contingencies cover uncertainties associated with such elements as valuation variance, negotiation latitude, number of condemnations, condemnation awards, costs and interest, relocation benefits payable, refinement of boundary lines during ownership verification, and increases in administrative costs. The
number of relocations was estimated from a sampling. This sampling was then projected throughout the entire project by the land classification. Granted, this leaves open for a margin of error; however, the planning report did not contain property specific data except for those properties acquired by the South Florida Water Management District. In these cases, the actual improvements and their values were used. This accounts for the portion of Allapattah and Atlantic Ridge components, which South Florida Water Management District has acquired.

Comment ELULC - 5: C44 Reservoir - Assurances for Lake O; The C44 Reservoir will likely be one of the first reservoirs adjacent to Lake Okeechobee to come online. This reservoir will reduce water supply dependence on Lake O while simultaneously reducing discharges to the Estuary and back into Lake O. The reduction in water supply dependence on Lake Okeechobee is critical for successful establishment of a significantly lower regulation schedule to benefit the health of the Lake’s littoral zone and to reduce the need for discharges into the estuaries. If the increased reservoir storage capacity is used as the basis for increasing permitted water allocations, the natural system benefits associated with the reservoir may not be realized. It is also important to note that reservoirs, to be effective, must be managed for their primary purpose – i.e., to capture and detain stormwater. Reservoirs will be able to supply irrigation water but that secondary function must not be used as a basis to perpetually store water in the reservoirs, as such would reduce their ability to achieve their primary purpose and the associated environmental benefits.

Recommend: add language to clarify that water supply permits must not reduce or negate the benefits of the C44 Reservoir to Lake O or the Estuary.

Response: The Water Resources Development Act of 2000 and the CERP Programmatic Regulations state that CERP project operations plans must be consistent with achieving the objectives of the project. Upon completion of the planning (PIR) and construction phases of a project, the operations plan which contains operating rules and physical operations of structures and facilities will result in both the ecosystem restoration effects and the water supply effects of a CERP project. Operating the IRL recommended plan reservoirs to achieve greater water supply benefits (i.e., keeping the reservoirs fuller longer) would not be consistent with the primary objective of the project to store watershed runoff that is damaging to the St. Lucie Estuary and is not contemplated or included in the operations plan.

The PIR does not address water supply permitting by the South Florida Water Management District; however, the water supply permitting rules of the District require that permits may not be issued if the proposed activity (i.e., storing more water longer in the reservoirs, with a resultant reduction in capacity to store harmful discharges to the estuary) would be harmful to the water resources of the
District. In addition, the President-Governor Agreement required under WRDA 2000 prohibits the State from permitting for consumptive use any water required to be managed for the natural system.

Recommend: add language to ensure that reservoir operations will be focused on achieving primary purpose of capturing and detaining stormwater, and associated environmental benefits.

Response: Such language appears throughout the report. It is inherent in the project objectives.

H.6.10 Audubon of Florida (AOF) Letter dated February 10, 2004

Comment AOF – 1: In summary, the Indian River Lagoon South Project Implementation Report reflects an exciting and long-overdue approach to water resource projects by adding habitat restoration to the usual mix of structural solutions. It is a new approach to project design for the Corps, addressing the contemporary values of the Nation. Audubon looks forward to continuing to work with you and your excellent staffs throughout the detailed design, refinement, and implementation of this key project of the Comprehensive Everglades Restoration Plan.

Audubon of Florida has organized the Everglades Restoration Alliance (ERA), a growing list of supporters of moving forward with 180,000 acres of Everglades restoration in the coming year, including the Indian river lagoon and Southern Golden Gates Estates Restoration Projects. The ERA currently includes:

Local Governments
- Broward County Board of County Commissioners
- Collier County Board of County Commissioners
- County Coalition for Responsible Management of Lake Okeechobee and St. Lucie and Caloosahatchee Estuaries, including
  - Lee County
  - Martin County
  - Okeechobee County
  - St. Lucie County
- Palm Beach County
- Glades County
- Hendry County
- Highlands County
- Lee County Board of County Commissioners
- Martin County Board of County Commissioners
- Miami-Dade County Board of County Commissioners
- Monroe County Board of County Commissioners
- Palm Beach County Board of County Commissioners
- St. Lucie County Board of County Commissioners
Chambers of Commerce
- CHAMBER SOUTH
- Greater Miami Chamber of Commerce
- Greater Miami Hispanic Chamber of Commerce

Minority Organizations
- NAACP Florida Chapter
- Delta Sigma Theta Sorority, Inc.

Environmental Organizations

The Everglades Coalition, Audubon of Florida
- The Everglades Coalition
- Audubon of Florida
- Defenders of Wildlife
- Environmental and Land Use Law Center
- The Everglades Foundation
- The Everglades Trust
- National Audubon Society
- National Park Conservation Association
- National Wildlife Federation
- Natural Resources Defense Council
- 1000 Friends of Florida
- Sierra Club
- World Wildlife Fund

Other
- Day Cancer Research Foundation
- Northeast Dade Coalition

Response: No response required
H.7 INDIVIDUAL/PRIVATE CITIZENS


Comment MED - 1: It’s time to actually fund the plan and do something to help the Rivers! I total support the IRL CERP! Fund it, Build it. Save the River & the Everglades!

Response: No response required


Comment BD - 1: It’s time to actually fund the plan and do something to help the Rivers! I total support the IRL CERP! Fund it, Build it. Save the River & the Everglades!

Response: No response required

H.7.3 Private Citizen, Joseph Florio, (JF) Letter dated January 20, 2004

Comment JF - 1: Support: Please do not let the lessons of the past go unheeded, please save the land necessary for CERP, and for water preservation.

Response: No response required

H.7.4 Private Citizen, James R. Gray (JRG) Letter dated January 22, 2004

Comment JRG – 1: Nature is our biggest polluter, then man. There is no way to stop pollution. .....hope you will keep politics out of this and do what is correct. Take politics out of this

Response: No response required
H.7.5 Private Citizen – Maggie Hurchalla (MH) Letter dated January 26, 2004

Comment MH-1: Summary P v #4 The original plan was to divert both C23 and C24 flows to C44. If this has been changed, it should be clarified.

Response: The diversion of C24 flows to C44 was a feature of Alternative 5 and it may have been an early feature of Alternative 6. However, by the time Alternative 6 was finalized the diversion from C24 had been eliminated. C24 diversions do not provide a strong environmental benefit to the Northfork of the St. Lucie River. The reason they were first included was to deliberately add water to Lake Okeechobee for benefit to regions outside of IRL. Issues regarding Lake water quality and TMDLs are currently precluding the delivery of new sources of water to the Lake.

Comment MH-2: This section continues to refer to diversion to Lake Okeechobee via C44 while later sections point out that Lake diversions cannot occur until nutrient targets for the Lake are established and it is clear that the diversion will not interfere with meeting these targets.

Response: The current operational intention is to divert C23 flows to S80 and Southfork downstream of S80 at any Lake stage. Diversion to Lake Okeechobee will only occur if TMDL phosphorus limits and Lake stage management indicate that diversion is beneficial.

Comment MH-3: Pg. v paragraph 4-The section asserts that diversion would provide more natural discharge locations. While this is clearly true of the North Fork diversion, it has not been established that diverting C24 flows to C44 constitutes a “more natural location”. Haunert and Konyha’s paper (Feb 26 2001) points out that “value of diversion to the historic South Fork has not been accepted for two reasons: flows from today’s South Fork watershed are not substantially different from those of the pre-developed watershed, and diversions are not free.”

Response: Concur. There is no expectation to divert C24 flows to the Southfork. Even if valid reason and conditions are established in the future for C24 diversions to the Lake, there is no reason to think that C24 diversions to the Southfork would be beneficial to either the Southfork or the Northfork.

Comment MH-4: Pg. v paragraph 4, There is no reference to or calculation of the increased impacts at S80 should all of the C44 diversion be discharged there rather than having a portion go to Lake Okeechobee. The purpose of this
critique is not to suggest that the C23 to C44 diversion should be removed from
the Plan. Rather it should be identified as a separate component, accurately
characterized and deferred for later implementation so that a more accurate
impact assessment can be devised. Suggested rewrite: “The diversion of existing
flows via a canal connections and operating constraints on new reservoirs and
STAs reduces negative impacts from C23 to the middle estuary and provides
more natural freshwater flows in the North Fork. In addition it shifts discharges
from the C24 outlet to the C44 outlet at S80 and may provide additional water
for Lake Okeechobee. Changes include diverting approximately 64,500 acre feet
from the C23 basin and C44 basin discharges into the North Fork of the St.
Lucie River and diverting residual C23 and C24 flows to the C44 canal. Until
nutrient targets are established for Lake Okeechobee, diverted flows would be
discharges at S80. These changes in water movement would reduce the
damaging impacts associated with freshwater discharges to the middle estuary
and would shift discharges from C24 to C44.”

Response: The paragraph as it is written is accurate. Current assessment of the
region just downstream of S80 indicates that this area will be oligohaline with or
without C23 diversions. Therefore, there is no habitat change will be caused by
relatively small C23 diversions.

The diversion of existing flows via a canal connection and operating rules on new
reservoirs and STAs reduces negative impacts from C-23 and C-24 to the middle
estuary and provides more a natural freshwater flow pattern in the North Fork.
Discharges from the C-24 outlet, S-49, are only shifted to the Northfork through
the associated C-23/24 STA outlet. No C-24 flows are directed to the C-44 canal.
Northerly diversion will direct approximately 64,500 acre feet from the C-23
basin and C-24 basin into the North Fork of the St. Lucie River. Residual C-23
flows, above the natural system flows through Bessey Creek, will be directed to
the C-44 canal via the proposed new canal. New C-44 flows originating in C-23
will initially be discharged to the estuary through the S-80 structure. When
nutrient inflow targets are established for Lake Okeechobee, it may be possible to
allow C-23 diverted flows to enter the Lake. This change of operation for C-44
will happen only if an analysis of impacts to Lake Okeechobee is favorable toward
this new source of water.

The C-23/C-44 diversion canal and associated STA acreage are included in the
recommended plan as part of the C-44 reservoir and STAs component. The
individual C-44 components from the feasibility study, including the C-23/C-44
diversion canal and associated STA acreage, are combined in this project
implementation report as the result of a value engineering analysis.

Comment MH-5: Pg. v paragraph 5, The muck section needs to be rewritten for
consistency. It will either remove muck from the deep “dead zones” OR it will
remove muck from shallow areas where oysters can colonize. There is no
evidence that removing muck from the deep zones will provide 2650 acres of
clean substrate for oysters. Dredging within the deep zones is the most cost effective way to remove the maximum amount of muck, but the depth of muck in these holes is such that clean substrate will not be exposed.

Again, this is not intended to suggest that muck removal is not important. However, justification for the muck removal should be consistent and accurate.

Suggested rewrite: Change sentence beginning with “Muck removal…” to:
“Muck removal will decrease turbidity and oxygen demand and aid in the recolonization of bottom organisms.”

Response: Noted / Concur

Comment MH-6: Pg. vi The summary on this page is not consistent with table on Pg. viii. This shows 53,665 acres of wetlands restored while the Benefits table shows a total of 40,504 acres of wetlands restored.

The 2650 acres of benthic habitat restored is questionable. Partial removal of deep muck is central holes will not recreate natural bottom conditions. Removing the muck in these holes down to sand is not feasible.

Response: Noted corrected

Comment MH-7: on Summary Pg. Viii, The upland section of the summary of benefits is confusing. It suggests that there will be less upland habitat (21,876 without project, 13,149 with project) as a result of the project. This is not accurate. On the 92,000 acres of Natural Areas, there will be less uplands. Much of the uplands within that area that will be restored to wetlands will be cleared pasture rather than upland habitat. Much of the cleared pasture that is not converted to upland will be restored to native upland habitat. In the without project conditions, much of the Natural Area native upland habitat will be developed for agricultural or urban purposes. The Feasibility study demonstrates that the project will increase the acreage of native upland habitat in the watershed.

Suggestion: Delete this or change to accurate numbers for upland native habitat.

Response: Noted corrected

Comment MH-8: Pg. ix Par 3, first sentence, line 5
...to the estuary and to Lake Okeechobee

Response: Noted / Concur

Comment MH-9: on Section 1 pg. 1-14 The map is not helpful in understanding the watershed. There is no indication as to what gray color signifies.

Response: Suggest adding caption indicating shading signifies drainage basins.
Comment MH-10: on Section 1 pg. 1-14 last par. It might be helpful to explain that before there was a permanent inlet there was an estuary with non-permanent inlets opening and closing at different locations. Otherwise you get accused of spending a billion dollars to create a totally artificial salinity gradient where there was no salinity. It could be better and more accurately phrased to note that high freshwater heads in the watershed and long lasting dry season flows to the river in conjunction with an unstable inlet, created a more riverine situation.

Response: Most data indicate that the freshwater condition was by far the predominant condition prior to the construction of a stabilized inlet. There are a number of reasons why this restoration effort is appropriate even with a constructed inlet. Commerce, navigation and flood protection benefits and uses will not support or allow closure of the inlet. There certainly were periods of time during the earliest parts of the twentieth century and again from the mid 1930’s until the early 1950’s when beneficial salinity gradients would have formed in this river and estuary. The current combination of drainage-supported land development, drainage systems with no storage capacity and inappropriate Lake Okeechobee management create the conditions today which make the formation of beneficial salinity gradients nearly impossible. The implementation of this recommended plan makes the beneficial salinities possible again.

Comment MH-11: pg. 1-16 par 2 last sentence: same issue as above. The location of the salinity envelope in the river has moved because of reduced freshwater flow and Inlet dredging. It is not accurate to say that man turned a river into and estuary and Congress is now being asked to make that estuary function.

Suggested wording: replace with: “Restoration efforts focused upon in this study are directed to restoring a healthy salinity envelope consistent with present watershed flow patterns and inlet location.

Response: Concur with suggested wording.

Comment MH-12: SECTION 6; pg. 6-23 Muck. Par 2 - Removal of muck in deep dead zones will NOT expose substrate suitable for oysters and SAV. Removing to the level where resuspension does not occur will leave a muck substrate inappropriate for oysters or SAVs. Depths will be too great for both these target species. The new muck proposal will require a large disposal area which is as close as possible to the estuary and has access for pumping. There is a citrus grove just west of I95 on the C23 canal which might be an ideal site. It is owned by Consolidated Citrus which has expressed an interest in divesting their local citrus holdings.
Response: Report is not proposing that oysters & SAV will re-colonize the deep muck excavations zones (although benthic organisms will), but rather that excavating the deeper deposits will subsequently provide areas of muck sequestration. The substrate required for oysters & SAV occurs in shallower areas that will free of muck as currents, wind, and other re-suspension agents transport muck to the excavated cuts. More detailed sediment transport modeling will take place during PED, but scientists who conducted 2003 muck pilot tests believe the shallower zones, which are most subject to shear forces, will actually benefit fastest in terms of muck removal.

Suggested disposal site is noted. PDT has also identified a 640-acre site that is currently a sod farm located close to the muck deposits in the estuary that appears to be more feasible.

Comment MH-13: - Section 7; pg. 7-4 2nd par. The diversion canal is no longer described as a separate feature. It appears to have been made part of the C44 complex. This causes problems for providing appropriate scheduling that would allow for further documentation of benefits. Suggest: Break out C23/C44 Diversion Canal as a separate component.

Response: The C-23/C-44 diversion canal and associated STA acreage are included in the recommended plan as part of the C-44 reservoir and STAs component. The individual C-44 components from the feasibility study, including the C-23/C-44 diversion canal and associated STA acreage, are combined in this project implementation report as the result of a value engineering analysis.

Comment MH-14: pg. 7-4, 4th par. Further explanation as to what “design/build” is an whether the PIR is based on a design/build alternative in terms of timing and other factors is essential. It may be hidden elsewhere in the report, but if so, it is difficult to find. IF this location was chosen because of the design/build advantages, then those advantages must be clearly outlined. IF design/build is an optional alternative that has not yet been explored sufficiently to explain it, then it should not be mentioned at all. Next par: VE must also be explained. A #30 million dollar saving should not be claimed unless it can be documented. Suggest: Explain design/build and VE or don’t mention them.

Response: The implementation approach including methods of land acquisition and design and build contracting options may not be relevant topics for this report. The main goal is to recommend a viable and economically acceptable plan that will meet all or most of the restoration goals and objectives. Whether design/build or a variant of this approach will be employed during implementation is an undecided issue. The VE approach does substantiate a large savings in construction expense through the reduction in needed reservoir
and STA levee length, and in the number of pump stations and structures needed to operate the aggregated facilities. It also adds more than two thousand restorable acres of pasture back into the Allapattah Complex Natural Storage and Treatment Area.

**Comment MH-15**: pg. 7-4 to 7-7 7.1.1.1; The C23/C44 diversion canal is no longer listed as a separate component. It is mentioned on P 7-7 as an apparent component of the C44 complex. It is included in maps of the C44 complex. SFWMD indicates that it has not been included in the design build contract. Suggest: Include C23/C44 diversion canal as a separate component from the C44 complex.

**Response**: The C-23/C-44 diversion canal and associated STA acreage are included in the recommended plan as part of the C-44 reservoir and STAs component. The individual C-44 components from the feasibility study, including the C-23/C-44 diversion canal and associated STA acreage, are combined in this project implementation report as the result of a value engineering analysis.

**Comment MH-16**: pg. 7-17 Muck - The PIR needs to clarify whether muck remediation will target the 4 locations depicted here or, whether the target is shallower muck deposits where clean bottom can be biologically reclaimed. If the four deep areas are the target, then it should be explained how 2650 acres of substrate will be reclaimed. This says that muck remediation strategy will be refined prior to the final PIR. This IS the final PIR. The pilot study has been completed. The pumping of slurry to Allapattah is no longer a viable alternative. The pilot demonstrated that it would not produce the claimed benefits and could harm natural vegetation restoration in Natural Areas. Suggest: remove the slurry spreading alternative for muck disposal. Put in a “place holder” that can face the straight faced test.

**Response**: Noted/Concur

**Comment MH – 17**: pg. 7-20 Southern Diversion -Southern Diversion. The southern diversion includes diversion of significant amounts of C24 discharge as well as reductions in C23 discharges (see Konyha and Haunert). This is important since the demonstrated benefit is at C23. Claiming C24 diversions to C44 as a “benefit” has not been demonstrated. As written, this suggests that 53,000 acre feet per year will be diverted from C23. That’s not accurate. C24 average annual flows will be decreased over the 95 base. C44 flows will be significantly increased over the ’95 base, especially if flows are not routed to Lake Okeechobee because of concerns about nutrient loads. While this may be acceptable, the results should be accurately outlined rather than claiming credit for illusory benefits.
Appendix H Correspondence, Comments, and Responses

Suggest rewrite: “Approximately 53,000 acre feet per year of excess flow that would otherwise be discharges at C23 and C24 are directed through the southern diversion component. Under current operational rules 31000 af per year may go to Lake Okeechobee via S-308, and 22,000 acre-feet per year would go to SLE via S-80. Until it is demonstrated that nutrient targets for Lake Okeechobee can be met, all diversion flows will be released at S80. In order to achieve NSM flows at C23 (Bessey Creek) and reduce discharges at C24, the excess flow will be diverted southward...

Response: C24 flows will not be diverted to C44. Reduced C24 flows results from the northerly diversion not by diversion to C44.

Comment MH-18: pg. 7-21 par 2; ADD......“While it is not possible to approach NSM flows at C24 or C44 discharge points, there will be a reduction in flows at C24 from the 95 base. C44 discharges will be significantly increased from the 95 base (+38,229AF Konyha and Haunert, table 3 plus 31,000 Lake O) until diversions to Lake Okeechobee are possible.

Response: Noted/Concur

Comment MH - 19: pg. 7-26 par 2 The statement that the cost of citrus “has reached peak values of $10,000” has no supporting evidence. Citrus near urban areas has gone up in cost. Citrus away from urban areas is suffering from global competition and canker fears.

Response: The Corps did an analysis of comparable sales of properties in both St Lucie and Martin Counties to provide value estimates for the project lands. Project lands were valued on a “gross” basis, therefore; only the overall value for different land uses was used to provide estimated land values for planning purposes. The analysis was coordinated with the South Florida Water Management District, Independent Appraisers, St. Lucie, and Martin County Tax Assessors Offices. There are several sales of citrus land adjacent to those in the project area ranging from $8,000 per acre to $12,500 per acre, particularly in St. Lucie County. Evidence of these citrus values in Martin County is not as strong, but there is an increase and the few sales analyzed supports the estimated value conclusion of $10,000 per acre. Citrus lands associated with the project are adjacent to corridors connecting Interstate 95 and the Florida Turnpike. Most sales reviewed within this boundary area are indicating that the land is being purchased for speculation and maintaining the existing use as an interim use.

Comment MH - 20: pg 7-26, 7.3.3; The additional contingency of 25% on land costs is justified by “the uncertainty in the number of relocations”. This is not true. The number of relocations is minimal. Sites were chosen to minimize home sites. The Feasibility Study showed highly inaccurate numbers (100s) for
relocation for various sites. This has evidently not been revisited, though it would be fairly simple to examine aerial photos for dwellings. If a high contingency on land cost is necessary, it should not be based on relocation costs.

Response: The contingency on real estate costs are due to uncertainties in estimating. The contingencies cover uncertainties associated with such elements as valuation variance, negotiation latitude, number of condemnations, condemnation awards, costs and interest, relocation benefits payable, refinement of boundary lines during ownership verification, and increases in administrative costs. The number of relocations was estimated from a sampling. This sampling was then projected throughout the entire project by the land classification. Granted, this leaves open for a margin of error; however, the planning report did not contain property specific data except for those properties acquired by the South Florida Water Management District. In these cases, the actual improvements and their values were used. This accounts for the portion of Allapattah and Atlantic Ridge components, which South Florida Water Management District has acquired.

Comment MH – 21: pg. 7-31; The cost of real estate in the PIR is 156% of the real estate costs in the Feasibility plan completed in 2002. There appears to be no justification. This results in estimating costs for citrus of $14,000/acre. If that is the “estimate”, that is what the Water Management District will pay. While allowing for some contingency in land prices, this is ridiculously high. The Feasibility Study already had a built in contingency of 35% for land acquisition in 2002. The new figures are 156% of that. Prices have NOT gone up in two years. Before escalating the 2002 land price estimates, the Corps should check with Property Appraisers in Martin and St. Lucie County. They will have records and an analysis for all citrus sales in the two county area and are anxious to help cooperate to help CERP.

Response: The contingency on most real estate costs are due to uncertainties in estimating, these include, but are not limited to, uncertainties associated with such elements as valuation variance; negotiation latitude; number of condemnations; condemnation awards, costs and interest; relocation benefits payable; refinement of boundary lines during ownership verification; and increases in administrative costs. The estimate in the Feasibility plan in 2002 was based on sales data obtained prior to completion of the feasibility report. For the Project Implementation Report, more recent sales data was obtained. There are several sales of Citrus land adjacent to those in the project area ranging from $8,000 per acre to $12,500 per acre, particularly in St. Lucie County. Evidence of these citrus values in Martin County is not as strong, but there is an increase and the few sales analyzed still supports the conclusion. Citrus lands associated with the project are adjacent to corridors connecting I-95 and the Florida Turnpike. Citrus was estimated to be $10,000 per acre. Analysis was coordinated with the South Florida Water Management District, Independent Appraisers, St. Lucie, and
Martin County Tax Assessors Offices. The value conclusions were influenced by these discussions.

Comment MH – 22: pg. 7-37 7.7.6:
This comes across as a Corps endorsement of the public/private partnership. That is highly inappropriate at this time. Should the District come up with a plan or process or method to assure that:
- the land for the site will be in public ownership
- design will meet Corps standards
- all CERP goals and requirements will be met
- the process will be legal
- the process will public and transparent
- project completion will be cheaper and faster

It is inappropriate for the PIR to list all possible benefits of public/private partnerships as if they were assured, while listing none of the challenges that must be met. This is a dramatic departure for the Corps and it is inappropriate to endorse such a concept unless there is some process in place to show that it can provide the “possible” benefits.

Suggest:
One possible approach would be to leave this section out completely. The SFWMD has been asked repeatedly for information on how safeguards for public/private partnerships will be achieved. Henry Dean has said that no work at all has yet been done to address these issues but the District will consider them next year. Endorsement of the concept should follow a demonstration that practical safeguards have been developed.

Another alternative would be to add language as follows:
Line 8 “Public private partnerships may provide ...period of construction. Safeguards should be in place prior to contracting to assure that: land needed for project sites will remain in public ownership; project designs will meet Corps standards; all CERP goals and requirements will be met; benefits of lower cost and early completion will be met.”

Response: noted

Comment MH–23: to 7-41 7.9.7 and Table 7-7: The implementation schedule no longer has a separate project for the C23/C44 canal connection. It appears to have become part of the consolidated C44 complex. Yet David Unsell and other District staffers have stated that this canal component WILL NOT be part of the contract they are working on for the C44 complex. This leaves the C23/44 Diversion an orphan without costs estimates and without a schedule. In the Feasibility Plan it was a separate component, which was scheduled AFTER reservoir construction. Now it is a top priority with the C44 reservoir./ That is inappropriate.
Suggest: *Provide separate costs and implementation schedule (with adequate lead time for adaptive management) for the C23/44 Diversion Canal.*

**Response:** *The C-23/C-44 diversion canal and associated STA acreage are included in the recommended plan as part of the C-44 reservoir and STAs component. The individual C-44 components from the feasibility study, including the C-23/C-44 diversion canal and associated STA acreage, are combined in this project implementation report as the result of a value engineering analysis.*

**Comment MH – 24:** Appendix G; G-11: The Real Estate section continues to show 215 separate ownerships in the Allapattah Natural Area and excessive ownerships and relocation costs for other land acquisitions. Land acquisitions were chosen with careful attention to Property Appraiser’s maps to avoid multiple small ownership and relocation. This was pointed out in detail in comments on the feasibility study. Nothing has been done about it.

**Response:** *For the PIR, the number of ownerships in the Palmar Natural Area, Allapattah Natural Area, Cypress Creek/Trail Ridge Natural Area and the North Fork Floodplain Restoration were estimated. More recent data was obtained for the number of ownerships in all these project land areas. The number of actual landowners and relocations will be further defined during the PED phase. Credit that the South Florida Water Management District will receive for administrative costs will be based on actual costs for labor, appraisals, title insurance, and other incidental costs of land acquisition.*

**Comment MH – 25:** G-27: Costs of land appears to have “appreciated” 156% since 2002 without any justification. A 25% contingency has been added even where land acquisition is complete and the costs are known (22,000 acres of Allapattah) The bold print explanation at the bottom of the chart ranges from unclear at best and simply wrong at worst. It would appear that the 25% contingency and the 105 contingency should not apply to lands already purchased.

**Response:** *There is no contingency added to the actual land costs in the Allapattah area and Atlantic Ridge area where land acquisition by the South Florida Water Management District were complete.*

**Comment MH – 26:** G-27: With the double contingency on top of the 2002 figure which also had a 35% contingency, land prices for citrus are estimated to be $14,000+ per acre. This is too high.

**Response:** *The contingency on real estate costs are due to uncertainties in estimating, these include, but are not limited to, uncertainties associated with*
such elements as valuation variance; negotiation latitude; number of condemnations; condemnation awards, costs and interest; relocation benefits payable; refinement of boundary lines during ownership verification; and increases in administrative costs. The 35% contingency on lands not acquired is associated with valuation variance; negotiation latitude; number of condemnations; and condemnation awards. The estimate in the Feasibility plan in 2002 was based on sales data obtained prior to completion of the feasibility report. For the Project Implementation Report, more recent sales data was obtained. There are several sales of Citrus land adjacent to those in the project area ranging from $8,000 per acre to $12,500 per acre, particularly in St. Lucie County. Evidence of these citrus values in Martin County is not as strong, but there is an increase and the few sales analyzed still supports the conclusion. Citrus lands associated with the project are adjacent to corridors connecting I-95 and the Florida Turnpike. Citrus was estimated to be $10,000 per acre. Analysis was coordinated with the South Florida Water Management District, Independent Appraisers, St. Lucie, and Martin County Tax Assessors Offices. The value conclusions were influenced by these discussions.

Comment MH – 27: G-31: This reservoir is the same site and the same acreage included in the 2002 Feasibility Study. Total real estate costs have gone from $39 million to $60 million without any justification. The pattern is found in comparing all real estate estimates that are comparable.

Response: The estimate in the Feasibility plan in 2002 was based on sales data obtained prior to completion of the feasibility report. For the Project Implementation Report, more recent sales data was obtained. There are several sales of Citrus land adjacent to those in the project area ranging from $8,000 per acre to $12,500 per acre, particularly in St. Lucie County. Evidence of these citrus values in Martin County is not as strong, but there is an increase and the few sales analyzed still supports the conclusion. Citrus lands associated with the project are adjacent to corridors connecting I-95 and the Florida Turnpike. Citrus was estimated to be $10,000 per acre. Analysis was coordinated with the South Florida Water Management District, Independent Appraisers, St. Lucie, and Martin County Tax Assessors Offices. The value conclusions were influenced by these discussions.

Comment MH – 28: Appendix J; J-25: The C44 complex estimates do not include discussion of the Diversion Canal. That’s appropriate. It does need its own section since it is not in the same location or configuration as it was in the Feasibility Report.

Response: A discussion of the C-23/C-44 diversion canal has been added for clarification. The C-23/C-44 diversion canal and associated STA acreage are included in the recommended plan as part of the C-44 reservoir and STAs
component. The individual C-44 components from the feasibility study, including the C-23/C-44 diversion canal and associated STA acreage, are combined in this project implementation report as the result of a value engineering analysis.

Comment MH – 29: Appendix K ; K-8: While it is probably not possible at this late date to include the specifics of assurances for the timing and distribution benefits which accrue to Lake Okeechobee from C44 Reservoir storage, this important benefit cannot be ignored. The C44 storage reservoir will be the first of a series of reservoirs and ASR wells which will offload storage from Lake Okeechobee to surrounding regions. In each region watershed runoff will be stored in the reservoir in lieu of going to Lake Okeechobee. Irrigation needs in each region will first be met from the regional reservoir rather than from Lake Okeechobee. This arrangement is a key factor in making possible a Lake operations schedule which can sustain healthy Lake littoral areas and minimize destructive discharges to the estuary. If excessive new water demands are placed on the Lake and/or the operations schedule is not adjusted to assure the planned benefits to the Lake and the estuary, then planned benefits from the C44 reservoir and later storage will not be realized.

Suggest:
Add: “It is recognized that construction of the C44 reservoir will provide environmental benefits to Lake Okeechobee and to the St. Lucie Estuary by reducing the amount of water that must be stored in Lake Okeechobee to meet existing demands. Additional water supply permits dependent on Lake Okeechobee storage shall not be issued if they would negate or reduce these benefits.”

Response The project delivery team recognizes the potential beneficial effects of the recommended plan’s reservoirs on ecological conditions in Lake Okeechobee. However, the project objectives do not include beneficial effects on Lake Okeechobee, and none of the alternative plans were specifically formulated to achieve benefits in Lake Okeechobee. The commentator is also suggesting that water management practices affecting the storage of water in Lake Okeechobee may be modified by the SFWMD to meet future consumptive use permitting needs, to the detriment of the beneficial effects to the lake associated with construction and operation of recommended plan features.

While it is acknowledged that sustained high water levels in Lake Okeechobee adversely affect ecological conditions in the lake, the scope of this project is limited to the St. Lucie Estuary watershed. Accordingly, the project operating manual addresses the operations of project features, and does not include operational changes or actions (including those which may affect water levels in Lake Okeechobee) beyond the scope of the project.
The “System Operating Manual” required by section 385.28 of the CERP programmatic regulations (to be developed by December 31, 2005) will be the vehicle for addressing regional water management practices in Lake Okeechobee. The System Operating Manual is to be developed to “ensure that the goals and purposes of the Plan are achieved.” The goals and purposes of the Plan include restoring ecological function in Lake Okeechobee and making additional water available for the other water related needs of the South Florida region.

The PIR does not address water supply permitting by the South Florida Water Management District; however, the water supply permitting rules of the District require that permits may not be issued if the proposed activity (i.e., storing more water longer in Lake Okeechobee) would be harmful to the water resources of the District.

Comment MH – 30: K-32 last par.; It is NOT true that agricultural and urban users in the study area rely primarily on canal discharges”. Almost no urban water users are dependent on canals, even indirectly for aquifer recharge. Utilities do not use surface water. Wellfields are almost all east of canal weirs and discharge points. The Upper East Coast Water Supply plan states that future demand will be met by Ro treatment of the Floridan Aquifer.

Response: Concur; the text of this section of Appendix J (formerly K) will be changed accordingly.

Comment MH – 31: K-33 5.4: The determination that legal users were not adversely affected was based on modeling existing uses. How the modeling was done and what it was based on needs to be included in this section. The determination was made on actual use. If water use permits rather than usage were used for comparison, the answer would be different. Because some controversy exists with those who want permanent guarantees of their permitted use, it is critically important to clarify what the information base on this subject is.

Response: The commentator correctly notes that the modeling performed to analyze project effects on existing sources of water was based on actual use of water, and did not assume maximum withdrawals allowed under existing permits. The suggested clarification will be added to Section 5.4 of this appendix in the Final PIR.

Comment MH – 32: K-57 7.2.1.9.6: The third sentence is not accurate. Analysis showed that diversion to reduce C23 discharges was good. Diversion from C24 to the upper reaches of the North Fork was good. There is NO analysis showing that diversion from C24 to C44 is positive. There is no diversion to the southern end of the St. Lucie. That diversion is to C44.
Suggest: The SFWMD prepared section 7 of Appendix K (State of Florida Compliance Report). The comment and the recommended modifications to the text were forwarded to SFWMD for their consideration, and the recommended changes to the text may be incorporated into the final version of the report prior to their submittal of the report to FDEP for approval in accordance with State law. However, the third sentence will be removed from this section in the final PIR.

Change sentence to say: “Results of the analysis indicate that flows into the SLR through the C23 canal should be redirected to the greatest extent possible. This includes diversion to the North Fork or south to C44. To a lesser extent discharges from C24 should be diverted to the North Fork.

Response: Noted /Concur

Comment MH – 33: K-58 par 2: The reef off the St. Lucie Inlet is also damaged by discharges from the canal system. As written this suggests that the only impacted reef is off Ft. Pierce.

Suggest: Add after 2nd sentence: “Likewise, reductions in flow from C23, C24 and C44 is likely to reduce negative impacts on the reef system just outside the St. Lucie Inlet.”

Response: The SFWMD prepared section 7 of Appendix K (State of Florida Compliance Report). The comment and the recommended modifications to the text were forwarded to SFWMD for their consideration, and the recommended changes to the text may be incorporated into the final version of the report prior to their submittal of the report to FDEP for approval in accordance with State law. The recommended text will also be added to this section of the PIR as suggested.

Comment MH – 34: K-64: Removal of muck from the deep holes targeted for dredging will leave behind a more highly consolidated muck bottom at greater depths. It will NOT expose appropriate substrate at appropriate depths for oysters or sea grasses.

Response: The SFWMD prepared section 7 of Appendix K (State of Florida Compliance Report). Section 7.2.2.5 (“Water Quality Performance of Project Components”) is a discussion of the potential effects of the components of the recommended plan on water quality in the project area, and is not intended to be an analysis of the suitability of substrates for SAV colonization. The comment was forwarded to SFWMD for their consideration, and changes to the text consistent with the comment may be incorporated into the final version of the report prior to their submittal of the report to FDEP for approval in accordance.
with State law. However, the text in Section 7.2.2.5.4 ("Muck Remediation") will be modified as follows:

"Removal of muck would greatly improve estuarine conditions by improving water quality conditions for target species."

**Comment MH – 35**: Appendix M, M-2: The Diversion Canal from C23 to C44 needs to be included as a component.

*Response*: Noted. The operation of pump stations S-486 and S-487 define the proposed flows in the C-23/C-44 diversion canal.

**Comment MH – 36**: M-4: C44 Basin The third sentence is in the wrong place. “The features (C44 Basin features) also provide diversion from the C23/C24 Basins for spatial redistribution of inflows to the North Fork of the St. Lucie River.” This is simply not true. C44 features don't divert ANY water to the North Fork. Delete the sentence.

*Response*: Concur. The sentence has been deleted.
ATTACHMENT A

CORRESPONDENCE, COMMENTS, AND RESPONSES
FOR THE FINAL FEASIBILITY STUDY AND
SUPPLEMENTAL ENVIRONMENTAL IMPACT STATEMENT
AUGUST 2002

The Indian River Lagoon – South Draft Feasibility Study, was released to the public 24 October 2001 as a four volume set. Notification of the report’s availability was provided in the Federal Register November 6, 2001. A period of time was set aside in accordance with the National Environmental Policy Act to provide all interested parties an opportunity to comment on the contents of the Study. The comment period was open through 31 December 2001.

During the comment period, two public meetings were held in Port St. Lucie, Florida for all interested parties. The first meeting held November 5, 2001, included a formal presentation given by Indian River Lagoon - South Team Members, while the second meeting held December 10, 2001, consisted of a more informal workshop setting and question/answer session. The public meetings provided an opportunity for the public to become familiar with the major concepts associated with the Study through review of displays and interaction with Indian River Lagoon - South Team Members. Detailed information regarding the public meetings is available in Section 9 of this report.

Comment letters were received from Federal, State, and local governments, various non-governmental organizations, and individuals. Section H.1 presents a summary of the letters received during the comment period, Section H.2 presents the comments and the responses prepared by Indian River Lagoon - South Team Members, and Section H.3 includes copies of all letters received. Other relevant correspondence is also included in this Appendix.

H.8 LETTERS RECEIVED DURING THE COMMENT PERIOD

More than 325 letters, faxes, and e-mailed comments were received during the comment period. The following is a summary of the agencies, governments, organizations, and individuals that submitted comments:

LOCAL SPONSOR
South Florida Water Management District (SFWMD)

FEDERAL AGENCIES
Appendix H  Correspondence, Comments, and Responses

US Fish and Wildlife Service (USFWS)
US Environmental Protection Agency (EPA)
US Dept of Agricultural (USDA)
US Dept of Commerce- Oceans and Atmosphere (NOAA)
US Dept of Interior, Office of Environmental Policy and Compliance (DOI)

STATE AGENCIES
Florida Department of Community Affairs (FDCA) / Clearinghouse
Florida Department of State, Division of Historic Resources (SHPO) – 2 letters
Florida Department of Agriculture & Consumer Services (FDACS)
Florida Department of Environmental Protection (FDEP)
Florida Department of Transportation (FDOT)

LOCAL GOVERNMENTS
St Lucie County Board of County Commissioners (STBCC)
St. Lucie County Chamber of Commerce (SLCCC)
St. Lucie County, Public Works Department (SLPWD)
Village of Tequesta, Utilities Department (VTUD)

NON-GOVERNMENT ORGANIZATIONS
Audubon of Florida & Environmental & Land Use Law Center (AF&ELULC)
Conservation Alliance of St. Lucie County, Inc. (CASTC)
Environmental Action Committee (EAC)
Florida Native Plant Society, Martin County Chapter (FNPSMC)
Martin County Conservation Alliance (MCCA)
The Nature Conservancy (TNC)
Pelican Island Audubon Society, Inc. (PIAS)
Smithsonian Marine Station at Ft Pierce (SMSFP)
St. Lucie River Initiative (RI) signed by Bud Jordan
Ten Enviros (NGOTE) – Multi-Agency Letter
Treasure Coast Regional Planning Council (TCRPC)

INDIVIDUALS / PRIVATE CITIZENS
Dawson Associates, Inc. (DAI)
Ideas & Things (IT)
Private Citizen, Lloyd Brumfield (LB)
Private Citizen, Maggy Hurchalla (MH)
Marine Industries Association (MIA)
Private Citizen, Nathaniel Reed (NR)
Rivers Coalition Members (RCM) - 276 letters of support
19 private citizen letters / e-mails of support
H.9 COMMENTS & RESPONSES

The comments summarized represent those received from the general public, numerous private organizations and the various governmental agencies. These comments were used to make appropriate and corresponding changes to the report and appendices. It should be noted that any page numbers referenced within the comments might have changed between the draft and final report. In addition, Section 7 and Section 8 were switched after release of the draft report and are now Section 7: Recommended Plan and Section 8: Environmental Effects in the final report.

H.9.1 LOCAL SPONSOR

H.9.1.1 South Florida Water Management District

(SFWMD) Letter of Support dated May 9, 2002

Comment SFWMD – 1: Support: SFWMD is proud to share a partnership with the US Army Corps of Engineers on this vital and exciting project.

Response SFWMD – 1: No response required.

H.9.2 FEDERAL AGENCIES

H.9.2.1 US Department of Commerce- National Marine Fisheries Service

(NMFS) Letter dated December 17, 2001

Comment NMFSa – 1: Support: The National Marine Fisheries Service concurs with your determination that restoration of these habitats in the St. Lucie River and Estuary and southern Indian River Lagoon should provide benefits to Essential Fish Habitat (EFH) & Federally-managed fisheries

Response NMFSa – 1: No Response Required.
Comment NMFSa – 2: Additions: We recommend that a turbidity monitoring program and other Best Management Practices be employed with the on-going restoration activities.

Response NMFSa – 2: A turbidity monitoring program & use of Best Management Practices will take place during construction activities.

Comment NMFSa – 3: Compliance: Additionally, it appears that the project may occur within the range of Johnson’s seagrass (Halophila johnsonii), which is listed as threatened under the Endangered Species Act. In accordance with the Endangered Species Act of 1973, as amended, it is the responsibility of the appropriate Federal regulatory agency to review its activities and programs and identify any activity or program that may affect endangered species or threatened species or their habitats. Determinations involving species under National Marine Fisheries Service jurisdiction should be reported to our Protected Resources Division at the letterhead address. If it is determined that the activities may adversely affect any species listed as endangered or threatened and under National Marine Fisheries Service purview, then formal consultation must be initiated.

Response NMFSa – 3: The not likely to effect determination has been made for Johnson Seagrass, and it was coordinated with the National Marine Fisheries Service. The letters from the National Marine Fisheries Service and the US Fish and Wildlife Service discussing the project not likely to affect any threatened and endangered species has been included in the correspondence section of this appendix.


Comment NMFSb – 1: Addition: These include not only the species mentioned in the feasibility report and Appendix E but also sheephead (Archosargus probatocephalus), a species that was numerous in National Marine Fisheries Service samples from the St Lucie system only five years ago, but displayed an increasingly high prevalence (~33% and greater) of lesions and other external abnormalities and is seldom encountered in current National Marine Fisheries Service sampling.

Response NMFSb – 1: Sheephead (Archosargus probatocephalus) was added to the discussion of species affected by the water quality and exhibiting lesions & other abnormalities. See Section 3.6.3.1.
Comment NMFSb – 2: Support: We support the Preferred Plan described in the Feasibility Report and urge that all of its elements, as described, be promptly implemented.

Response NMFSb – 2: National Marine Fisheries Service supports all plan elements, no response required.

Comment NMFSb – 3: Compliance: Baseline studies and careful long-term monitoring are essential to ensure that expected beneficial changes occur to help refine plan details to ensure restoration success.

Response NMFSb – 3: The Indian River Lagoon – South Team Members will coordinate with the National Marine Fisheries Service regarding Essential Fish Habitat. The team will conduct baseline studies and long-term monitoring to determine benefits realized.

H.9.2.3 US Department of Commerce- National Marine Fisheries Service

(NMFS) Letter dated March 18, 2002
Section 7 Coordination

Comment NMFSc – 1: Sea turtles and Johnson’s seagrass may occur within the Indian River Lagoon system. The National Marine Fisheries Service Protected Resources Division concurs with the Corps’ determination that implementation of the preferred plan will not adversely affect listed species nor designated critical habitat under the Service’s purview. This concludes consultation responsibilities under Section 7 of the Endangered Species Act.

Response NMFSc – 1: No response required.

H.9.2.4 US Fish and Wildlife Service

(USFWS) Letter dated March 2, 2001
Section 7 Coordination

Comment USFWS – 1: The Corps’ letter (dated February 22, 2001) indicated a commitment to conduct detailed environmental surveys for listed species when land acquisition occurred. Based on your acceptance of standard protection measures for the bald eagle, West Indian manatee, and the eastern indigo snake, the Service is able to concur with your determination that the proposed project is not likely to adversely affect threatened or endangered species. Although this letter does not constitute a Biological Opinion described under Section 7 of the
Appendix H Correspondence, Comments, and Responses

Endangered Species Act, it does fulfill the requirements of the Act, and no further action is required.

Response USFWS – 1:  No response required.

H.9.2.5 US Environmental Protection Agency

(EPA) Letter dated December 18, 2001


Response EPA – 1: No response required.

H.9.2.6 US Dept of Agriculture

(USDA) Letter dated October 5, 2001

Comment USDA – 1: Form AD-1006 is included.

Response USDA – 1: No response required.

H.9.2.7 US Department of Commerce Office of Oceans and Atmosphere

(NOAA) Letter dated December 7, 2001

Comment NOAA – 1: If there are any planned activities which will disturb or destroy these monuments, NOS requires not less than 90 days’ notification in advance of such activities in order to plan for their relocation.

Response NOAA – 1: Noted

H.9.2.8 US Dept of Interior, Office of Environ Policy and Compliance

(DOI) Letter dated December 21, 2001

Comment DOI – epc- 1: Support: We appreciate the importance of this project as an initial step to improve water quality and flow timing in the St. Lucie Estuary and Indian River Lagoon, and to enhance or conserve aquatic and terrestrial habitats in the basins. We commend the sensitivity utilized in siting and
designing the proposed facilities to reduce impacts on more valuable wildlife habitats in the watershed.

Response DOI – epc- 1: Noted

Comment DOI – epc- 2: Editorial: Substantial editorial comments were provided in letter.

Response DOI – epc- 2: All editorial revisions will be incorporated into the final document.

Comment DOI – epc- 3: Real Estate: We believe fee title acquisition is essential to ensure that trust resource benefits are maintained.

Response DOI – epc- 3: These lands will either be purchased fee simple or contain easements in perpetuity.

Comment DOI – epc- 4: Ecology: We also have concerns regarding the disposal of muck that is removed from the estuary or lagoon. The Draft Supplemental Environmental Impact Statement state, ‘...muck will be spread over approximately 10,000 acres of an exotic infested portion of the [Allapattah] natural area.

Response DOI – epc- 4: Noted

Comment DOI – epc- 5: Clarification: The Draft Supplemental Environmental Impact Statement should include a clearer explanation of the distinction between a sub-team’s report and recommendations, verses subsequent decisions by the full study team to develop and evaluate the selected plan.

Response DOI – epc- 5: Included a clearer explanation of the distinction between a sub-team report and recommendations versus subsequent decisions made by the full study team to develop and evaluate the selected plan. Needed to comply with 1502.14 of Council on Environmental Quality. This project has had a long and exhaustive alternative formulation history. The process reviewed a wide range of alternatives starting with the sub-teams' single-issue reports, developing these into multi-component plans. Once the plans were completed, a rigorous and complicated evaluation process involving a number of modeling tools and the sub-teams occurred. These results were then articulated to the full team for discussion and additional refinement and alternative development.

Comment DOI – epc- 6: Compliance: We believe this Draft Supplemental Environmental Impact Statement does not fully comply with the mandates contained in the Center for Environmental Quality's Implementing Regulations...
and guidance regarding National Environmental Policy Act compliance. There are two concerns regarding National Environmental Policy Act compliance, first is ensuring the use of an integrated report and Draft Supplemental Environmental Impact Statement that complies with the Implementing Regulations; and secondly, that the document contains a complete discussion of the effects of all alternatives in the combined document.

**Response DOI – epc- 6:** The integrated report fully discusses the alternatives and provides the effects of these alternatives. The project is in compliance with the National Environmental Policy Act. Chapters that contain the content required by the National Environmental Policy Act are marked in the Table of Contents with an asterisk. Furthermore, the US Environmental Protection Agency, the agency that reviews the Environmental Impact Statement, has not objected to the Integrated Report/Environmental Impact Statement format. All required content elements of an Environmental Impact Statement, in accordance with the cited Federal Regulation, have been included.

**Comment DOI – epc- 7:** Clarification: Parts of the Coordination Act Report are missing in Appendix E: pages E-157, E-184 & E-185 corresponding to pages 20, 47 & 48 of draft Fish and Wildlife Coordination Act report.

**Response DOI – epc- 7:** All editorial revisions will be incorporated into the final document.

**Comment DOI – epc- 8:** The Draft Supplemental Environmental Impact Statement makes the assertion that the project is in compliance with the National Environmental Policy Act. We do not agree with that assertion.

**Response DOI – epc- 8:** The integrated report fully discusses the alternatives and provides the effects of these alternatives. The project is in compliance with the National Environmental Policy Act content requirements at 40 CFR 1502 et seq. The integrated report fully discusses the alternatives and provides the effects of these alternatives. The project is in full National Environmental Policy Act compliance.

**Comment DOI – epc- 9:** Clarification: Exec. Summary, page viii: diversion of flows to C-44. Statements need to be consistent. Do all diverted flows go to Lake Okeechobee or do they go to both Lake Okeechobee and St. Lucie River?

**Response DOI – epc- 9:** Diverted flows go to both Lake Okeechobee and the St. Lucie Estuary. This has been clarified in the text Section 7.1.2.6.

**Comment DOI – epc- 10:** Compliance: Section 3.11.4, pg 3-22, date is not correct.
Response DOI – epc- 10: Concur with comment. The date has been changed to April 1998.

Comment DOI – epc- 11: Addition: Section 3.11.4, pg 3-23, needs to include details of fish kill in Ten Mile Creek due to improper use of pesticides

Response DOI - epc- 11: Text was added to Section 3.11.4 that addresses the two events that occurred in the North Fork

Comment DOI – epc- 12: Clarification: Section 6.2.4.3, pg 6-10, clarify statement regarding Stormwater Treatment Area treatment of Phosphorus and Nitrogen.

Response DOI – epc- 12: Clarification has been added to Section 6.3.4.2 (Section 6.2.4.3 of the draft report).

Comment DOI – epc- 13: Benefits: Table 6-1, pg 6-19, needs to include subtotals of project features to aid in readability and understanding

Response DOI – epc- 13: Subtotals have been added to the table, which is now Table 6-2.

Comment DOI – epc – 14: Addition: Section 7 [Environmental Effects, Section 8 in the Final Report], pg 7-1 thru 7-39, needs to include discussions of all alternatives and not just the preferred plan.

Response DOI – epc – 14: The alternates are discussed In Table 8-1 and 8-2.

Comment DOI – epc – 15: Clarification: Section 8.2 [Recommended Plan, Section 7 in the Final Report], pg 8-14, discrepancy in statements made about natural systems model hydrology.

Response DOI – epc – 15: The text in this section has been revised to improve clarity.

Comment DOI – epc – 16: Editorial & Clarification: Numerous changes and clarifications needed.

Response DOI – epc – 16: All editorial revisions will be incorporated into the final document.

Comment DOI – epc – 17: Clarification: Corps has agreed to perform surveys for several threatened and endangered species on lands to be acquired for project, not just listed plants and Audubon’s crested caracara as currently stated in the Draft Supplemental Environmental Impact Statement.
Response DOI – epc – 17: Concur with comment. Surveys will be performed during planning, engineering, and design.

Comment DOI – epc – 18: Real Estate: If leases expire on less than fee title agreements for project features, this could significantly affect the long-term benefits of the plan.

Response DOI – epc – 18: No easement (lease) will be allowed which is not perpetual.

Comment DOI – epc – 19: Ecology: Additional evaluation by and coordination with the FWS will be needed regarding the selection of muck disposal sites on the Allapattah Ranch.

Response DOI – epc – 19: Concur, coordination will continue as we learn more during the current pilot project.

Comment DOI – epc – 20: Section 7 [Environmental Effects, Section 8 in Final Report], Pages 7-1 through 7-39: The Center for Environmental Quality’s Implementing Regulations for National Environmental Policy Act compliance and additional guidance require that the discussions in this section refer to impacts for all the evaluated alternatives.

Response DOI – epc – 20: Concur. Issue has been addressed throughout the final report.

Comment DOI – epc – 21: Section 7.12.11 [Environmental Effects, Section 8 in Final Report], Pages 7-29 through 7-39: This section presents a discussion of FWS recommendations which were presented in the Fish and Wildlife Coordination Act Report and responses noted by the Indian River Lagoon Feasibility Study Leadership Team. No detail is presented on the relationship of the referenced leadership team to responsible Corps decision makers. We suggest that these recommendations be made a part of the plan presented to Congress for approval.

Response DOI – epc – 21: The Leadership Team is comprised of members of the full Indian River Lagoon interagency study team. These recommendations are in the report, which will be submitted to Congress.

Comment DOI – epc – 22: Responses to US Fish and Wildlife Service comments indicated that Restoration, Coordination, and Verification (RECOVER) would be coordinating all aspects of monitoring. It is our understanding that large-scale monitoring will be covered by Restoration, Coordination, and Verification.
(RECOVER), but site-specific monitoring is the responsibility of the PDT; therefore, it should be properly discussed in the document.

*Response DOI – epc – 22:* The project specific monitoring plan will be completed during the preconstruction engineering and design phase. It will be a specified task listed in the project management plan for that phase of work.

Comment DOI – epc – 23: Operational Plans for diverting water to Ten Mile Creek need to consider quantities of downstream stormwater runoff and stream velocities so that scouring, erosion, and sedimentation do not cause loss of fish, wildlife, or their habitats. (This comment was included in Section 7 [Environmental Effects, Section 8 in the Final Report] of the report, and we believe the comment was misunderstood)

*Response DOI – epc – 23:* Noted. Will be reviewed during the plans and specifications phase of the project.

**H.9.3 STATE AGENCIES**

**H.9.3.1 Florida Department of Community Affairs / Clearinghouse**

Letter dated January 18, 2002; Letter dated May 10, 2002*

Comment FSCH – 1: Information: Letter summarizing the State Agency letters received.

*Response FSCH – 1: No response required.*

**H.9.3.2 Florida Department of State, Division of Historic Resources**


Comment SHPO – 1: Compliance: Note that there are archaeological sites recorded in the project areas and that the will be addressed in the future reports. (Main Report sections: 3.11. & 7.12.4)

*Response SHPO – 1: Comment Noted. Sites will be addressed during planning, engineering, and design.*
H.9.3.3 Florida Department of Agriculture & Consumer Services

(FDACS) Letter dated December 28, 2001

Comment FDACS – 1: Clarification: Need to mention problems associated with Floridan usage for Agriculture in the Main Volume of the report. Not spelled out in Main volume, although discussed in appendices.

Response FDACS – 1: Additional text in regard to this issue has been included in the main volume of the final report. See Section 6.5.4.6.

Comment FDACS – 2: Clarification: Additional work is needed in sections 3.8 & 3.9, chapter 4 regarding Future without plan, Best Management Practices, problems/opportunities section, ...see letter for details

Response FDACS – 2: Sections 3.8 and 3.9 regarding the future without plan have been modified to include problems and opportunities.

Comment FDACS – 3: Remove references to 2010 & 2020 – they are confusing as project is looking at 2050

Response FDACS – 3: References to 2010 and 2020 are only used in tables to present background data necessary for the 2050 data.

H.9.3.4 Florida Department of Environmental Protection

(FDEP) Letter date December 24, 2001

Comment FDEP – 1: Policy: This comment letter does not constitute the State’s formal review of Comprehensive Everglades Restoration Plan under 373.1501 F.S. & 373.026 F.S., nor does it fulfill the Water Resources Development Act 2000 requirements to produce a project implementation report.

Response FDEP – 1: Noted.

Comment FDEP – 2: Water Quality: Total Phosphorus loads, concentrations & flows to Lake Okeechobee thru S-308 are not in agreement with the Lake Okeechobee Total Maximum Daily Loads. The Florida Department of Environmental Protection will work with the team to ensure consistency between the Indian River Lagoon - South and the Lake Okeechobee Protection Act during the special project implementation report.

Response FDEP – 2: Indian River Lagoon – South welcomes the Florida Department of Environmental Protection’s commitment to assist with water
quality issues. The Indian River Lagoon - South plan does reduce annual Total Phosphorus loads to the Lake by about 13 metric tons per year (based on 2050 load projections). The Total Maximum Daily Load was developed and adopted just as the Indian River Lagoon – South was completed. Indian River Lagoon - South did not envision itself as the sole program or project with a responsibility to achieve the Total Maximum Daily Load requirements for the C44 inflows to the Lake. If more Total Phosphorus removal is required for regulatory compliance, additional treatment could be added at a later date.

Comment FDEP – 3: Ecology: Concur with & support plan to restore natural hydroperiod to areas previously over drained.

Response FDEP – 3: Noted

Comment FDEP – 4: Water Quality: Additional water directed to Lake Okeechobee as a result of C-23/24 diversion should be treated before discharge to Lake Okeechobee or be retained in the canal system and reused for agricultural needs.

Response FDEP - 4: Diverted water as described is treated at least once and potentially twice before it enters the Lake. The recommended plan passes all diverted C-23 diverted waters through a filter marsh sized to provide 80% Phosphorus reduction. This happens both to waters diverted into Lake and waters diverted into the St. Lucie Estuary.

Comment FDEP – 5: Plan Formulation:

a) Section 6 is inconsistent in representation of the preferred plan: sometimes it is represented as alterative 5 and sometimes as alternative 5 with modifications.

b) A summary of how the sub teams came together to select the psp is needed.

c) Phosphorus reduction is used throughout the section – need to clarify what is to be reduced – load, concentration or both.

Response FDEP – 5:

a) Noted and corrected.

b) A summary is included in Section 7, Recommended Plan.

c) Phosphorus reduction refers to both load and concentration.

Comment FDEP – 6: Table 6-25, need to better define what is meant by “monthly flow to the estuary”. Possibly add a row to show “total days”. They
would like to see category “Flow Event” of # between 350 and 2000 cubic feet per second added to the table.

Response FDEP – 6: Noted. This performance measure has been used for years in the current format.

Comment FDEP – 7: Water Quality: Page 6-26, Table 5, need clarification of period of record being summarized; data used to summarize inflow and outflow of dissolved oxygen. Questions about appropriateness of use related to information discovered in the Everglades Nutrient Removal project. Stormwater Treatment Area outflow dissolved oxygen concentrations will be dependent on polishing cell vegetation. If the cell is sufficiently sized and composed primarily of submerged aquatic vegetation & periphyton the effluent dissolved oxygen will likely be elevated above the influent concentrations.

Response FDEP - 7: Added text and amended table (Table 6-6) heading to explicitly show period of record. Disagree with “appropriateness” comment, insofar as how Stormwater Treatment Areas may be expected to operate in Florida is of no small importance. Comment on what may or may not occur insofar as dissolved oxygen is concerned cannot be addressed, as this is conjecture on their part, while what was observed in the Everglades Nutrient Removal Project is data-based; cannot resolve issues dealing with future performance of structures not yet constructed.

Comment FDEP – 8: Water Quality Targets: Page 7-15 [Environmental Effects, Section 8 in Final Report] – What is the technical base for the 81 ppb and 53 ppb Phosphorus goals in the St. Lucie Estuary & southern Indian River Lagoon?

Response FDEP - 8: Added text that clarifies the basis of these targets

Comment FDEP – 9: Clarification: Page 7-20 [Environmental Effects, Section 8 in Final Report], second full paragraph discusses three alternatives but only gives values for two alternatives (x metric tons).

Response FDEP – 9: Concur with comment.

Comment FDEP – 10: Clarification: Page 7-20 [Environmental Effects, Section 8 in Final Report], third full paragraph discusses alternative 4, 5, & PSP but uses the term “both”. Please reword.

Response FDEP – 10: Text has been revised in the final report.
Comment FDEP – 11: Land Conversion from Agriculture: Want to see more discussion of conversion of agricultural lands to Stormwater Treatment Area with discussion of pollution.

Response FDEP – 11: All land acquired for implementation of the Indian River Lagoon – South recommended plan will undergo a rigorous assessment for existing pollution. Sites will be cleaned of troublesome pollutants prior to commencement of construction.

Comment FDEP – 12: Land Conversion from Agriculture: Discussion of natural area land conversion and broad agricultural use of property after acquisition & flooding.

Response FDEP – 12: A discussion of the rationale for the selection of lands to be acquired for reservoirs and Stormwater Treatment Areas appears in Section 7.3.2, Component Siting Analysis. After project authorization and prior to the completion of land acquisition, additional environmental investigations will be undertaken to evaluate the extent of potential contamination, if any, on reservoir and Stormwater Treatment Area sites.

Comment FDEP – 13: Land Conversion from Agriculture: Appendix B identifies 17 pump stations (w/petroleum tanks) – need some discussion of their potential as point source of pollutant.

Response FDEP – 13: Text will be added to Appendix B that states that all construction will meet Federal, State, and Local regulation requirements.

Comment FDEP – 14: Land Conversion from Agriculture: Do not believe that concentration of potential contaminants in the soils, the potential for them to leach, or the impact of the leaching on the anticipated ecosystem have been evaluated.

Response FDEP – 14: Concur with comment. Risk Assessments will be addressed during the planning, engineering, and design phase.

Comment FDEP – 15: Muck Disposal: Want to see more analysis of the testing and disposal of proposed dredged material. Need more definition of the chemical nature of the dredged material and a better definition of toxic.

Response FDEP – 15: First analysis of muck has been completed under the Pilot Project. Further analysis, which will better pinpoint the origin of the muck, is currently underway. Data is available from the pilot study managers.
Comment FDEP – 16: Loxahatchee River: Pages 2-2&3, the report seems to acknowledge the historic hydrologic connection between the Loxahatchee and the Indian River Lagoon-South system. As such, the plan should address the potential to re-establish some portion of the historic flow to aid in addressing the need for minimum flows to the Loxahatchee.

Response FDEP – 16: Currently not evaluated in this Study, as it is out of the project scope.

Comment FDEP – 17: Ecology: North Fork Natural Floodplain Restoration – Although the report discusses the need for some limited restoration in the floodplain of the North Fork it does not fully address the man-made impacts created by work performed in the 1920’s. Specifically, reconnection of oxbows, breaching of berms and large spoil banks separating the river from the bottomland swamp. Although historic flow is redirected to the Northfork full restoration is not achieved without performing reparations to the works performed in the river in the 1920’s.

Response FDEP – 17: Noted. At this time the level of detail needed for full restoration was not available.

Comment FDEP – 18: Ecology: Three pages of comments addressing the need to perform full restoration in the Northfork while using our report to explain why.

Response FDEP – 18: Noted.

H.9.3.5 Florida Department of Transportation

(FDOT) Letter Dated November 23, 2001

Comment FDOT – 1: Permits & Engineering: Permits may be required from FDOT associated with connection of the two reservoirs adjacent to SR-70.

Response FDOT – 1: Text will be added to Appendix B that states that all construction will meet federal, state, and local regulatory requirements.

Comment FDOT – 2: Permits & Engineering: Further coordination will be required to determine potential impacts to FDOT facilities. The level of detail in this report is not sufficient to achieve a full accounting of need.

Response FDOT – 2: During detailed design, extensive topographical and geotechnical data will be collected, and the exact locations of the project features will be determined. Engineering will coordinate with the Florida Department of
Transportation, as well as other agencies, throughout the design process to insure all potential impacts are considered.

H.9.4 LOCAL GOVERNMENTS

H.9.4.1 St Lucie County Board of County Commissioners

(STBCC) Letter dated December 28, 2001

Comment STBCC - 1: Ecology: The Board enthusiastically supports the overall Plan but we are concerned that the draft recommendations do not go far enough to preserve and restore the North Fork of the St. Lucie River....We would also strongly encourage the Army Corps of Engineers to include full funding for the North Fork Floodplain Restoration Element to complement these preservation efforts.

Response STBCC – 1: There was not adequate level of detail needed for this Feasibility report. But the report does support the benefits that would be obtained from the purchase of the land and as the information needed for restoring this area becomes available various agencies could support future restoration efforts.

Comment STBCC – 2: Clarification: Numerous items of clarification are included in the attachment to this letter. They are listed section by section for the Main Volume.

Response STBCC – 2: Comments are noted and will be addressed in the final document.

Comment STBCC - 3: Water Quality: Under the recommended plan, freshwater discharges to the North Fork St. Lucie River will increase. Stormwater Treatment Areas are expected to treat waters from the C-23 and the C-24 basin to reduce pollutant loads and deliver treated waters this coastal river, but overall freshwater discharges will increase

Response STBCC – 3: Noted.

Comment STBCC - 4: Ecology: There are several differences between the Science Sub-team’s description of the pre-drained watershed and the Natural System Model, as described in the Indian River Lagoon Plan.

Response STBCC – 4: Noted.
Comment STBCC - 5: Plan Formulation: Page 6-8 of the report does not mention North Fork Natural Floodplain Restoration and muck or artificial habitat as part of the recommended plan. Section 6.2.4.5. – Analysis of impacts of flows of C-23 & C24 discharges is not captured in the main volume or the appendices.


Comment STBCC - 6: Engineering: Does not concur that the reconnection aspects of the North Fork Natural Floodplain Restoration component require further investigation prior to implementation.

Response STBCC – 6: Disagree. Greater topographic resolution is needed to complete a flood protection analysis.

Comment STBCC - 7: Clarification: In some parts of the report alternative 5 and the psp are combined while in others they are separate. Please clarify or display consistently.

Response STBCC – 7: Comments are noted and will be addressed in the final document.

Comment STBCC - 8: Ecology: The environmental effects of the North Fork Natural Floodplain Restoration element were not addresses within this section.

Response STBCC – 8: See Appendix E estuary subteam single issue report.

Comment STBCC – 9: Water Quality: Inconsistencies in representation of phosphorus targets and goals for the C-25 basin & C-1 basin. Need to address.

Response STBCC – 9: Inconsistency in Phosphorus target has been corrected.


Response STBCC – 10: The Pal Mar Natural Area complex includes parcels that are ideal wetland restoration areas. These large contiguous parcels benefit the St. Lucie Estuary and southern Indian River Lagoon by attenuating water that now
drains directly to either the C-44 or through agricultural drainage canals that drain to the east and eventually end up in the South Fork St. Lucie Estuary. These lands also offer great habitat benefits by adding to the Greenways in the southern portion of the watershed.

Comment STBCC - 11: Ecology: Muck/sedimentation removal should be addressed in the North Fork and Tidal Ten Mile Creek.

Response STBCC – 11: Due to cost constraints, muck removal was targeted at the largest and most problematic source areas.

Comment STBCC – 12: Water Quality: Section 8.1.2.1 [Recommended Plan, Section 7 in Final Report] – does not include the average phosphorus level of water released from the Stormwater Treatment Area. See page 13.

Response STBCC – 12: The phosphorous loads and concentrations released from Stormwater Treatment Areas are calculated and are included in load calculations. These are described in detail in Appendix A.5.

Comment STBCC – 13: Ecology: Description of Cypress Creek Complex needs to be consistent throughout document. See page 13; questions section 8.1.2.5 [Recommended Plan, Section 7 in Final Report]

Response STBCC – 13: References to Cypress Creek Complex are consistent in the final report. References to “Cypress Creek / Trail Ridge Complex” in the draft report have been changed to “Cypress Creek Complex.”

Comment STBCC – 14: Clarification: Section 8.1.3.3 [Recommended Plan, Section 7 in Final Report] North Fork Floodplain Restoration – The elements title should be consistent throughout the document. The last sentence should be deleted and a description of the proposed acquisition and restoration requirements of the element should be provided.

Response STBCC – 14: Text in the final report has been modified as suggested. The referenced section is now 7.1.3.3 rather than 8.1.3.3.

Comment STBCC – 15: Clarification: Section 8.2. [Recommended Plan, Section 7 in Final Report] – Needs is inconsistent with the Science Sub team report.

Response STBCC – 15: Your comments and clarification are appreciated. The report is being revised broadly to be more accurate and consistent throughout with special attention to the areas you identified. While we think that the Natural System Model (algorithms) is the best available tool to develop restoration targets for this region. We do not mean to imply that the results are
absolutely correct. The results depicted in our report are seasonal norms. In many areas this region is so flat that the direction of flow is determined by the location of the greatest intensity of the rainfall. Given the random nature of rainfall, that means overland stormwater flow can also be rather variable. Even respecting the accuracy of your comments, we do not believe that the resultant report revisions require any changes in our developed plans, the recommended plan or the projected performance of the implemented recommended plan.

Comment STBCC – 16: Plan Formulation & Hydrology: Question of inclusion of Ten Mile Creek in the modeling for the alternatives...See page 15 & 18 of letter attachment.

Response STBCC – 16: The Indian River Lagoon planning process assumed that TMC was constructed. Its benefits are considered in all analyses, including the 2050 BASE simulation. Details on the benefits are described in Appendix A.5.

Comment STBCC – 17: Clarification: Numerous notes for clarification for each appendix starting on page 14.

Response STBCC – 17: Comments are noted and will be addressed in the final document.

H.9.4.2 St. Lucie County Chamber of Commerce

(SLCCC) Letter dated November 5, 2001

Comment SLCCC – 1: Support: Letter of support of plan and effort.

Response SLCCC – 1: Response not required.

H.9.4.3 Village of Tequesta, Utilities Department

(VTUD) Letter dated November 6, 2001

Comment VTUD – 1: Change in POC for future meeting.

Response VTUD – 1: Noted

H.9.5 NON-GOVERNMENT ORGANIZATIONS
H.9.5.1 Audubon of Florida & Environmental & Land Use Law Center

(AF&ELULC) Letter dated December 24, 2001

Comment AF&ELULC – 1: Support: Opening comments express support for the plan, especially for the use of natural storage & water quality areas in conjunction with the other structural features.

Response AF&ELULC – 1: No response required.

Comment AF&ELULC – 2: Real Estate: Section 8.9.3 [Recommended Plan, Section 7 in Final Report] language suggests that the natural area component could be downsized or removed if real estate cannot be acquired. This option is strongly opposed and text should be rewritten to clarify that these acres are a critical part of the plan and that they will be pursued as consistently as the structural components.

Response AF&ELULC – 2: Noted. The importance and value of the natural area components is recognized by all the participating agencies. However, the local sponsor who must acquire this land does not currently have legal or jurisdictional authority to employ imminent domain to acquire the natural areas. Some options to explore for this authority include Corps recognition of the originally intended flexibility in the natural areas, or an ability to utilize other agencies and entities (Nature Conservancy, Trust for Public Lands, or county governments who have condemnation authority) or the South Florida Water Management District being granted this authority by the State Legislature as a part of the acquisition process. If agreements with the landowners cannot be achieved and imminent domain cannot be utilized, then other lands will be considered, and if that fails then enlargement of the storage facilities will be considered.

Comment AF&ELULC – 3: Water Quality & Hydrology: Serious concern regarding the additional flows to Lake Okeechobee and targets for water quality to the lake which are not consistent with the Total Maximum Daily Loads issued for the lake. Recommend revising targets and performance measures and making use of additional features to reduce the Phosphorus load to the lake.

Response AF&ELULC - 3: The existing text adequately addresses these issues. The exact requirements/allowances as far as tradeoffs in loads to the lake, water quantity, lake level, etc. have not been worked out at this time, i.e., the information being alluded to is not currently available. If concerns regarding additional load to the Lake outweighs benefits of additional water to the Everglades, the flexibility inherent to the plan will allow variation in flow to the Lake.
Comment AF&ELULC – 4: Hydrology: Diversion component should be delayed to allow for more complete data and to allow for adaptive management options.

Response AF&ELULC - 4: The diversion component will be one of the last components to be implemented according to the currently accepted schedule.

Comment AF&ELULC – 5: Ecology: Muck remediation should be delayed until the end of the project to allow for completion of upstream construction. Additional analysis should be performed in the interim to choose the most effective method of remediation and disposal.

Response AF&ELULC – 5: Muck remediation is scheduled to begin late in the project to avoid the problems mentioned. A muck pilot study is currently underway and will be testing on a small scale all of the proposed larger scale activities including, but not limited to analysis of muck deposits, removal methods, and disposal on pasture lands. Based on the outcome of these studies the proposed methodology would be further pursued or an alternative disposal method would be investigated.

Comment AF&ELULC – 6: Hydrology: Recommend that reservoirs are managed for their primary purpose to capture and detain watershed runoff.

Response AF&ELULC - 6: Capturing and detaining excess stormwater runoff will be the primary management objective for the proposed reservoirs.

Comment AF&ELULC – 7: Water Quality: 10% reduction in Phosphorus from Best Management Practices is not supported by citation & empirical data. They seem to think moving the C23/44 Stormwater Treatment Area to the western side of C-44 will provide the additional treatment needed to reduce the 17 MT/annually to Lake Okeechobee down to the target level of 6.5 MT. If this were done no additional costs would be expended.

Response AF&ELULC-7: The overall effectiveness of Best Management Practices is best demonstrated by the measured load reduction in the Everglades Agricultural Area Basin. The load reduction in the Everglades Agricultural Area Regulatory Program well exceeds the 25% phosphorus reduction goal. Staff believes the 10% phosphorus load reduction from the assumed non-regulatory Best Management Practice effort of the Indian River Lagoon Feasibility Study is a reasonable estimate based on existing best professional judgment.

Comment AF&ELULC – 8: Hydrology: 23/24 Diversion to C-44 – Recommend that the report discuss the problems associated with over-allocation of the lake in more detail and make an official commitment that the C-23 to C-44 connection will not become a two-way canal. See letter for details.
Response AF&ELULC - 8: Water allocation from Lake Okeechobee is not a subject studied in Indian River Lagoon – South project. Therefore this report does not have new information to contribute to that subject. The Indian River Lagoon – South does not recommend the implementation of a two-way connection between the C-44 and C-23 basins.

Comment AF&ELULC – 9: Hydrology: Report misrepresents diversion to C-44 as a return to natural hydrology. This is not true. Flows are not diverted to the South Fork but to the S-80 entry point into the south fork. Needs to be corrected in text. Need to remove the indication that this diversion achieves a natural or historic flow pattern. (They believe that diversion of flows from C-23 discharge point is good but that diverted water historically flowed north.)

Response AF&ELULC – 9: This comment does not refer to any specific text. The addition of water at S-80 does provide a more natural salinity gradient in the St. Lucie Estuary than occurs when the same flow enters at S-97. Also, supplemental information has been added to the report on the impacts of flow diversion. The report is clear that the North Fork is the preferred path for all flow diversions but flood risk in the North Fork limits these diversions.

Comment AF&ELULC – 10: Benefits: Plan did not include a “with” and “without” comparison of the dead zone at C-23. Need to provide an analysis to indicate the extent of the benefits if this component is implemented.

Response AF&ELULC – 10: The Haunert and Konyha report on diversions has been added to the report in Appendix A, Section A.8.2.


Response AF&ELULC – 11: Noted. A muck pilot study is currently underway and will be testing on a small scale all of the proposed larger scale activities including, but not limited to analysis of muck deposits, removal methods, and disposal on pasture lands. Based on the outcome of these studies the proposed methodology would be further pursued or an alternative disposal method would be investigated.

Comment AF&ELULC – 12: Benefits: Believe that benefits of muck remediation may be overstated. See page 9 of letter.

Response AF&ELULC – 12: Benefits are based on the improvements to the bottom habitat, salinity and water quality. Areas suitable for recolonization were
determined based on results of a study done by Woodward-Clyde “Distribution of Oysters and SAV in the St. Lucie Estuary” C-7779, 1999.

Comment AF&ELULC – 13: Ecology: Disposal of muck on Allapattah has not been analyzed sufficiently and may cause harm. See page 9 of letter. Alternative disposal could be landfill or inside a construction reservoir.

Response AF&ELULC – 13: Muck remediation is scheduled to begin late in the project to avoid the problems mentioned. A muck pilot study is currently underway and will be testing on a small scale all of the proposed larger scale activities including, but not limited to analysis of muck deposits, removal methods, and disposal on pasture lands. Based on the outcome of these studies the proposed methodology would be further pursued or an alternative disposal method would be investigated.

Comment AF&ELULC – 14: Policy/Plan Formulation: Adaptive Assessment Program. The material in this section is outdated. Recommendation. The Adaptive Assessment Program section of the Draft Report should be updated to reflect the latest information on adaptive assessment and management as developed through the Restoration, Coordination, and Verification (RECOVER) process (e.g., standard operating procedures white paper).

Response AF&ELULC – 14: Noted.

Comment AF&ELULC – 15: Public Involvement: Document says that public involvement will continue as plans for each basin crystallize. Recommend that input should be sought throughout the process of developing further plans.

Response AF&ELULC – 15: Concur with comment. Public input will be sought throughout the process of developing further plans.

Comment AF&ELULC – 16: Engineering & Plan Formulation: Discuss the uncertainty and controversy of Aquifer Storage and Recovery usage around Lake Okeechobee. Recommend that a team or process be set up to focus on Lake Okeechobee and to integrate plan for the components that surround the Lake. (Restoration, Coordination, and Verification?) Now is the time to seek opportunities to expand storage around the lake (Indian River Lagoon, EAA, North of Lake) to offset the need for extensive Aquifer Storage and Recovery usage.

Response AF&ELULC – 16: A regional assessment of Aquifer Storage and Recovery in the Comprehensive Everglades Restoration Plan is outside of the scope of this feasibility study. An investigation into the issues affecting implementation of Aquifer Storage and Recovery on a regional basis as depicted
in the Comprehensive Everglades Restoration Plan is being undertaken jointly by the Corps of Engineers and South Florida Water Management District (the Regional Aquifer Storage and Recovery Study). One of the objectives of that study is to develop an integrated model to illustrate regional impacts of Aquifer Storage and Recovery. It is expected that the model could be used to examine alternative configurations of Aquifer Storage and Recovery wells in the region, as well as the effects of limited implementation of Aquifer Storage and Recovery. Results of that investigation could lead to additional system-wide plan formulation and evaluation work to address improvements, if any, needed to ensure the successful implementation of the Comprehensive Everglades Restoration Plan. Improvements could include additional storage around Lake Okeechobee.

**H.9.5.2 Conservation Alliance of St. Lucie County, Inc.**

**(CASTC) Letter dated November 11, 2001**

Comment CASTC– 1: Support: Letter of support for plans handling of watershed runoff problem. Recommends that Comprehensive Everglades Restoration Plan continue to work to remove the Lake Okeechobee ‘dumping’ to Martin & St. Lucie of freshwater from the lake.

*Response CASTC – 1: No response required.*

**H.9.5.3 Environmental Action Committee**

**(EAC) Letter dated December 30, 2001**

Comment EAC – 1: Support: Resolution strongly supporting the Indian River Lagoon - South plan and strongly supporting the use of natural areas in achievement of project goals and objectives. Strongly supports a low technology approach to restoration and the long-term goals of a sustainable ecosystem. Supports location of structural features on highly impacted sites, which alleviates the need to cause environmental impacts in the name of restoration.

*Response EAC – 1: No response required.*

Comment EAC – 2: Water Quality: Recommend improvements in targets and performance in relation to C-44 phosphorus back-flowing into Lake Okeechobee.

*Response EAC - 2: The exact requirements/allowances as far as tradeoffs in loads to the lake, water quantity, lake level, etc. have not been worked out at this time,*
i.e., the information being alluded to is not currently available. If concerns regarding additional load to the Lake outweighs benefits of additional water to the Everglades, the flexibility inherent to the plan will allow variation in flow to the Lake.

H.9.5.4 Florida Native Plant Society, Martin County Chapter

(FNPSMC) Letter dated December 29, 2001

Comment FNPSMC – 1: Support: Letter of support for the plan and the goals & objectives of the study, especially the low technology approach with the use of the natural storage and water quality components.

Response FNPSMC – 1: No response required.

H.9.5.5 Indian River Lagoon Environmental Coalition

(IRLEC) Letter dated December 31, 2001

Comment IRLEC - 1: The damage to Lake Okeechobee by C44 must be addressed, including reassessment of the proposed Diversion canal that routes runoff from the C23/C24 basins to Lake Okeechobee.

Response IRLEC - 1: The stormwater treatment areas which will treat stormwater originating in the C44 and the C23/24 basins will reduce phosphorus inflow to Lake Okeechobee by about 43%. If further analysis proves the diversion of water from the C23/24 basins to be harmful to Lake Okeechobee, the diverted water will be routed away from the Lake. See Section 7.1.2.6 for further detail.

Comment IRLEC - 2: The Natural Area concept must be pursued as an integral part of the project. Without it, we cannot support the Recommended Plan.

Response IRLEC - 2: Concur with comment. The Natural Area concept will be pursued as an integral part of the plan.

Comment IRLEC - 3: The benefits provided by the Recommended Plan must be reserved for the Natural System, including reservoir operating policies to maximize capacity for reducing peak flows and addressing extraction of the Floridan that causes negative impacts.

Response IRLEC - 3: In terms of the quantity of water to be made available by the recommended plan for the natural system, the comment is correct. A special
project implementation report will be prepared identifying the quantity, timing, and distribution of water made available by components of the recommended plan for the natural system. However, the process for identifying and quantifying this additional water is expected to be complex, and has not yet been developed and agreed to by the Corps of Engineers, the South Florida Water Management District (the agency responsible for legally reserving or allocating the additional water), and stakeholders. Issues involving the reduction of withdrawals from the Floridan aquifer will be addressed in the special project implementation report to the extent that those withdrawals are subject to the water reservation and Savings Clause requirements of Federal and State law.

Comment IRLEC - 4: The C44 reservoir components and natural areas could be expanded to reduce dependence on Aquifer Storage and Recovery. A team is needed to focus on Lake Okeechobee and integrate plans for the components that surround the Lake. The opportunity to expand storage should be reassessed in all of these areas, including the EAA Reservoir.

Response IRLEC - 4: The C-44 reservoir components were formulated to meet planning objectives, considering that the balance of the Comprehensive Everglades Restoration Plan would ultimately be implemented. This system-wide approach prevents "scope creep" (i.e., a deliberate attempt to maximize the benefits of individual project components without regard for the synergistic effects of the Comprehensive Everglades Restoration Plan) of individual Comprehensive Everglades Restoration Plan project components and has been documented in a draft policy paper prepared by the Corps of Engineers. With respect to dependency on Aquifer Storage and Recovery, an investigation into the issues affecting implementation of Aquifer Storage and Recovery on a regional basis as depicted in the Comprehensive Everglades Restoration Plan is being undertaken jointly by the Corps of Engineers and South Florida Water Management District (the Regional Aquifer Storage and Recovery Study). One of the objectives of that study is to develop an integrated model to illustrate regional impacts of Aquifer Storage and Recovery. It is expected that the model could be used to examine alternative configurations of Aquifer Storage and Recovery wells in the region, as well the effects of limited implementation of Aquifer Storage and Recovery. Results of that investigation could lead to additional system-wide plan formulation and evaluation work to address improvements, if any, needed to ensure the successful implementation of the Comprehensive Everglades Restoration Plan. Improvements could include additional storage around Lake Okeechobee.

H.9.5.6 Martin County Conservation Alliance

(MCCA) Letter dated November 5, 2001
Comment MCCA – 1: Support: Letter of support of plan and effort.

Response MCCA – 1: Response not required.

H.9.5.7 The Nature Conservancy

(TNC) Letter dated December 29, 2001

Comment TNC– 1: Support: Opening paragraphs support the plan and the general approach taken, especially the natural area components – emulating the natural system.

Response TNC – 1: No response required.

Comment TNC– 2: Implementation & Real Estate: Accelerate & sustain efforts to acquire acreage for the natural storage & water quality treatment component. Oppose basing decision to downsize natural areas based on initial contacts with landowners. Pursue conservation easements where compatible & alternative sites if a specific site cannot be acquired

Response TNC – 2: Noted, all of the mentioned are being pursued. Potential use of the WRP is looking favorable

Comment TNC– 3: Water Quality: Address Lake Okeechobee flood stage releases to the St. Lucie River. Reduce phosphorus load to lake to 6 MT annually to be consistent with Total Maximum Daily Loads. Work with South Florida Water Management District & Florida Department of Environmental Protection to accelerate the schedule for setting Total Maximum Daily Loads for the Indian River Lagoon system as a whole.

Response TNC – 3: Lake Phosphorus load targets have been corrected. The corrected targets are consistent with draft Total Maximum Daily Load recommendations.

Comment TNC– 4: Water Supply: Consider promoting water conservation efforts thru partnership with South Florida Water Management District in an effort to reduce water supply operational pressure on Lake Okeechobee.

Response TNC - 4: South Florida Water Management District is committed to water conservation whenever and wherever possible.
Comment TNC– 5: Water Quality: Conservation efforts associated with urban & agriculture irrigation can be effective in reducing excess nutrients at the source.

Response TNC-5: Concur. The conservation of irrigation waters associated with urban and agricultural uses can be effective in reducing excess nutrients at the source. State and local efforts are encouraged to support industry use specific Best Management Practices and programs such as Florida Yard and Neighborhoods that promote such water use conservation.

Comment TNC– 6: Hydrology: Diversion component to C-44 should be deferred until further analysis can be achieved. The additional flows to Lake Okeechobee can contribute to increased pressure on the lake for water supply.

Response TNC – 6: The revised report makes clear that diversions to the Lake are an operational option. Diversions to Lake will be determined by operational criteria based on allowable loads at S308. Refer to Section 7.1.2.6 in the final report for further detail.

Comment TNC– 7: Ecology: Phase the muck remediation such that source reduction is addressed first and after major earth moving work is complete upstream. Concerns were expressed over the current muck disposal plan on Allapattah. Further evaluation will be necessary to ensure that damage is not incurred at the disposal site.

Response TNC – 7: Muck remediation is scheduled to begin late in the project to avoid the problems mentioned. A muck pilot study is currently underway and will be testing on a small scale all of the proposed larger scale activities including, but not limited to analysis of muck deposits, removal methods, and disposal on pasture lands. Based on the outcome of these studies the proposed methodology would be further pursued or an alternative disposal method would be investigated.

H.9.5.8 Pelican Island Audubon Society, Inc.

(PIAS) Letter dated December 19, 2001

Comment PIAS-1: Support: Letter of support for the plan. Offer the services of their members if needed for wildlife surveys.

Response PIAS-1: No response required.
H.9.5.9 St. Lucie River Initiative

(RI) Letter dated December 21, 2001 – signed by Bud Jordan

Comment RI – 1: General & Additions: Believe that the summary in the beginning of the report is too short to be useful. Recommend that it be revised to more accurately reflect the plan and the need for the plan. See page 2 of comments: need to add statements on socio-economic benefits.

*Response RI – 1: The summary and final report have been enhanced to address these issues.*

Comment RI – 2: Plan Formulation: Cost effectiveness of individual components is not addressed. 
Description of the alternatives is poor. Need to use US Fish and Wildlife Service description of the alternatives – it is more concise and easier to read.

*Response RI – 2: The individual components do not provide separable benefits, which are necessary to do a cost-effectiveness analysis. Therefore, cost-effectiveness analysis is based on anticipated benefits of various alternative projects for restoration in Indian River Lagoon and St. Lucie Estuary.*

Comment RI – 3: Addition: Regional Attenuation Facility Task Force Report of 1995 needs to be added to the list of references.

*Response RI – 3: Reference has been added to Section 14 – References.*

Comment RI – 4: Modeling & Hydrology: Natural Systems Model as the primary determinant as the number of severe salinity events seems to be extreme at either end of the spectrum. They recommend a more conservative approach which would likely result in a higher storage recommendation. Opti-5 model is questioned as to its applicability to water management facilities. Recommend a more conservative approach. Labadie paper & current storage requirements indicate differing storage recommendations.

*Response RI – 4: Noted.*

Comment RI – 5: Plan Formulation: Cost-effectiveness. Question the effectiveness of natural areas to deliver the storage attributed to them in the plan. See page 3 of letter. Discrepancy in description of natural area plan: ditch fill or ditch plug.

*Response RI – 5: Same level of analysis was done on the Natural Areas storage calculations as were done for the rest of the plan. During detailed design phase a*
more site specific H&H modeling effort will be done to assure that the expected storage benefits will be received from the natural areas. Upon site-specific design it will be determined which method (plugging or filling) will be most appropriate at each location.

Comment RI – 6: Real Estate: Recommend that lands for structural features be expedited since 27% of lands for the natural areas are either purchased or close to purchase by public entities

Response RI - 6: The implementation schedule recommends early acquisition of land for structural features because of the lead-time required for design and construction.

Comment RI – 7: Engineering: Storm water treatment areas – location of C-44 west works well for treatment of flows to Lake Okeechobee, but the C-44 east does not have the ability to deliver treated water directly to St. Lucie River. Do not agree with the placement of the C23/44 Stormwater Treatment Area. There are too many pump stations, levees, & control structures. See page 4 of letter.

Response RI – 7: The most important factor in assessing the performance of a Stormwater Treatment Area is nutrient load removal. Removed load will not be delivered to the receiving body even if there is not a direct connection from the Stormwater Treatment Area. Therefore, the precise location of an Stormwater Treatment Area relative to the receiving body is not quite as critical as it might first appear to be. The issue with the location of the C23/44 Stormwater Treatment Area is not included with the comment, which makes a response more difficult. The location of this facility could be reconsidered during detailed design, as long as the cost, function, and benefits remain the same. The plan components were designed with limited topographical information. During detailed design, land surveys will be conducted and may indicate that some of the pump stations, levees, and control structures are not necessary. They were included in the preliminary designs of the feasibility report as a conservative requirement for cost estimation.

Comment RI – 8: Water Quality: Representation of phosphorus is varied in the report. Need to make this consistent. See page 4 & 5 of letter under “Base Data and ..”.

Response RI – 8: Concur. Text on water quality has been revised throughout the report for clarity and consistency.

Comment RI – 9: Socio-Economics: Socio-economic sections of the report fail to adequately characterize its positive effects on the region and state. See page 5 & 6 of letter for details.
Response RI – 9: The Final Report has been enhanced to include more adequate discussion of positive effects on the region and state.

Comment RI – 10: Clarification: Question the naming of the natural area complexes as having a relationship to the language in the Martin county referendum sales. Need to clarify any misinterpretations. See page 6 & 7.

Response RI-10: The naming of the natural area complexes of the Feasibility Study were developed based on spatial arrangement and heterogeneity of habitat independent of the Martin County referendum sales. The preferred alternative designates natural area storage and structural components which appear to match closely with the two categories to be provided funding namely, buying lands for natural resource protection and buying lands to restore the St. Lucie River and the Indian River Lagoon.

Comment RI – 11: Ecology: Remediation of Muck is one of the most important elements in the plan with regard to immediate benefits to water quality.

Response RI – 11: Noted

Comment RI – 12: Editorial: See page 9-15 for a list of minor errors or typographical errors.

Response RI – 12: All editorial revisions will be incorporated into the final document.

H.9.5.10 Smithsonian Marine Station at Ft Pierce

(SMSFP) Letter dated December 22, 2001

Comment SMSFP – 1: Addition: Need to add reference Smithsonian Marine Station at Fort Pierce (SMSFP), Florida Internet site: www.sms.si.edu, link: Indian River Lagoon Species Inventory. Update November 2001

Response SMSFP – 1: Concur with comment. Reference has been added to Section 14 - References.

H.9.5.11 Treasure Coast Regional Planning Council

(TCRPC) Letter dated December 21, 2001
Comment TCRPC– 1: Support: Letter of support. Issued resolution 01-09 on 21 December 2001 in support of the study and recommended plan.

Response TCRPC – 1: No response required.

H.9.6 INDIVIDUALS / PRIVATE CITIZENS

H.9.6.1 Dawson Associates, Inc.

(DAI) Letter dated December 29, 2001

Comment DAI – 1: Plan Formulation: Explain rationale for formulating with assumptions that are dependent on the balance of Comprehensive Everglades Restoration Plan being in place, etc. See letter for exact wording. Need to describe ecological changes without Comprehensive Everglades Restoration Plan in place.

Response DAI – 1: Concur. Section 4 was rewritten based on this and other plan formulation policy.

Comment DAI – 2: Policy: Question to appropriateness of submitting this incomplete plan to congress for authorization. There are too many unknowns upon which this project is formulated. Example: Aquifer Storage and Recovery is an uncertain & lake discharges are reliant on this uncertainty.

Response DAI – 2: The Indian River Lagoon Feasibility Study was originally authorized by Water Resources Development Act 1992 and 1996 and has been underway for several years. This Final Report and Integrated Supplemental Environmental Impact Statement are being submitted for review and approval in accordance with Corps of Engineers water resource planning regulations. Congress has already approved the Comprehensive Everglades Restoration Plan, including the components of the Indian River Lagoon recommended plan, as a framework for modifications to the C& SF Project necessary to restore the South Florida ecosystem. The components of the recommended plan were formulated and selected based on the assumption that the balance of the Comprehensive Everglades Restoration Plan would ultimately be implemented. This system-wide approach prevents "scope creep" (i.e., a deliberate attempt to maximize the benefits of individual project components without regard for the synergistic effects of the Comprehensive Everglades Restoration Plan) of individual Comprehensive Everglades Restoration Plan project components and has been documented in a draft policy paper prepared by the Corps of Engineers. It is recognized the Water
Resources Development Act 2000 added some additional requirements for projects in the Comprehensive Everglades Restoration Plan, including the Indian River Lagoon. A special project implementation report will be prepared and routed for review and approval addressing those additional issues (chiefly, water reservations and Savings Clause issues) required by Water Resources Development Act 2000 prior to implementation of the Indian River Lagoon - South recommended plan.

Comment DAI – 3: Plan Formulation: Page 5-4 contains language regarding five activities that are “necessary in order to fully rehabilitate the receiving water bodies”. If this is true then the certainty of these items needs to be guaranteed somehow in the project agreement.

Response DAI – 3: Noted.

Comment DAI – 4: Plan Formulation: This report should identify the ecological response associated with the recommended plan and each of the alternatives considered.

Response DAI – 4: Noted. Tables 8-1 and 8-2 have been added to the report to strengthen the benefits and impacts discussion. Tables in Section 6 provide much of the needed information for these comparisons.

Comment DAI – 5: Economics: Quantify the economic benefits of the water supply for agriculture. Define the relationship between “willingness to pay” for additional water supply and the cost of providing it. Define the marginal cost of providing the last “unit” of water supply for economic purposes.

Response DAI – 5: Significant National Economic Development benefits have been qualitatively and quantitatively addressed. Beneficial economic impacts to agriculture have been estimated at $6.1 million annually. This benefit is incidental to the project purpose and, therefore, has a cost of $0. It further represents a positive externality resulting from the diversion of damaging freshwater inflows to the estuary. It is noted that, as this is an environmental restoration project a rigorous cost-benefit analysis is not required and has not been prepared. However, such an analysis would further demonstrate the cost-effectiveness of this project in that it alleviates the need to construct larger water storage features necessary to reduce damaging freshwater inflows to the estuary.

Comment DAI – 6: Plan Formulation-Cost Effectiveness: Cost effectiveness analysis was done after scale of alternatives was determined. Explain. Seems to state that the cost effectiveness analysis was not done in accordance with Corps policy. Sites Water Resources Development Act 2000 & page 8-27 [Recommended Plan, Section 7 of the Final Report] of report: Questions the
appropriateness of the project for consideration for authorization if water reservations & allocations have not been completed.

Response DAI – 6: Cost effectiveness analysis was conducted in accordance with Corps of Engineers Planning Guidance and Procedures. Plan formulation and evaluation activities were accomplished under more rigorous standards and guidelines as presented in specific guidance developed for Comprehensive Everglades Restoration Plan projects.

Comment DAI – 7: Compliance: No significant analyses of direct or indirect environmental impacts are provided.

Response DAI – 7: See new tables 8-1 and 8-2 in Section 8. Also, review all the tables in Section 6.

H.9.6.2 Ideas & Things

(IT) Letter dated December 27, 2001

Comment IT – 1: Ecology: Concerned that the plan does not focus on the Loxahatchee River & Jupiter Inlet. Would like to see these included in the plan. How to include them is non-specific. It appears that he is recommending conservation of some type.

Response IT-1: The Loxahatchee River and the Jupiter Inlet are being addressed as part of the North Palm Beach County Project of the Comprehensive Everglades Restoration Plan.

H.9.6.3 Private Citizen, Lloyd Brumfield

(LB) Letter dated December 28, 2001

Comment LB – 1: Support: Strong comment of support of overall plan.

Response LB – 1: No Response Required.

Comment LB – 2: Water Quality: Stormwater Treatment Areas do not address the root cause of the load to receiving water bodies.

Response LB-2: Concur. This comment infers a root cause of load to the Indian River Lagoon as being from the alterations and activities of land use on specific parcels of land. The reduction of load afforded by the proposed Indian River
Lagoon preferred plan will reduce load being conveyed by federal facilities but will not eliminate load. Additional load reduction improvements from land use sources must be enhanced by additional state and local efforts in the implementation of Best Management Practices.

Comment LB – 3: Water Quality: Does not believe that Best Management Practices will produce any noticeable relief from pollutants. Support monitoring of Best Management Practices to provide real data as to their success.

Response LB-3: The responsibility to access the effectiveness of Best Management Practices has been delegated to the Florida Department of Environmental Protection in a process that was defined in the Florida Watershed Restoration Act 2000.

Comment LB – 4: Water Quality: Need to support retrofitting of older urban neighborhoods & commercial sites for load reduction

Response LB-4: Concur. State and local efforts to retrofit existing older urban neighborhoods and commercial sites are encouraged and will compliment the load reductions achieved by the Indian River Lagoon - South Feasibility Study recommended alternative.

Comment LB – 5: Permitting: Developmental and water consumption permitting must be coordinated among all agencies to ensure consistency of goals

Response LB-5: The issues related to the consumptive use of water that is provided through construction and operation of the recommended plan shall be formalized through the process of water allocation and water reservation as required by state and federal statute. Land development and associated consumptive use of water will continue to be regulated through local and state sanctioned processes.

H.9.6.4 Private Citizen, Maggy Hurchalla

(MH) Various E-mails

Volume I – Summary

Comment MH – S1: p. vi Major Features: This shows $58 million for annual operation and maintenance, adaptive assessment and monitoring. This is inconsistent with p. 8-23 which lists operation and maintenance costs at $.2 million. Adaptive assessment and monitoring are listed on p. 8-22 at $1.6
million. [Recommended Plan, Section 7 in Final Report] This is a critical discrepancy which needs to be resolved.

Response MH – S1: The operation, maintenance, repair, renovation, and replacement cost in Section 7 is listed at $4.26 million (rounded) and the adaptive assessment is listed at $1.6 million (rounded) for a total of $5.86 million rather than the $58 million figure indicated on page vi of the draft. The Summary has been revised to reflect the correct figure.

Comment MH – S2: p.viii Diversion: This is both structural and operational. There are a number of inconsistencies throughout the document related to diversion.

a. Is it going to the extreme South Fork. There are numerous references to this while the South Fork connection was dropped as not cost effective.

Response MH – S2: Response: The diverted surface water from C-23 will not be discharged to the extreme South Fork. Surface water from the C-23 canal may be diverted to the C-44 canal. Surface water that is diverted to the C-44 canal will be mixed and the equivalent volume of water may be discharged either to the South Fork via the S-80 structure or to Lake Okeechobee via the S-308 structure.

Comment MH – S3: b. Is it going out S80 or only to Lake Okeechobee? In several places it states that all 41,000 AF diverted from C23 will go to Lake Okeechobee. In others it suggests that it will also go to “the South Fork”.

Response MH – S3: The diverted water from C-23 will be mixed with the water contained within the C-44 canal. Surface water that is diverted to the C-44 canal will be mixed and the equivalent volume of water may be discharged either to the South Fork via the S-80 structure or to Lake Okeechobee via the S-308 structure. This volume of surface water is available to be discharged to Lake Okeechobee if determined to be beneficial by defined operational criteria and has an acceptable water quality as determined by allowable load.

Comment MH – S4: Discharges at C44 also cause negative impacts. This is not a freshwater area and freshwater habitat will not be expanded by increasing discharges at S80.

Response MH – S4: The purpose of diverting flows is not to expand freshwater habitat at the S-80 structure. The purpose of the diversion is to ensure that freshwater discharges create a more stable salinity gradient downstream of the control structure rather than allow an unstable concentrated surge of freshwater to be released to the middle of the estuary as now occurs from the discharges of the C-23 canal. This is a controversial issue. It makes it doubly important to
assure that all information on the issue is accurate and consistent. See the appendix for a more accurate assessment of the diversion benefits.

Comment MH – S5: p.ix par two: The Indian River Lagoon: The information provided here on nutrient reduction is either inaccurate or misleading. This states that phosphorous loading to the estuary will be reduced by 41% and nitrogen by 26% and that the “plan will reduce phosphorous load by 56% and nitrogen load by 31% to Lake Okeechobee from the C44 basin over the 2050 future condition”.

This is inconsistent with Phosphorus and Nitrogen reduction data on pages 4-9, 6-27 and 6-28. It would appear from that data that the total Phosphorus reduction is about 32% and the total Nitrogen reduction is about 19%. For Lake Okeechobee p6-28 specifies that the Total Phosphorus reduction is only 21% and the Total Nitrogen load is actually INCREASED by 13%. Nutrient load reduction to different receiving bodies is a critical issue. Data must be accurate and consistent.

Response MH – S5: The final version of the Summary lists features and benefits of the recommended plan, which include “122 metric tons of phosphorus load reduction, 41% of base load” and “475 metric tons of nitrogen load reduction, 26% of base load.” The phosphorus and nitrogen reduction data have been revised and are now consistent throughout the report.

Comment MH – S6: The numbers quoted for the phosphorus load reduction with the preferred plan should not be consistent with page 4-9 which designates the phosphorus load reduction without the preferred plan.

Response MH – S6: The phosphorus and nitrogen reduction data have been revised and are now consistent.

Volume I – Section 1

Comment MH – 1.1: p.1-10 par. 3 last sentence: Suggest “C23, C24 and C44”

Response MH – 1.1: This sentence is qualified specifically for the flows being discharged into the middle estuary and therefore, would not include the discharges from C-44.

Volume I – Section 2

Comment MH – 2.1: p.2-4 Alterations: There is no discussion of pollution loads added to Lake Okeechobee by the construction of C44. This is part of the Central
& Southern Florida impacts on the natural system that the Indian River Lagoon Study was to address.

Response MH – 2.1: The connection of Lake Okeechobee to the St. Lucie Estuary has resulted in a 10% increase in phosphorus load and a 42% increase in nitrogen load to the St. Lucie Estuary.

Volume I – Section 3

Comment MH – 3.1: p. 3-15 Ground Water: It would seem appropriate to mention the limitations of the Floridan. As written it appears to be a freshwater source equivalent to the shallow freshwater aquifer.

Suggest
In place of “excess irrigation water ...” use “The Floridan Aquifer is highly mineralized in this region and requires reverse osmosis treatment for potable use. High salt content can cause groundwater contamination.”

Response MH – 3.1: Concur with comment. Suggested text was inserted in Section 3.8.3 Ground Water.

Comment MH – 3.2: p. 3-17 Water Quality, OSDS: The conclusion that septic tanks do not affect canals is highly suspect. There are studies showing that the nitrogen plume from septic tanks greatly exceeds the 50 ft. setback from surface water required by the state. The WMD and the National Estuary Program both urge local governments to provide sewer and remove septic tanks in areas close to surface water. I am not familiar with the McNeillie study, but I doubt it was sufficiently broad to reverse state and federal policy and contradict the numerous other studies. Woodward and Clyde might have better information for this paragraph. (Woodward and Clyde, Status of Trends sec 4.2 NEP)

Response MH – 3.2: In section 2.2 of Woodward-Clyde's “Loadings Assessment of the Indian River Lagoon” (July 1994; p. 2-6), it is stated that "Pollutants leaching from OSDS drainfields can potentially be discharged to the waters of the Indian River Lagoon system. This view is not inconsistent with McNeillie's acknowledgement that long-term OSDS use could result in additional nutrient loads being passed to adjacent water bodies.

Volume I – Section 4

Comment MH – 4.1: p. 4-7 Table 4-4: An Level of Service of “1 in 10” usually designates that the user will have permitted supplies available except in the 1 in
10 drought. Reversal of this usage is likely to be confusing unless the footnote is explained more fully in the text.

**Response MH – 4.1:** 1 in 10 level of service is needed to provide for 9 years in 10 of inadequate water supply (drought). That is when surficial water supplies can not met the irrigation demand. We are trying to delineate those years when, at sometime during the year, when secondary water sources are needed or are used because the surficial water source cannot supply the demands of the usage. That occurs nearly every year.

Comment MH – 4.2: P 4-9 Table 4-5: This table would be much more useful if it showed present loads, 2050 without project loads, and with project loads.

**Response MH – 4.2:** The present loads are added to the table, 1995 data. However the with project loading is not shown in this section. The analysis for each alternative is discussed in the plan formulation and evaluation section of the report.

Comment MH – 4.3: p.4-11 C-131: This appears to explain why the C23 to C44 diversion is impossible. A discussion of the negative impacts of increased flow to Lake Okeechobee which are highlighted here, needs to be included in an analysis of C44 flows to Lake Okeechobee.

**Response MH – 4.3:** Analysis of the negative impacts as well as the positive impacts of increased water to Lake Okeechobee from the C-23 basin diversion canal are interwoven throughout this report.

**Volume I – Section 5**

Comment MH – 5.1: p. 5-10 This states that muck remediation will provide suitable substrate for seagrasses. This is highly unlikely. Muck removal will stabilize bottoms for suitable benthic organisms, but the four muck removal “hot spots” are deep water sumps in the estuary where seagrass would not be expected to grow even under dramatically improved conditions.

**Response MH – 5.1:** The statement has been revised to eliminate the reference to seagrasses.

Comment MH – 5.2: p.5-14 top par: This says that water demand will increase 34% per year from 1990 to 2010. Is this a typo? It is inconsistent with other projections.

**Response MH – 5.2:** Text in Section 5.5.2.1 changed to: “According to the Upper East Coast Water Supply Plan, the planning area faces many challenges in
maintaining adequate water supply for a growing urban population while at the same time meeting the needs of the environment. Regional agricultural water demands are assumed to remain constant through 2050 with increases in agricultural acreage being offset by increases in irrigation efficiencies.”

Comment MH – 5.3: p.5-15 Fisheries: This paragraph is confusing. It can be read to suggest that the restoration plan will reduce fishing guides incomes. Suggest: In place of “For professional fishing guides ...” substitute: “The impact of failure to improve water quality and water quantity in estuarine inflows may include loss of income for professional fishing guides.”

Response MH – 5.3: Text in section 5.5.2.4 changed to: “The potential economic effects of alternative restoration plans on fishing in the St. Lucie Estuary depend on how the changes brought about by the restoration affect the ecology of the estuary and how the improvements in the ecology then translate into changes in commercial and recreational fisheries. For recreational anglers, economic effects could result from changes in the quantity or quality of recreational fishing experiences. For professional fishing guides, the effects may include increases in income. There is little commercial fishing in the St. Lucie Estuary. The use of gill nets was banned in 1994.”

Volume I – Section 6

Comment MH – 6.1: p.6-16 Muck: The negative impacts of disposal of salt water muck in a freshwater habitat are not adequately noted. The suggestion that this is an effective way to kill exotics is inconsistent with existing evidence. In coastal areas where saltwater has invaded freshwater habitat the result has been massive exotic infestation by Schinus (pepper trees). Pepper tree seeds appear to be more viable in saltwater than anything but mangroves. Sections on muck remediation are inconsistent. Some refer to further studies to determine if capping or other strategies are effective. Other sections appear to adopt the idea of using piped slurry to kill inland exotics. Suggest Change “The preferred plan includes dredging and slurry ...” to:
“**The preferred plan will continue to examine various alternatives for disposal including slurry flow through pipe for disposal on a section of Allapattah.**”

Response MH – 6.1: Concur with comment. The report has been revised to reflect a less certain approach to muck removal and disposal.

Comment MH – 6.2: p.6-27 The information on Total Phosphorus load reduction is inconsistent with other sections. This includes load reduction information on ix and p.6-48.
Response MH – 6.2: Text has been revised to present information consistently.

Comment MH – 6.3: p. 6-33 top par.: Note the sentence that states “The level of service represents how often the citrus industry will suffer significant economic impacts from the ...” This is the normal usage of Level of Service to reflect the years of unmet demand. P. 35 contains two tables with inconsistent use of Level of Service. In table 6-7 it shows 1 in 10 as the demand in a 1 in 10 year drought – the number of years demand WON’t be met. In table 6-8 it shows 1 in 10 as the number of years when demand WILL be met. This inconsistent usage is likely to cause continuing confusion.

Response MH – 6.3: Both tables are correct. In Table 6-7 the 1 in 10 demand is not a Level of Service but rather the demand during a 1 in 10 drought. To supply water during a 1 in 10 drought requires a 9 in 10 Level of Service. The footnote for Table 6-8 has been expanded to minimize confusion.

Comment MH – 6.4: p. 6-33 par two: This asserts that permitted demands are equal to modeled demands. This is NOT true. Modeling was done to derive demands because permits were NOT an accurate source for actual demand. Suggest: delete “(permitted demands)”

Response MH – 6.4: Suggestion accepted.

Comment MH – 6.5: p. 6-35 Table 6-8 shows irrigation supplied from outside sources (Lake Okeechobee) in the C44 Basin as 21,242 AF/yr and a total demand of 58,795AF/yr. in the 2050 Base. p. 4 -6 states that C44 Basin demands are approximately 28,000 AF on an average annual basis. As written, this appears to apply to the TOTAL basin demand. This inconsistency needs to be cleared up.

Response MH – 6.5: The 28,000 AF statement is obsolete and has been deleted.

Comment MH – 6.6: p. 6-42, in the context of Recovers evaluation, claims that the Plan delivers an additional 37,000 AF/yr and reduces water supply demands by 25,000 AF/yr, “a net gain of 62,000 acre-feet per year to the regional system.” This statement can be misleading. In the context of a discussion of impacts on Lake Okeechobee it suggests that the “regional” benefits are to the Lake. While this may not be the intention, a clear statement of Lake impacts is needed. In addition the numbers must be consistent or the inconsistency must be explained. Page viii and other sections on diversion have 41,000 AF going to the Lake from Diversion from C23/24. The data in Table 6-17 p. 6-47 must also be made consistent. Apart from the accuracy and consistency issue, it should be made clear that the “regional” impact in terms of the Lake includes an additional
41,000 AF (?) in Lake Okeechobee inflows from C44 and a reduction of water supply in the C44 Basin of 3,818 AF (p6-37).

Response MH – 6.6: The inconsistencies in Section 6 have been corrected. Deliveries to the Lake depend on structure operations and the recommended plan, if operations occur as modeled would deliver 31,000 af/y to the lake. Additional discussions on lake impacts are now included in the document. See Section 7.1.2.6 for further detail.

Comment MH – 6.7: p. 6-42 It should also be noted in discussion of Floridan replacement by reservoir water, that this is NOT a “net gain”. Floridan water is being replaced and replacement is being counted as a benefit because use of the Floridan has adverse impacts on citrus, receiving canals and the freshwater aquifer.

Response MH – 6.7: The phrase has been changed to “net increase.”

Comment MH – 6.8: p. 6-48 Table 6-18 shows a load target for C44 to Lake Okeechobee of 17,124 M tons/yr. This is the exact amount of the Preferred Plan. This makes the target questionable. Later discussions confirm that the target was derived from what the Plan achieved, rather than vice versa. It is inconsistent with Table 6-4. p. 6-27. All language in regards to targets should be reviewed to determine if they are consistent and if the target is “load reduction” or “total load under the preferred plan”.

Response MH – 6.8: The section has been revised to show the corrected Lake Okeechobee load target of 5 Metric Tons per year, which is consistent with the Total Maximum Daily Load values under development.

Volume I – Section 7 [Environmental Effects, Section 8 in Final Report]

Comment MH – 7.1: p.7-1 [Environmental Effects, Section 8 in Final Report] Environmental impacts of the C44 Canal on Lake Okeechobee are not addressed. If targets and performance standards for Lake Okeechobee are not clear, impacts will not be addressed.

Response MH – 7.1: Concur. A number of past projects and current Comprehensive Everglades Restoration Plan components address Lake Okeechobee. The Indian River Lagoon - South project has developed a project with a large amount of operational flexibility. This project will be effective in reducing damaging fresh water outflows to the St. Lucie Estuary even if other Comprehensive Everglades Restoration Plan components (such as Aquifer Storage and Recovery technology and other water retention elements) to reduce high water in Lake Okeechobee are not fully realized. The Indian River Lagoon –
South project will be even more beneficial to the St. Lucie estuary and Indian River Lagoon - South, after some of these Comprehensive Everglades Restoration Plan components are operating. Adverse effects to Lake Okeechobee were not discussed because at the present time most water flow in the Okeechobee Waterway (St. Lucie Canal) is toward the coast, rather than towards the Lake; thus impacts of Indian River Lagoon - South on the Lake would be insignificant under most meteorological scenarios. However, some components of the Indian River Lagoon – South project will provide flexibility to route retained water towards Lake Okeechobee, potentially alleviating freshwater demands from the Lake during drought periods, if adequate rainfall occurs in the coastal areas. Through monitoring and the adaptive assessment process being outlined by Restoration, Coordination, and Verification (RECOVER), future impacts to Lake Okeechobee can be avoided or greatly minimized.

Comment MH – 7.2: p.7-7 [Environmental Effects, Section 8 in Final Report] The discussions of spreading muck on natural areas range from a conclusion that this is the definite chosen alternative to the suggestion that it is one of the alternatives being explored. At no time is there any discussion of the possible adverse impacts of spreading high saline polluted muck in natural areas. Hopefully, the pilot study will determine actual results, but if questions of negative impact are not asked, there may be no answers. Suggest: add before the last sentence in the top paragraph on p.7-7: “Potential negative impacts on natural areas will be assessed in the pilot project. This includes impacts from heavy metal contamination and the possibility that highly saline muck may differentially increase exotic seed viability versus native freshwater vegetation.”

Response MH – 7.2: Concur with comment. Suggested text was added.

Comment MH – 7.3: p.7-9 [Environmental Effects, Section 8 in Final Report] Diversion: The discussion on diversion benefits suggest that runoff is being diverted to the northern and southern extremities. This is not the case in the southern diversion. First, the final preferred plan appears to be routing all of the C23/24 diversion to Lake Okeechobee (p. viii) If this is incorrect, then the document needs correction in a number of areas. Second, if C23/24 water is being diverted to S80, then it is NOT being diverted to the southern extremity of the system or to a headwaters tributary of the South Fork. The problem with releasing additional freshwater at S80 is not just a question of Lake stages. This is an area adjacent to the middle estuary and channelized by the Okeechobee Waterway. Normal dry season salinity is high and is subject to salinity shock similar to impacts at C24. Suggest: rewrite paragraph as follows based on the assumption that viii is correct.
“The diversion of watershed runoff from the central portion of the inner estuary to the northern extremity of the North Fork and to Lake Okeechobee via C44 attempts to emulate historic conditions prior to the construction of C44, C23 and C24. This diversion of flow will expand and stabilize the ecologically valuable low salinity areas in the North Fork. These low salinity areas are expected to exist throughout the year and, consequently, submerged aquatic vegetation can be expected in areas with suitable depth, substrate and water quality. It is anticipated that diversion of flows into the North Fork will dramatically increase tapegrass habitat in the North Fork. While diversion to the headwaters of the South Fork proved economically unfeasible, every effort should be made to manage water releases at S80 in real time to benefit downstream areas.”

Response MH – 7.3: Concur with comment. Suggested text was added to Section 8.5.2.3.

Comment MH – 7.4: p. 7-9 [Environmental Effects, Section 8 in Final Report]
Muck: The discussion of muck removal in areas shallow enough for seagrasses seems beside the point and confusing. It does not appear that muck removal in shallow areas is being considered. The one issue on muck remediation that appears to have been resolved is that it will be limited to the four deep hot spots with high organic and toxic levels and unoxidized flocculent ooze.

Suggest: remove sentence “Muck removal in areas that are shallow ...”

A problem. 53 is 65% of 81. It is not a “52% decrease”. Whatever it is needs to be clarified.

There is no nitrogen loading goal for Lake Okeechobee. The Total Phosphorus goal and impacts are not discussed.

Response MH – 7.4: Sentence was restructured: Direct (dredging) or indirect (sloughing into deeper water) muck removal in areas that are shallow enough for grasses to grow will also create a more conducive bottom substrate in which grasses are more likely to become established.

Comment MH – 7.5: p.7-16 [Environmental Effects, Section 8 in Final Report]
Best Management Practices: Best Management Practices can mean any strategy for water quality improvement or it can refer to specific Best Management Practices for citrus recently promulgated by growers in cooperation with DACs.

a) Retention areas on existing groves approved prior to regulatory requirements is NOT considered a voluntary Best Management Practice.
b) This section should be clarified to discuss the calculated impact of voluntary Best Management Practices (as per team assumptions).

c) In addition, the Indian River Lagoon scope requires an analysis of the effects of requiring on site retention. That has not been done.

d) Generalized discussion of on site retention uses numbers for Total Phosphorus removal that are inconsistent with the data used in developing the Plan. Discussions of “diverting the first inch of rainfall in central Florida are not pertinent or helpful.

e) At the least, the report should include the acreage of citrus and the acreage of pasture in the Basin which has on site retention. Assumptions used in calculating the benefits of Total Phosphorus removal for reservoirs or newer data from IFAS in Ft. Pierce should be used to calculate a reasonably accurate number for Total Phosphorus load reduction in each major subbasin based on retrofitting existing groves with stormwater detention facilities. While development of further information on this issue is not critical to this section, it is necessary to meet the requirements of the Feasibility Study and to determine there is a “reasonable certainty” that project components can be made consistent with existing law and regulations, especially in regard to Total Maximum Daily Load loads for Lake Okeechobee.

Response MH – 7.5: Response

a) This comment is unclear; the narrative is written in terms of future on-site treatment implementation.

b) Assumed impacts of voluntary Best Management Practices were incorporated into the water quality modeling process; the degree of detail was limited due to the scope of the report; Ken Konyha or an equivalent should be contacted for any calculated answers.

c) This comment seems to be based on an erroneous assumption. The study attempts to acknowledge and somewhat account for Best Management Practices in a general sense, not to specifically analyze Best Management Practices that may or may not be required.

d) The text has been revised in that Section (8.8.2).

e) For acreage of citrus and pasture, as well as assumptions used in calculating the benefits of Total Phosphorus removal recommend that the reader/commenter be referred to Appendix E, Conceptual Model section. Once again, the water quality modeling performed for this
project accounted for projected Best Management Practice impacts; however, a detail model of such Best Management Practices as on-site facilities was not generated, as the required effort did not fall within the scope of the study effort.

Comment MH – 7.6: p. 7-18 [Environmental Effects, Section 8 in Final Report]
Muck: The discussion of limiting muck removal to littoral areas appears inappropriate and the whole paragraph should be deleted or rewritten. There are not large littoral areas suitable for grassbeds with 2-3 ft. of muck. In shallower areas, oxidation and wave action limit muck accumulation except in deed end pockets and canals.

Par. 2 It is noted that reservoirs and stormwater treatment areas will help alleviate the muck problem. Natural Area storage and treatment should be included since they provide marked reduction in flow, sediment, organics and nutrients.

Suggest: change to “The reservoirs, stormwater treatment areas and natural areas will help alleviate ...”

Response MH – 7.6: Concur with comment. Suggested text was added (Section 8.8.4 in the final report).

Comment MH – 7.7: P7-19 [Environmental Effects, Section 8 in Final Report]
Muck: This appears to verify that the disposal option is under study and has not been decided. All parts of the report should be made consistent on this issue.

Response MH – 7.7: Concur. The final report has been made consistent to reflect that a muck pilot study is currently underway and will be testing on a small scale all of the proposed larger scale activities including, but not limited to analysis of muck deposits, removal methods, and disposal on pasture lands. Based on the outcome of these studies the proposed methodology would be further pursued or an alternative disposal method would be investigated.

Comment MH – 7.8: p. 7-19 [Environmental Effects, Section 8 in Final Report]
Nutrients: this appears inconsistent with the data in Table 6-18 on p.6-48. The numbers are close, but it would be nice if they were the same. Last par. 383 metric tons appears to be a typo. Table 6-18 shows a Nitrogen target of 893 tons. Last sentence: Table 6-18 shows that alt 2 and alt 3 also showed Nitrogen load reduction, contrary to the text.

Response MH – 7.8: Values have been made consistent.
Comment MH – 7.9: p.7-20 [Environmental Effects, Section 8 in Final Report] third par: the evil ogre of proper usage of percentages strikes again! Alt 4 and 5 DO NOT provide a 64% reduction in Total Phosphorus. Rather they provide “a reduction to 64% of the 2050 Base.” The Nitrogen number may be a calculation problem. 30% of 1276 (Base) = 382.3. The reduction of Total Nitrogen in the alt 4 is 288. Besides, the last sentence is entirely unclear on which is which “respectively”. It says the Particulate Phosphorus exceeded alt 4. That’s true (more Total Phosphorus in Particulate Phosphorus). Then it says the reduction is 34% and 30% respectively which suggests the reduction is greater in Particulate Phosphorus which it’s not. This needs cleaning up.

Response MH – 7.9: Efforts were made to make numbers consistent throughout the final report.

Comment MH – 7.10: p.7-24 [Environmental Effects, Section 8 in Final Report] last par. It should be noted that whereas new citrus in western pastures may replace the citrus displaced by reservoirs, it is highly unlikely that the 6000 acres of sugar will be replaced within the Basin. Check with US Sugar and the Fanjuls and they will tell you that transportation cost and low sand land production rule out further sugar cane in this area.

Response MH – 7.10: Concur. Text has been added to clarify this issue.

Comment MH – 7.11: p.7-28 [Environmental Effects, Section 8 in Final Report] Resources: this lists Plan costs as $1,039,000,000. P. vi and Table 8-2 list total costs as $995,935,000. All plan costs should be checked for consistency.

Response MH – 7.11: Concur. Section 8 has been made consistent. The recommended plan at October 2001 price levels is $995,935,000. See Section 7.6.1 Initial Costs.

Volume I – Section 8 [Recommended Plan, Section 7 in Final Report]

Comment MH – 8.1: p. 8 –10 Fig 8-8 [Recommended Plan, Section 7 in Final Report] The map seems to show that the Evans citrus grove is part of the natural area acquisition? Is that correct? If not, the map should be clarified.

Response MH – 8.1: Noted. Changes will be made during detailed planning and design.

Comment MH – 8.2: p.8-11 Fig 8-9 [Recommended Plan, Section 7 in Final Report] The proposed Stormwater Treatment Area appears to cover portions of
the wooded slough. This is an important area identified by Florida Natural Areas Inventory. The map should be clarified to show that there is no construction in this area. Other portions of the Stormwater Treatment Area appear to have scattered wetlands. The text indicates that the area of the Allapattah Stormwater Treatment Area is totally converted to pasture and will not be affected by pumping muck from dredging and creating a Stormwater Treatment Area. This should be clarified.

Response MH – 8.2: Concur. This is simple a mapping alignment error. The Stormwater Treatment Area will not be located over the wooded slough.

Comment MH – 8.3: p. 8-11 [Recommended Plan, Section 7 in Final Report] “This component is essential...” suggests more value than has been demonstrated. It would be more accurate to state that this is the southern diversion. If the diversion is going to Lake Okeechobee it is not accomplishing the objectives outlined for adding freshwater discharges at the southern end of the system. It should also be noted that the work by Konya and Haunert showed that peak flows at C23 would be removed by reservoir pumping (1000 cubic feet per second) and large natural areas and that the Diversion Canal would remove only smaller flows. That study should be included in the appendix.

Suggest: change “This component ...” to: “This component accomplishes the diversion of 41,000 AF from C23 to Lake Okeechobee.”

Change “This redirection ...” to “This redirection of stormwater avoids salinity shock from low flows at the mouth of the C23 Canal.”

Response MH – 8.3: Section 7 has been revised to accommodate these comments.

Comment MH – 8.4: p.8-13 Fig 8-10 [Recommended Plan, Section 7 in Final Report] does not appear to show muck remediation areas.

Response MH – 8.4: A better map will be prepared for inclusion in the final report.

Comment MH – 8.5: P.8-13 [Recommended Plan, Section 7 in Final Report] top par: This states that muck will be spread over 10,000 acres of Allapattah. Other sections states that this is one option that is being examined.

Suggest: change last sentence to “If this option proves cost effective and environmentally positive, the muck will be spread over ...”

Response MH – 8.5: Concur. Section 7 language has been revised to satisfy these comments.

Comment MH – 8.6: p.8-14 [Recommended Plan, Section 7 in Final Report] Operational: The diversion to the south is highly structural. It is not true that
the analysis of benefits from C23 diversion dealt with damaging high flow events. High flow events were addressed by 1000 cubic feet per second pumps on the C23 reservoir and by retention of runoff on Natural Areas. The analysis by Konyha and Haunert dealt with diversion of flows of less than 250 cubic feet per second. This discussion continues the confusion as to whether there is southern diversion or simply diversion of C23 flows to Lake Okeechobee. Because the diversion is one of the more controversial components in the Plan, it is important that all information be accurate and consistent; Suggest: rewrite the first par as follows: “Flow diversion is a feature in the southern Indian River Lagoon Plan that is both structural and operational in nature. High flow events have devastating consequences on the St. Lucie Estuary environment. These high flows will be substantially reduced by reservoirs and restored Natural Areas. Additional analysis indicates that, if low flows are also uniquely damaging in the area where C23 enters the estuary, then further action should be taken to divert those flows. Water is being diverted to the greatest extent possible to the North Fork, from both C23 and C24 order to restore natural hydropatterns and improve freshwater salinity gradients in the North Fork. The ability to restore the patterns of the natural system is limited by flood control considerations in the North Fork to 200 cubic feet per second. At the southern end of the St. Lucie Estuary, connections to the freshwater headwaters at the southern extremity were determined not to be cost effective and were dropped from the plan. The goal of diversion is to restore to the extent possible the distribution of stormwater flows entering the river that existed in the predrainage condition. For the C23 to C44 diversion the goal is to further reduce low flows where C23 enters the estuary and to provide more water for Lake Okeechobee. Components and operational considerations that contribute to that aspect of restoration are described in the following section. Leave par. Two as is.

Par. Three; add “It was not possible to further reduce negative impacts from C44 by diversion because of lack of connections and lack of capacity in the headwaters of the South Fork.

Delete the fourth and also the last paragraph on p.8-14 (which is continued on p.8-15.) It is a repetition of the information included in the second paragraph on p. 8-15. This appears to be clearer and more accurate.

Move the second paragraph on p. 8-15 to the bottom of the section and change the first sentence to read: “Discharges handled in this manner come as close as possible to predrainage discharges to the St. Lucie Estuary from C23 and C24.”

Response MH – 8.6: Noted. Section 7 language has been revised to clarify the operation of the diversion canal.
Comment MH – 8.7: P 8-16-19 [Recommended Plan, Section 7 in Final Report]
The iterative adaptive assessment and monitoring program needs to address impacts on Lake Okeechobee from C44 flows. If questions aren’t asked and goals aren’t clarified, there can be no adaptive management because there will be no failing performance standards to point up problems.

Response MH – 8.7: Concur. A monitoring program will be developed to assess the quality of water delivered to Lake Okeechobee.

Comment MH – 8.8: p. 8-22-23 [Recommended Plan, Section 7 in Final Report]
Total operation and maintenance costs and adaptive assessment and maintenance equal approximately $5.8 million. This is inconsistent with the $58 million estimate on p.vi.

Response MH – 8.8: Concur. The correct number is $5.8 million. The Summary has been revised to reflect the correct number.

Comment MH – 8.9: p. 8-23 [Recommended Plan, Section 7 in Final Report] Does the operation and maintenance for reservoirs and Stormwater Treatment Areas include energy cost for pumping as well as maintenance and replacement costs? With one 1000 cubic feet per second pump, two 900 cubic feet per second pumps and 14 pumps from 100 to 250 cubic feet per second. Costing over $40 million, just replacement and repair would seem to exceed the $2.5 shown as total operation and replacement cost for all reservoirs and Stormwater Treatment Areas.

Response MH – 8.9: The operation and maintenance, repair, renovation, and replacement cost estimate has been revised to reflect the level of detail available for the project features. Further refinements will be prepared and documented during later project phases.

Comment MH – 8.10: p. 8-26-27 [Recommended Plan, Section 7 in Final Report] PIM: The benefits to the natural system from expending almost $1 billion in state and federal funds do not come “reserving water for the natural system. These benefits and the competition for resources that could lead to their loss need to be identified and quantified. For reservoirs it is an operational schedule that optimizes capacity prior to peak flows. If the reservoirs were operated for water supply by back pumping low flows or trying to maximize the water in the reservoirs at all times to assure maximum irrigation benefits, then capacity would not be available when necessary and the estuary would suffer. A second and unrelated benefit that should be protected is retirement of the Floridan Aquifer allocations. If the system is operated to make irrigation water available
and the noted benefits include reduction in the use of the Floridan aquifer, then that reduction should not be reallocated to recreate the problem being solved.

Response MH – 8.10: The most important factor in operating the reservoirs is to make sure that storage capacity is available to reduce peak stormwater flows. Holding water to maximize the amount available for irrigation has never been contemplated by the study team. It may be possible to alter the dry season drawdown to enhance the supply available for consumption without compromising the ability to handle peak flows. Concur on the Floridan aquifer comments.

Comment MH – 8.11: p.8-28 [Recommended Plan, Section 7 in Final Report] par. 3: The idea that availability of land can be determined simply by asking the seller if he is willing is untenable. Whether or not a seller is willing depends on the price. It would be useful to follow up on the recommendation of the Fish and Wildlife Service, that other natural areas already examined and rated be substituted for unwilling sellers.

Response MH – 8.11: The determination would be based on more than simply asking. Concur that if certain lands are not acquirable by available means, then alternative lands should be strongly considered.

- muck removal should not occur until major reservoirs and Stormwater Treatment Areas are at least close to completion. No muck removal should begin until land clearing and earth moving for structural components is complete and temporary sediment runoff is no longer a problem. As is, muck removal begins 2 years before any of the reservoirs are complete and ends prior to completion of all three Stormwater Treatment Areas and two of the three reservoirs which affect the estuary.
- The C23/C44 diversion design begins in Oct, 2002 and would be the earliest structural component to be completed. This component is entirely ineffective at removing peak flows. Its goal is to further reduce low flows from C23 to the estuary after peak flows have been removed by reservoirs and natural areas. This should be the last project constructed after determining the impact of major construction on C23 flows and documenting the need for further reduction. The north Fork diversion is much more important and supplies greater benefits.
- The Recover teams analysis of impacts of adding flows to the Lake was based on completion of reservoirs around the Lake to reduce water levels in the Lake. Adding water and nutrients from C23 prior to changes on behalf of the Lake is not acceptable.
- Why is the C23 North Reservoir constructed prior to C23 south when C23 has been identified as the largest problem?

*Response MH – 8.12: Concur. The recommended implementation schedule has been modified.*

**Volume I – Section 10**

Comment MH – 10.1: p. 10-2 Until Lake Okeechobee targets and loads are clarified, meeting Clean Water Act provisions for flows from C44 to Lake Okeechobee is questionable.

*Response MH – 10.1: No reason to change the current narrative, except to update the referenced Section 401 designation by changing it to "Section 1341" (of the CWA).*

Comment MH – 10.2: p.10-5 Whether 10.20 or other regulation is appropriate, the issue of toxic in dredge disposal must be addressed.

*Response MH – 10.2: Understood. Dredged material quality issues will likely be addressed under Section 1344 (formerly, 404) and RCRA (including the Federal Hazardous and Solid Waste Amendments--HSWA (1984)). TOSCA is not applicable for the dredged material as it pertains to chemical production and imported substances.*

Comment MH – 10.3: p. 10-6 The project will restore and enhance wetlands on 90,000 acres of upland /wetland mosaic. It will NOT restore 90,000 acres of wetlands.

*Response MH – 10.3: Concur, see Section 10.24 E.O. Protection of Wetlands.*

Comment MH – 10.4: p.10-9 In order to determine with reasonable certainty that the project is permissible, issues of targets and loads for C44 flows to Lake Okeechobee must be addressed.

*Response MH – 10.4: Targets and loads issues will/would be covered as a function of compliance with item (c)2 of the Florida Department of Environmental Protection criteria listed in paragraph 10.28.1.*

**Volume I – Section 11**

Comment MH – 11.1: p.11-1 The recommendation should include strategies for addressing the impacts of C44 on Lake Okeechobee.
Response MH – 11.1: Targets and loads issues will/would be covered as a function of compliance with item (c)2 of the Florida Department of Environmental Protection criteria listed in paragraph 10.28.1.

Comment MH – 11.2: p.11-2 Annual operation and maintenance cost is shown as $56 million. This is inconsistent with the $4.2 million figure on p. 8-23.

Response MH – 11.2: Concur. The operation, maintenance, repair, renovation, and replacement cost is $4.26 million (rounded) and the adaptive assessment is listed at $1.6 million (rounded) for a total of $5.86 million rather than the $58 million figure indicated on page 11-2 of the draft. Section 11 has been revised to reflect the correct figure.

Appendix B

Comment MH – B1: B-57 par 2 What are “environmental water supply deliveries to the estuary”? The Plan does not include any structural or operational components to deliver water to the estuary for environmental purposes. Rather they are designed for attenuation of peak flows.

Response MH – B1: Concur. The sentence was changed as follows: “The components are designed for flood flow attenuation to the estuary; water quality benefits resulting from reduced loading of nutrients, pesticides, and other pollutants contained in runoff presently discharged to the estuary; and water supply benefits.”

Comment MH – B2: B-77 par 2 Again, what are “environmental water supply deliveries to the Indian River”?

Response MH – B2: Concur. The sentence was changed as follows: “The components are designed for flood flow attenuation to the estuary; water quality benefits resulting from reduced loading of nutrients, pesticides, and other pollutants contained in runoff presently discharged to the estuary; and water supply benefits.”

Comment MH – B3: B-83 par 2 refers to “approximately 96,000 acres” for natural storage. This number should be checked to make sure it is consistent throughout the document.

Response MH – B3: Concur. The number of acres was changed to 92,919 for consistency with the rest of the document. Estimated acreage in the Appendices may vary.
Comment MH – B4: B-84 par 3 The information on muck as an agricultural additive should be incorporated in other references to spoil disposal. On the one hand, muck disposal over 10,000 acres at Allapattah is identified as the chosen disposal alternative. On the other there are references to it as one of several alternatives that will receive further study. The reasons given in this paragraph for not using muck for agriculture apply to disposal on natural areas. Clay/silt with high salt content is not consistent with natural area restoration and thin spreading, even with disking, may cause runoff problems.

Response MH – B4: The muck remediation section of Appendix B will be changed to reflect the changes currently being made in the main report.

Comment MH – B5: B-85 first paragraph. The discussion of muck remediation in shallow areas appears inappropriate and confusing. There are few (if any) shallow areas with large muck deposits where oysters would benefit from dredging. While it appears that muck removal decisions have not been finalized, the targeted areas of deep muck, flocculent ooze and toxic sediments are in deeper areas where oysters could not survive.

Response MH – B5: The muck remediation section of Appendix B will be changed to reflect the changes currently being made in the main report.

Comment MH – B6: B-85 par 3 Doesn’t the last sentence regarding muck deposits resettling on top of capping apply to all muck removal strategies and not just capping?

Response MH – B6: The muck remediation section of Appendix B will be changed to reflect the changes currently being made in the main report.

Comment MH – B7: B-86 It should be clarified whether disposal at Allapattah is “the preliminary selected plan” or one of several options that will be explored. Discussion of the Allapattah alternative should include impacts of:
- heavy metals and pesticides
- high salt content
- impacts of fine silt on sediment in runoff
- encouragement of exotics over native freshwater vegetation

Response MH – B7: The muck remediation section of Appendix B will be changed to reflect the changes currently being made in the main report.

Comment MH – B8: B-89 #7 This states that Lake Okeechobee becomes part of C44 when levels drop below 13.5. Isn’t 14.5 the elevation for opening S308?
Response MH – B8: Concur. The elevation was changed to 14.5 feet, National Geodetic Vertical Datum.

Comment MH – B9: B-91 Pre Storm Drawdown. Has this issue been decided? It would appear that this is a flood control strategy counter to the purposes of the Plan. Pumping reservoirs full prior to a storm leaves no capacity for pumping peak flows during a storm. See also B-95 and B-98.

Response MH – B9: Concur. This issue has not been decided. This section of Appendix B serves only as a Draft Water Control Plan, and the passages in question state only that available storage in the reservoirs “may be utilized” for pre-storm canal drawdown (emphasis added).

Comment MH – B10: B-92 #3 This suggests that ALL flows will be diverted from S97. Does this mean that Diversion pumps will be used for very low flows (under 50 cubic feet per second)? Is this cost effective?

Response MH – B10: All C-23 flows cannot be diverted: the recommended plan cannot capture 7000 af/y; an additional 7000 af/y would leave via S-97 if flows below 100 cubic feet per second were not diverted. Decisions regarding the benefits, feasibility and cost effectiveness of capturing the final 7000 af/y will be addressed during the planning, engineering, and design phase of the project.

Comment MH – B11: B-108 Basic assumptions and recommendations indicate reservoir levees should be designed as dams. In all the discussion it is unclear if the preliminary design and cost calculation have followed this recommendation. It would reassure people if it was clearer that the safer standard had been used.

Response MH – B11: Concur. Section B.1.3.1 has been changed to emphasize that the most conservative dam safety standard (ER 1110-8-2(FR) Standard 1) was used.

Comment MH – B12: B-145 Irrigation This is a good discussion of the limits on use of the Floridan. It should be used in revising the discussion in Book I.

Response MH – B12: Concur. See Section 6.5.4.6 for discussion in the main report.

Comment MH – B13: B-149 Water Quality. Lake Okeechobee is left out of this discussion. The Lake is adversely impacted by nutrient loads from C44 which is part of the Central & Southern Florida project and part of the Indian River Lagoon Plan. Addressing impacts on Lake Okeechobee should be part of all water quality discussions.
Response MH – B13: A separate paper discussing Lake Okeechobee water quality targets has been added to the study in Appendix A, Section A.8.

Comment MH – B14: B-149 water quality “Indian River Lagoon is seeking approximately 50% reduction in total phosphorous and 70% reduction in total nitrogen” This is inconsistent with the targets found on P 6-48. It appears that the Total Nitrogen reduction is 30%.

Response MH – B14: Concur. Inconsistencies have been corrected.

Comment MH – B15: B-151 last sentence Clarify. Will water from the C23 Stormwater Treatment Area be sent to C44? Will it be treated again in the C23/44 Stormwater Treatment Area? Will it be sent ONLY when Lake Okeechobee is below 14.5 and S308 is open?

Response MH – B15: These issues can be altered by operational changes only. A separate paper has been prepared discussing operational and implementation issues. The paper was added to Appendix A, Section A.8.

Comment MH – B16: B-152 The average annual Total Nitrogen and Total Phosphorus entering Lake Okeechobee is in the list of modeling results. It does not appear to be in the appendix attachments.


Comment MH – B17: B-A-4 line 5 Can you enhance invalid assumptions?

Response MH – B17: The statement refers to the seven assumptions listed on the previous page.

Comment MH – B18: B-A-34 Labels are needed

Response MH – B18: Efforts were made to improve the low-quality graphics of this section.

Comment MH – B19: B-B-23 Numbers are needed in the table. Ditto B-B-24 and 25.

Response MH – B19: Concur. The numbers have been added to the three tables.

Comment MH – B20: B-C-18 and B-D-13 should be included in diversion discussions throughout the text to clarify that natural flows included 2/3 of water going to the North Fork and that C23, C24 and C44 are all artificial and unnatural as freshwater inputs.
Response MH – B20: Concur. An enhanced version of figure on B-C-19 is now in Section 6 of the report.

Comment MH – B21: B-D-17 If the probability of low flows for Natural Systems Model is 55% then it seems like low flow conditions occur more frequently under undeveloped conditions than they do today (31%) Does this paragraph need reworking to make it clear?

Response MH – B21: This issue has been developed in detail in the development of the St Lucie Minimum Flow and Level document.

Comment MH – B22: B-D-18 last sentence par 2. Wouldn’t water supply benefits INCREASE if larger reservoirs were needed?

Response MH – B22: The sentence refers to the water supply benefits that natural lands provide through enhanced baseflow. If reservoir storage is increased then the reservoir has increased benefits but the natural lands have a concomitant reduction in benefits.

Comment MH – B23: B-D-19-20 last and first line. Will Natural Systems Model models be used to examine the issue of historic flow patterns? Have the models been run and is the information available? It does not seem to be included. Is this an assigned task in continuing review and adjustment of the Plan? These are important issues for Diversion.

Response MH – B23: In the opinion of the hydrologic modelers at the South Florida Water Management District a more detailed Natural Systems Model must be created if historic flow patterns and hydrology are to be understood in more detail and with more confidence. Development of an improved model is scheduled for the Natural Land component of the Indian River Lagoon Special Project Implementation Report.

Comment MH – B24: B-E-7 The labels are mixed up on both tables. Upper label says one thing, lower says the other.

Response MH – B24: Concur. This has been corrected in Appendix B, Attachment E.

Comment MH – B25: B-E-10 What is alt 3a? as opposed to alt 3?

Response MH – B25: Alt3a is Alt3. This has been corrected.
Comment MH – C1: C-1 first paragraph The stored water will NOT be used for ecosystem restoration or domestic water supply. Low flows are not needed in the estuary. Water quality makes potable use unlikely and distance from urban areas makes it economically unfeasible.

Response MH – C1: Concur. The text has been revised in Appendix C.

Comment MH – C2: C-1 There is no discussion of the watershed impacts on Lake Okeechobee.

Response MH – C2: A separate paper discussing Lake Okeechobee water quality targets has been added to the study in Appendix A, Section A.8.

Appendix D

Comment MH – D1: D Adding a 35% contingency to land cost skews the evaluation of natural area vs. structural benefits.

Response MH – D1: The contingency was developed based on the level of uncertainty associated with land acquisition.

Appendix E

Comment MH – E1: E There is no mention of Lake Okeechobee in the entire section on environmental effects.

Response MH – E1: Noted and references to Lake Okeechobee have been added.

Comment MH – E2: E-1 paragraph one “Clean water will be released through ...the north and south forks of the St. Lucie Estuary.” This statement is not correct. Components which would route clean water to the South Fork were deleted as not cost effective. Water will be released to the North Fork and to Lake Okeechobee via C44.

Response MH – E2: Disagree. Clean water will not be sent to the south fork head waters, but will be sent through the C 44 to the south fork.

Comment MH – E3: E-1 notes that “The purpose of the study is to investigate structural and operational modifications to the Central & Southern Florida Project to improve the quality of the environment ...” C44 and its impacts are part of the Indian River Lagoon Study. There is NO other part of the Comprehensive Everglades Restoration Plan that will evaluate and mitigate the impacts of C44 on Lake Okeechobee. The negative impacts from phosphorous
inflows from C44 to Lake Okeechobee are significant and have been documented. If they are not addressed as part of this study, they will not be addressed. E-2 states that the project is “examining alternative surface water management options in the project canal basins. The C44 watershed is included in the study. The management of C44 as it affects Lake Okeechobee must also be included.

Response MH – E3: Disagree. The western Stormwater Treatment Area is included primarily to benefit the Lake. It is true that the decrease in Phosphorus is not as much as the Total Maximum Daily Load may require. The Total Maximum Daily Load did not come into existence until the technical part of the study was completed. If additional Phosphorus reduction is required, it could be added during planning, engineering, and design. The study team also did not assume that it had the sole responsibility to meet water quality targets.

Comment MH – E4: E-7 Effects on Special Aquatic Sites should include impacts on Lake Okeechobee. Ditto E-9 g) and h).

Response MH - E4: Effects to Lake Okeechobee are discussed in sections 6. The project has been designed for maximum flexibility in water operations to avoid or minimize any effects to Lake Okeechobee. Through both regional and project specific monitoring and the adaptive assessment process any impacts to the Lake could be avoided and minimized.

Comment MH – E5: E-36 indicates high levels of heavy metals in the upper layers of muck. Paragraph two on E-37 concludes that there is no problem with toxics in the muck. These areas need to be made consistent. There is a difference between what state and federal agencies have toxicity standards for and what will have environmental impacts. The percentage of silt and clay and long term salt content are areas that must be addressed in regard to disposal options. E-81 through E-84 and Florida Department of Environmental Protection data indicating bioaccumulation of toxics related to disturbance of flocculent ooze are inconsistent with the conclusion that “the latest data” shows no toxic problems with muck. Justifying muck removal because of its toxic input and concluding that disposal will create no problems is inconsistent.

Response MH – E5: Improved information resulting from the muck pilot study will help address these concerns during the planning, engineering, and design phase of the project.

Comment MH – E6: E-38 It is recognized that the muck removal quantities are a “place keeper” and further study is needed. In terms of environmental effects, the depth of dredging is important. Removing stable muck to excessive depths may be counter productive for a number of reasons. These need to be discussed.
Response MH – E6: Noted. Improved information resulting from the muck pilot study will help address these concerns during the planning, engineering, and design phase of the project.

Comment MH – E7: E-75 E-6 Water quality impacts to the study area must include C44 impacts on Lake Okeechobee.

Response MH – E7: Disagree. The western Stormwater Treatment Area is included primarily to benefit the Lake. It is true that the decrease in Phosphorus is not as much as the Total Maximum Daily Load may require. The Total Maximum Daily Load did not come into existence until the technical part of the study was completed. If additional Phosphorus reduction is required, it could be added during planning, engineering, and design. The study team also did not assume that it had the sole responsibility to meet water quality targets.

Comment MH – E8: E-128 This does not include Lake Okeechobee. Ditto E-138.

Response MH – E8: Noted and added.

Comment MH – E9: E-139 paragraph three Diversion does NOT include mimicking historic flow patterns by diversion to the South Fork of the St. Lucie Estuary. Suggest: “Diversions attempt to mimic historic flow patterns by routing additional water through Ten Mile Creek and the North Fork of the St. Lucie Estuary. In order to further reduce freshwater input to the estuary at C23, water is also diverted to Lake Okeechobee via C44.”


Comment MH – E10: E-35 notes that “The natural area components are crucial in the Comprehensive Everglades Restoration Plan’s contribution to the South Florida multi-species recovery plan…” E-216 states that the service can only support the selected plan if the full complement of natural area components is included. E-84 notes that the natural areas must be an integral part of the project. This is inconsistent with earlier text, which suggests that if natural area acquisition is not possible in the first year that structural substitutes will be planned.

Response MH – E10: This study currently has approximately 90,000 acres of natural lands included as a component. If these lands are unobtainable for whatever reason, then the storage and other benefits lost would need to be reclaimed through additional natural storage or man-made storage.
Appendix H Correspondence, Comments, and Responses

Comment MH – E11: E-187 The 97,820 acres identified for natural areas is inconsistent with other estimates in the text ranging from 76,000 acres to 96,000 acres. All of these acreages should be checked and made consistent or explained.

Response MH – E11: This figure is in the Fish and Wildlife Coordination Act Report and appears to be based on separate measurements or estimates made by Service biologists. The Corps and the Project Delivery Team cannot verify the source of these numbers. Natural area estimates were made consistent in the main report; however, estimated acreage in the Appendices may vary.

Comment MH – E12: E-201 Somewhere there should be a discussion of the inconsistency between Florida Department of Environmental Protection and the water quality team conclusion that inorganic nitrogen is the problem and the Wildlife Services conclusion that organic nitrogen is the problem. The issue will become important in evaluating performance.

Response MH – E12: Noted

Comment MH – E13: E-219 The Service recommends the use of Sediment Quality Assessment Guidelines. This might clear up the inconsistencies on the subject of muck toxicity.

Response MH – E13: Noted

Appendix F

Comment MH – F1: F-45 Schedule. There are critical problems with the schedule as presented. Muck removal occurs early in the project timeline before construction of all but one (C44West) of the large structural components. Removing sediments prior to massive sediment generation in the largest land clearing and construction project ever accomplished in the area is counterproductive. Clay and fine sediment runoff will result from construction and will recreate the muck problem if construction is not substantially complete. In addition, the muck component is as yet undersigned. A place-holder for costing purposes has been included, but a final decision on muck removal vs. capping has not been made. This component is simply not ready for fast tracking. The C23/44 Stormwater Treatment Area and diversion is scheduled for completion prior to any reservoirs on C23. This component diverts a maximum of 250 cubic feet per second. The C23 South Reservoir will remove peaks at 900 cubic feet per second. The small benefits of the diversion from C23 are a “fine tuning” that can have no positive impact until the larger peak flows are diverted to the reservoir. Early diversion to Lake Okeechobee presents further problems to Lake Okeechobee prior to construction of other Comprehensive Everglades Restoration Plan projects. Until more offline storage
is available around the Lake, additional water may harm the littoral zone. Finally, adaptive management suggests that construction, operation and management of at least one major Reservoir? Stormwater Treatment Area should precede the planning of the C23/44 diversion. The modelers have outlined a variety of issues which might affect water quality and quantity estimates. Modelers have noted (Konyha 2001) that further information on actual performance of C23 and C24 components might lead to the conclusion that there was insufficient water to justify the C23/44 diversion. Controversial components with minimal impact that may turn out to be unnecessary should not be built first.

Response MH – F1: The plan is to start removing muck after 70% of the reservoir and Stormwater Treatment Areas are completed. This timing should allow the reservoir to come on-line and start removing nutrients and sediment, ultimately decreasing muck accumulation. A revised implementation schedule is shown in Table 7-7.

Comment MH – F2: F-46 The real estate cost for 2000 acres does not appear to be reflected in estimates of the C23/44 Stormwater Treatment Area. Is the cost of land being assessed against natural area components?

Response MH – F2: Cost estimates for the project land acquisition will be refined in the next phase of the project.

Comment MH – F3: F-66 show natural areas at 79,812 acres. This is inconsistent with other natural area acreage numbers. The 35% contingency on land acquisition appears extreme.


Appendix G

Comment MH – G1: G-8 There are NOT 196 ownerships on Palmar, 215 owners on the Allapattah property or 320 owners on Cypress Creek (G-9).

Response MH – G1: The information is preliminary and will be refined during the planning, engineering, and design phase of the project.

Comment MH – G2: G-32-35 assume condemnation costs for natural areas. An earlier section says that if condemnation is needed, natural area components will be replaced with structural components. This is not consistent.

Response MH – G2: Land acquisition costs for the natural areas will be refined based on more detailed ownership data to be collected during the next phase of
the project. The recommended plan includes the natural areas for natural storage and water quality to be acquired as estates of fee simple or with a perpetual easement to support the project purposes. If needed, further analysis will occur during the next phase of the project to support this recommendation.

H.9.6.5 Marine Industries Association

(MIA) Letter dated November 15, 2001

Comment MIA – 1: Support: Members and their customers strongly support the plan.

Response MIA – 1: No response required.

H.9.6.6 Private Citizen, Nathaniel Reed

(NR) Letter dated December 31, 2001

Comment NR – 1: Water Quality: Endorses Audubon & Environmental Land Use Law Center comments. Need to resolve issues related to Lake Okeechobee

Response NR – 1: No Response Required.

Comment NR – 2: General: Lake Okeechobee is the key to Everglades Restoration.

Response NR – 2: Noted.

Comment NR – 3: Water Quality: Need to consider the Total Maximum Daily Loads adopted for Lake Okeechobee – C-44 introduces 6% of the inflow but exceeds its assigned target –generating 16% of the Phosphorus load on the lake. Current load of 17 MT to lake exceeds Total Maximum Daily Load of 5-6 MT annually

Response NR - 3: The exact requirements/allowances as far as tradeoffs in loads to the lake, water quantity, lake level, etc. have not been worked out at this time, i.e., the information being alluded to is not currently available. If concerns regarding additional load to the Lake outweighs benefits of additional water to the Everglades, the flexibility inherent to the plan will allow variation in flow to the Lake.
Comment NR – 4: Targets: Targets for lake are inconsistent with targets for estuary & lagoon. Resize/rework to meet Total Maximum Daily Load.

Response NR - 4: It is not the purpose of the Indian River Lagoon – South Feasibility Study to meet the requirements of the State’s water quality problems, but to address the problems inherent in the original Central & Southern Florida construction effort. It is, however, important to note that the current structuring of the Indian River Lagoon – South Feasibility Study goes a long way toward alleviating much of these water quality problems. Also: The exact requirements/allowances as far as tradeoffs in loads to the lake, water quantity, lake level, etc. have not been worked out at this time, i.e., the information being alluded to is not currently available.

Comment NR – 5: Support: Strong comment of support of overall plan.

Response NR – 5: No Response Required.

H.9.6.7 Rivers Coalition Members

(RCM) Letter dated August 28, 2001

Comment RCM– 1: Support: 276 individual letters from Rivers Coalition members sent to show their support of via Martin county funding for the plan. They recommend seeking approval and funding from Congress.

Response RCM – 1: No response required.

H.10 COPIES OF LETTERS RECEIVED

Included herein are copies of the correspondence received from federal, state, and local governments, non-government organizations, and private citizens for the Draft Integrated Project Implementation Report and EIS. The letters are presented in the same order as they are presented above.
February 2, 2004

James C. Duck, Chief
Planning Division
U.S. Army Corps of Engineers
Jacksonville District
P.O. Box 4970
Jacksonville, FL 32232-0019

SUBJ: EPA NEPA Comments on COE Draft SEIS and Draft PIR for the “Central and Southern Florida Indian River Lagoon - South” (IRLS) Project (12/3/03); Martin, St. Lucie and Okeechobee Counties; CEQ No. 030560; ERP No. COE-E34030-FL

Dear Mr. Duck:

The U.S. Environmental Protection Agency (EPA) has reviewed the referenced U.S. Army Corps of Engineers (COE) Draft Supplemental Environmental Impact Statement (DSEIS) and Draft Project Implementation Report (DPIR) for the IRLS project in accordance with our responsibilities under Section 102(2)(C) of the National Environmental Policy Act (NEPA) and Section 309 of the Clean Air Act. The subject document supplements the prior Final SEIS (FSEIS) for IRLS, which was reviewed and commented on by EPA in a letter dated November 6, 2002. The IRLS project is the initial site-specific project tiering from the COE’s Comprehensive Everglades Restoration Project (CERP) Programmatic EIS proposing to restore the Everglades. Given that CERP is an estimated $8.4 billion project and IRLS is an estimated $1.2 billion project, IRLS is a significant portion of Everglades restoration.

EPA continues to strongly support the IRLS project and the restoration goals of CERP in general. We wish to actively participate further in the IRLS interagency group, with special emphasis on water quality. EPA, therefore, promotes the water quality components of IRLS and CERP and recommends that water quality elements be maximized in these restoration efforts. For IRLS, these elements include water quality treatment through Stormwater Treatment Areas (STAs), above-ground reservoirs, rehydration and restoration of former wetlands, acquisition of shorelands and other buffers for the benefit of water quality, muck removal within IRLS waters, and freshwater flow diversion/storage. Muck removal would improve dissolved oxygen levels while freshwater flow diversion/storage would regulate freshwater inflows to IRLS waters to restore the waterbody as an estuary with brackish salinities as opposed to its former riverine freshwater condition.

EPA is particularly interested in participating in the IRLS Project Delivery Team’s (PDT) Design and Operation Teams, since future water quality improvement decisions will be central to the component design and operations effort. The operations of many of the IRLS features and
the monitoring of water quality benefits derived from those features should involve an
teragency team to include EPA and Florida Department of Environmental Protection (FDEP)
representatives.

**Purpose & Need**

The need to supplement the prior FSEIS relates to the “additional studies” conducted in
response to Section 601 requirements of the 2000 Water Resources Development Act (WRDA).
Specifically, the “savings clause” in WRDA 2000 requires that flood control and water supply
be demonstrated by the project. It also requires completion of a Project Implementation Plan
(PIR), which is similar to but more inclusive than the traditional COE Feasibility Report
provided in the prior FSEIS. Accordingly, the present document includes a Draft PIR (DPIR),
considers new alternatives (7a, 7b & 7) and revises the Recommended Plan. We also note
that various proposed STAs and storage reservoirs have been reconfigured, because not all
contiguous lands were available from willing sellers for project acquisition by the non-federal
sponsor, the South Florida Water Management District (it was determined that 116,530 acres of
land would be needed for IRLS restoration). Despite these revisions, the overall IRLS project
remains quite similar in its restoration goals and the COE continued to prefer Alternative 6 for
implementation in their revised Recommended Plan. Phased project construction is scheduled
from July 2006 to December 2012.

**Project Issues**

The IRLS project proposes to restore the St. Lucie Estuary (SLE) and the southern portion
of the Indian River Lagoon. This area is highly diverse ecologically but has been receiving
pulses of freshwater discharges from various drainage canals (e.g., St. Lucie Canal: C-44) from
Lake Okeechobee and its large watershed (C-23 canal and C-24 canal drainage basins). These
freshwater discharges dilute the salinity regimes of IRLS, which has become estuarine since a
physical nexus to the Atlantic Ocean was created to form the SLE. Consequently, intermittent
pulses of freshwater have periodically stressed the estuarine flora and fauna now typical of IRLS.

The freshwater discharges have also introduced a significant amount of unconsolidated
organic material (muck). The muck, which is accumulating 2.5 time faster than historically
(pg. 6-23), has smothered bottom substrates suitable for oyster colonization and seagrass beds,
creating “dead zones” from historically productive bottom cover. The muck reduces light
penetration through the water column, depletes dissolved oxygen due to its organic decay, and
can be flocculent and therefore remain suspended or be easily resuspended. The IRLS project
proposes to attenuate the freshwater flows through above-ground storage areas to control the
quantity, timing, duration and distribution of the flows by metering discharges into IRLS. In
addition, waters will be biologically treated to reduce total phosphorus and total nitrogen
concentrations through the functions of the STA wetlands and, to a lesser degree, through settling
and storage in the deeper reservoirs. Muck deposits would also be removed (5.5 million cubic
yards) by suction dredge in four IRLS areas, with shell hash and artificial habitat (“reef balls” and
vegetation) being provided in the dredged areas for habitat remediation.

Alternatives

As in the prior FSEIS, Alternatives 1-6 were reconsidered in the present document. These alternatives included the “without project” alternative (1) and five alternatives (2-6) that incrementally added project restoration elements, with Alternative 6 being the most inclusive, multi-purpose alternative. As indicated on page 6-182, “[e]ach IRLS alternative achieves, to some degree, a level of restoration benefits.” In addition to these six alternatives, Alternatives 7a and 7b were considered and compared against Alternative 6 to determine if Alternative 6 was cost-justified and efficient. Alternative 7a was a single-purpose alternative that only enhanced estuarine aspects of Alternative 6, while 7b was a single-purpose alternative that only enhanced watershed aspects of Alternative 6. Both 7a and 7b were considered separate, stand-alone alternatives. However, it was determined that both estuarine and watershed aspects should be included in the recommended plan (as is the case for Alternative 6), and that a combination of 7a and 7b (Alternative 7) would be significantly (17%) more expensive than Alternative 6 and therefore not cost-effective. Therefore, the COE continued to recommend Alternative 6 in the development of their revised Recommended Plan.

Revised Recommended Plan

The revised Recommended Plan consists of five main elements: 1) above-ground storage reservoirs to capture freshwater canal drainage and control its delivery into the IRLS system; 2) STAs to biologically treat freshwater drainage for phosphorus, nitrogen and other pollutants; 3) natural storage and treatment areas and restoration of the North Fork Floodplain to rehydrate and spatially extend wetlands in the area; 4) flow diversions to storage areas to control freshwater inflows to IRLS, and 5) muck removal and artificial habitat to restore bottom productivity and habitat value. Specifically, the revised Recommended Plan for IRLS is expected to result in the following features and effects (excerpted: pg. vi):

* 130,000 acre-feet of storage reservoirs created on 12,610 acres of land
* 35,000 acre-feet of storage in stormwater treatment areas, created on 8,731 acres of land
* 92,130 acres of natural areas restored, providing 30,000 acre-feet of effective storage
* 90 acres of artificial substrate for submerged aquatic vegetation created
* 5,500,000 cubic yards of muck removal
* 122 metric tons of phosphorus load reduction, 41% of 2050 base load
* 475 metric tons of nitrogen load reduction, 26% of 2050 base load
* 53,665 acres of wetlands restored (subset of the 92,130 acres)
* 2,650 acres of benthic habitat created in St. Lucie River and Estuary
* 889 acres of oyster habitat restored
* 922 acres of submerged aquatic vegetation restored
* 3,089 acres of floodplain restoration
* Improvement to agricultural production ($6,100,000 annually)
These restoration elements are significant in terms of commitments to water quality treatment, acreage conservation, habitat restoration, water supply, flood control and their initiation of CERP projects.

Summary

EPA rates this DSEIS as "LO" (Lack of Objections) since we fully support the project goals and approaches if water quality components are maximized. Although we continue to support this proposal, we have enclosed Additional Comments on this DSEIS for your consideration.

EPA appreciates the opportunity to review the DSEIS. Should you have questions regarding our comments, you may wish to contact Gerald Miller (404/562-9626 and miller.gerald@epa.gov) or Chris Hoberg (404/562-9619 and hoberg.chris@epa.gov) of my staff for NEPA issues, or Eric Hughes (904/232-2464 and Eric.H.Hughes@sa02.usace.army.mil) of our South Florida Office for technical issues.

Sincerely,

[Signature]

Heinz J. Mueller, Chief
NEPA Program Office
Office of Policy and Management

Enclosure - Additional Comments
ADDITIONAL COMMENTS

› Phosphorus & Nitrogen Reductions - Although the DSEIS quantifies (in metric tons and percentage of the 2050 base load) the levels of total phosphorus and total nitrogen reduction for various components of the project (e.g., STAs, storage areas), it is unclear as to what such reductions would mean on a broader, ecosystem basis. That is, would these reductions by themselves or in combination with other ongoing or planned CERP projects reduce phosphorus and nitrogen loads sufficiently to fully meet freshwater and/or estuarine water quality restoration targets? If not, are the measures being proposed for the IRLS project capable of being modified to perform such treatment?

Similarly, we note (pg. 6-21) that “[v]egetated STAs are designed to remove at least 80% of the incoming phosphorus load in water captured by the reservoirs.” As suggested above, would such a reduction be sufficient to support ecosystem restoration targets?

› STAs - Page 6-21 states that “[a]ny habitat usage of the STAs by any species is purely incidental.” We encourage the implementation of measures discouraging STA use by wildlife for habitat since STAs act as sinks that would likely be contaminated with mercury and other metals typical in South Florida. As such, designing STAs with waters deeper than 18 inches to preclude wading birds is recommended, as well as other restrictive measures. Also, the eventual crowding of cattails and other STA vegetation would further reduce the habitat value for most wildlife, and thereby reduce the chances of concentrated contaminants progressing up the food chain at levels higher than STA benthic assemblages.

A major design/operational goal for the IRLS STAs should be to avoid STA dry-downs during prolonged dry seasons. It is vital that even during droughts, STAs remain wetted to avoid/minimize the resuspension and release of high levels of sediment-bound pollutants upon their rewetting after the drought period. One design feature which should be implemented for all of the STAs is the ability to route water directly (i.e., without being routed through a surface reservoir) to the STAs from nearby canals during dry seasons. This design feature would greatly enhance the long-term ability of the STAs to achieve water quality benefits over a wide range of climatological conditions.

› Water Quality - EPA strongly encourages minimizing the canal distance from the STAs to the IRLS receiving waters. This would help assure that the cleansed waters released by the STAs will not be re-contaminated by agricultural activities or other factors fostered by long canal distances (miles) to the IRLS system. In essence, the water quality of STA waters should be maintained through proximal STA treatment and appropriate operational procedures in order to maximize water quality in the IRLS system. While we understand that successful land acquisition from willing sellers is critical to such proximal treatment, continued efforts should be made to minimize the flow distances of treated waters to receiving waters. These issues should be managed by the IRLS PDT’s interagency Design and Operations Teams which, as previously recommended, should include EPA and FDEP representatives.


- **Salinity** - The DSEIS references the need to provide suitable ("appropriate", "target", "acceptable") salinity levels by controlling freshwater inflows to the IRLS system. The range of desirable salinities for IRLS waters should be quantified in parts per thousand. Similarly, seagrasses and oysters were listed as IRLS indicator species. What are the species of concern and their salinity requirements?

- **Temperature** - The revised Recommended Plan proposes that canal water be held in relatively shallow storage reservoirs and filter through shallower STAs. Since South Florida flora and fauna are naturally living near their thermal maximums, will increased water temperature resulting from shallow storage become an issue at the point of discharge when waters are released from the reservoirs and STAs into the IRLS receiving waters? What are the expected residence times for waters in storage and how much thermal elevation can be expected? We are pleased to note (pg. L-9) that the temperature of the discharge water will be measured as part of the Ecological and Water Quality Monitoring Plan.

- **Muck** - Will the removed muck be tested for metal contaminants such as mercury, or will the disposal sites be appropriate for the disposal of such potential contaminants? Given the organic nature of muck, we note that its agricultural reuse as a soil additive is technically possible (pg. 6-24), but apparently not cost-effective due to its residual salt content. However, if acceptable from a contamination standpoint, additional research on recycling muck might be useful to utilize its organic value. Also, if the source of the muck in the drainage canals is not curbed, its accumulation – albeit now in storage reservoirs instead of IRLS waters – will continue to be a concern in terms of reservoir storage capacity and as a monitoring cost for its removal.

- **Turbidity** - Page 6-103 references the state turbidity standard of 29 NTUs above background. We are aware that for dredging work near sensitive areas (e.g., corals), the COE may condition 404 permits to use a more conservative standard of "not to exceed 15 NTUs" above background. Would use of such a lower standard be appropriate for IRLS construction work in any sensitive project areas (e.g., potential dredging near seagrasses and other Submerged Aquatic Vegetation (SAVs))?  

- **SAVs** - In the selected areas where muck is to be removed and artificial habitat provided (including artificial vegetation), would any attempts be made to also plant sprigs of natural seagrasses? If so, it should be noted that seagrass transplantations are often not successful due to stringent light, temperature and salinity requirements. Accordingly, these physical parameters should be allowed to stabilize within IRLS waters once muck dredging is completed and freshwater flows are regulated. EPA will principally defer to the U.S. Fish and Wildlife Service regarding the feasibility of reintroducing natural seagrasses and the relative habitat benefits of natural SAVs versus the proposed artificial forms.

- **NEPA**

  * **Preferred Alternative** - It is clear from the DSEIS that Alternative 6 continues to be
recommended by the COE and that it was the basis of the revised Recommended Plan. From a NEPA perspective, however, the alternatives analysis of the DSEIS would have been improved if this alternative had also been identified as the NEPA “preferred alternative.” In the Record of Decision (ROD), the preferred alternative would become the NEPA “selected alternative.”

* Supplements - Although somewhat unclear, we assume the present document is a DSEIS to the FSEIS issued in 2002. Final documentation for this proposed project should more clearly state the type of EIS represented.

» Alternative 6 vs. 7 - As discussed above, Alternatives 7a, 7b & 7 were added to further analyze Alternative 6. As indicated, 7a focused and expanded upon “estuary only” aspects of Alternative 6 while 7b focused and expanded upon “watershed only” aspects of Alternative 6. This expansion is apparently why Alternative 7 (a combination of 7a & 7b) was significantly higher in implementation costs than Alternative 6. Given this, however, it is unclear why the habitat unit “outputs” (Table 6-3: pg. 6-48) for Alternative 7 are nevertheless exactly the same as for Alternative 6 (as opposed to also being greater for 7 than 6 due to the expansions). This should be clarified.

» Above-Ground Storage - We agree that lands to be converted to storage reservoirs should not be productive lands such as high quality wetlands. Ideally, candidate lands for conversion should be degraded wetlands that are in need of restoration or enhancement and/or agricultural lands that are contributing (runoff) to the phosphorus and nitrogen water quality problems in South Florida and would be taken out of production.

» Exotics - EPA supports the proposed eradication or reduction of exotic and nuisance plants such as Brazilian Pepper and Melaleuca. Inclusion of such components was suggested (pg. 7-8) as part of a management plan for natural areas. We also support the use of greenways and wildlife corridors within or contiguous with such project natural areas (pg. 7-7).

» Cultural Resources - Page 6-104 indicates that 26 “recorded” historic and archaeological sites are found in the IRLS area and that “[p]rior to project construction, cultural resource surveys will be conducted in the project area.” If not already documented within the DSEIS, these sites should have been characterized/summarized in the document. We also assume that the SHPO has “stop-work” authority if an unexpected find is unearthed during project construction and that work will not continue until the SHPO is satisfied with the mitigation strategy, if any. A mechanism to execute such a contingency should be coordinated with the SHPO (including having a plan in place) so that any lapses in project construction time will be minimized.
Mr. Robert M. Dunne  
U.S. Army Corps of Engineers  
701 San Marco Blvd.  
Jacksonville, FL  32207-8175  

RE:  
Review of Draft Project Implementation Report and Supplement to the Final Environmental Impact Statement; Central and Southern Florida Project, Indian River Lagoon-South (IRLS), Martin, St. Lucie, and part of Okeechobee Counties, Florida  

Dear Mr. Dunne:  

The Department of the Interior (Department) has reviewed the subject Draft Project Implementation Report (PIR) and Supplement to the Environmental Impact Statement (SEIS). We offer the following comments.  

The overall purpose of the IRLS Feasibility Study is to recommend a plan that provides for a more natural annual freshwater flow regime to the St. Lucie Estuary and the Indian River Lagoon, while maintaining or enhancing the current level of flood protection and fresh water supply. The restoration goals for the St. Lucie Estuary and the Indian River Lagoon recognize that it is impossible to return the system to its original freshwater condition. The goal is to allow the St. Lucie Estuary to function as a productive estuarine system supporting a diversity of fish and wildlife. This plan would result in improved overall ecological health of the St. Lucie Estuary and the Indian River Lagoon as measured by the selected indicator organisms - seagrasses and the American oyster (Crassostrea virginica). During the development of the PIR for this project, alternative plans were evaluated based on the following goals: 1) improvement in the quality, quantity, timing, and distribution of freshwater flow to the St. Lucie Estuary and the Indian River Lagoon; and 2) improvement in habitat quality, heterogeneity, and biodiversity in freshwater, estuarine, and associated marine ecosystems.  

The primary objective would be to provide enough water storage to attenuate an amount of wet weather flow that would result in an annual salinity range of 5 to 25 parts per thousand (ppt) in the middle portion of the SLE. In the selected plan, approximately 12,610 acres, currently mostly citrus groves, would be converted into water storage reservoirs with a total capacity of approximately 130,000 acre feet of the total targeted 150,000 acre feet of needed storage.  

The remaining amount of storage would be provided by the ecological restoration of up to approximately 46,500 acre feet of drained wetlands that are contained within approximately 92,130 acres of "Natural Storage and Water Quality Treatment Areas." This restoration would involve filling ditches and canals of former agricultural areas in order to create a more natural hydrology. Other less severely drained adjacent areas (e.g., pine flatwoods and forested uplands)
should also benefit from the improved hydropower, in addition to better management of cattle and exotic species, and promotion of a more natural fire regime. These areas would then provide a more natural storage of fresh water; promote groundwater recharge; provide habitat for threatened, endangered, and rare species of plants and animals; and reduce the non-point source nutrient load to the St. Lucie Estuary and the Indian River Lagoon.

In addition to the water quality treatment provided by the natural areas, the selected plan also includes Stormwater Treatment Areas that should reduce the concentration of pollutants (primarily phosphorus and nitrogen) in large volumes of stormwater runoff. A Stormwater Treatment Area is a constructed wetland that utilizes the assimilative capacity of its vegetative community to remove nutrients from the influent flow. Approximately 8,731 acres of mostly citrus groves would be converted into Stormwater Treatment Areas.

Another component of the selected plan is hydrologic diversion. Diversions are intended to mimic historic flow patterns; to route additional flow through Ten Mile Creek and the North Fork and South Fork of the St. Lucie Estuary. This would reduce the volume of damaging discharges from the C-23 Canal to the middle portion of the St. Lucie Estuary. These diversions can secondarily allow for additional water storage and treatment. One diversion would send up to 200 cubic feet per second (cfs) of treated water from a Stormwater Treatment Area to Ten Mile Creek and/or the North Fork of the St. Lucie Estuary. A second diversion would send up to 250 cfs of untreated C-23 Canal water to the C-44 West Stormwater Treatment Area.

Additional in-estuary habitat restoration components are included in the scope of this project to address the ecological problems that exist in the Indian River Lagoon and the St. Lucie Estuary. They include the removal of 5,500,000 cubic yards of muck sediments to restore 2,650 acres of estuarine benthic habitat, and the placement of 90 acres of artificial estuarine habitat.

**General Comments**

The Department expects this project to benefit the management of water resources of the St. Lucie Estuary and south Indian River Lagoon watersheds and Lake Okeechobee. We appreciate the importance of this project as an initial step to improve water quality and flow timing in the St. Lucie Estuary and the Indian River Lagoon and to enhance or conserve aquatic and terrestrial habitats within the basins. We commend the Army Corps of Engineers for its sensitivity in siting and designing the proposed facilities so that they reduce impacts on valuable wildlife habitats within the watersheds. We also expect this project to reduce artificially high water levels in Lake Okeechobee by creating alternative water storage sites.

We find that the draft PIR and SFEIS present a balanced description of the study team's evaluation process and the benefits expected through implementation of the IRLS Feasibility Study. The principal focus of our comments is the protection, conservation, and enhancement of fish and wildlife habitats in the region, consistent with the project purposes of promoting an ecologically viable salinity regime in, and reducing non-point source nutrient loading to the St.
Lucie Estuary and the Indian River Lagoon.

A significant change in the recommended plan from the SFEIS to the draft PIR is the reformulation of the C-44 Basin components. The previously designed C-44 West reservoir and Stormwater Treatment Area and the C-44 East Stormwater Treatment Area are now combined and centrally located in Martin County just north of the C-44 Canal. This reformulation will provide the same water quality and water storage benefits as the original configuration and has the added benefits of costing $30 million less and impacting less ecologically sensitive habitats. The Fish and Wildlife Service (FWS) supports this reformulation and will provide more detailed comments in a supplemental Fish and Wildlife Coordination Act (FWCA) report to the Corps of Engineers and local project sponsor. In reference to this new alignment, we reiterate the following recommendation from the FWS final FWCA report:

“... in addition to the Corps' willingness to follow the standard construction precautions to protect manatees, the Service wants to ensure that any new water control structures or pumps (particularly those confluent with the C-44 Canal) are designed to avoid any increased risk of harm or mortality to manatees.”

The FWS is pleased that the muck removed from the estuary or lagoon will not be disposed on the Allapattah Ranch, but is concerned that an alternative disposal site is not identified. Section 6.3.4.4 (Page 6-23) of the draft PIR discusses the muck remediation. The SFEIS anticipated the disposal of muck on the Allapattah Ranch component of the Allapattah Complex Natural Storage and Water Quality Treatment Area. The draft PIR states, however, that the preferred plan “... will not dispose of dredged muck on the Allapattah property or any other land proposed as a part of the natural land restoration component...” (Page 6-24; Paragraph 5). The FWS commends this decision. While the draft PIR does not identify an alternate disposal site, the FWS is committed to continued planning and coordination with the study team as it does so. The FWS will use the supplemental FWCA report to evaluate and make recommendations regarding the environmental and ecological integrity of the disposal site, when identified, and the potential effects on fish and wildlife resources, including federally listed species.

The Department strongly supports the in-estuary habitat restoration components that would be implemented after the reservoirs and Stormwater Treatment Areas are constructed and fully operational. The removal of muck sediments and the placement of 90 acres of artificial estuarine habitat would “jump start” the restoration of healthy oyster bars and seagrass beds, and consequently, would reduce the time needed for restoration by years. These habitats are extremely important to the fish and wildlife resources of the St. Lucie Estuary and the Indian River Lagoon, and their restoration would demonstrate a successful project.

The North Fork Floodplain restoration is described in Section 6.3.4.7, Page 6-27. For this component, the PIR recommends that the Army Corps of Engineers only acquires land for the project and does not actually construct the restoration features. Instead of the Corps constructing the restoration projects, the PIR suggests that another agency, such as the Florida Department of
Environmental Protection (FDEP), construct the projects. The FWS believes that this project is important and supports the PIR recommendation that the Corps acquire the lands to make the project possible. The FWS also urges the Corps to consider constructing the restoration projects. This North Fork Floodplain component would provide many benefits including: increased water storage, increased flood protection, increased detention time for problematic stormwater runoff, water quality improvements through nutrient removal and water filtration, and 550 acres of forested wetland habitat for fish and wildlife including wading birds, amphibians, reptiles, mammals, and rare tropical oligohaline fishes. Downstream receiving waters would also be improved for wading birds, shorebirds, manatees, sea turtles, and Johnson's seagrass. A feasibility study was conducted in 2003 by Post, Buckley, Schuh & Jernigan, Inc. for the FDEP, and they concluded that the oxbow reconnection and wetland restoration construction activities along the North Fork would cost $4 million. This cost is very small compared to the entire cost of the IRLS Project. In the event that it is not feasible for the Corps to be responsible for the construction, the FWS suggests that the Corps pursue the construction of this component under Section 206 of the Continuing Authority Program (funding to restore aquatic ecosystems). The citation for the Feasibility Study is:


The following comments are in response to Appendix K, Project Assurances. The IRLS project is primarily aimed at reducing, rather than increasing, water currently affecting the natural system. That purpose makes analyzing whether the project meets the assurances required by WRDA 2000 relatively straightforward. The methods employed to identify water made available for restoration and to conduct savings clause evaluations for IRLS appear to be generally appropriate for this project. However, we wish to emphasize that the methods would require considerable expansion for evaluation of future Comprehensive Everglades Restoration Plan (CERP) projects that have significant effects on regional water or that intentionally transfer existing sources through project modifications. We anticipate that this more complete and detailed set of procedures would be outlined in the forthcoming guidance memoranda on procedures for identifying water made available for restoration and for evaluating project effects on existing legal sources.

The following comments are in response to Appendix M, Draft Operating Manual. In accordance with the Programmatic Regulations for the CERP (Federal Register Vol. 68, No. 218, 64200-64249), technical experts from the Department of the Interior are participating in the team producing a Guidance Memorandum on the contents of operating manuals. The Draft Operating Manual for the IRLS Feasibility Study was the first attempt to produce such a document, without benefit of the guidance. We applaud the efforts of the Corps of Engineers in formulating this plan ahead of the guidance and we look forward to assisting them in improving on this format for future PIRs. In particular, we are pleased that water managers met with hydrologic modelers to develop operating criteria that would reflect the intent of the operations simulated in the models.
We find the Draft Operating Schematics in Attachment B of Appendix M are a useful part of the description of the recommended plan. These features will likely be included in the guidance to further improve the Draft Operating Manuals in future PIRs. We believe that the operation of other CERP projects will be more complex than that for this project, because many of those will be more directly connected to the regional system and will involve estuaries, unlike the St. Lucie Estuary, that are currently below their minimum flow requirements.

Due to the plan complexity, size of components, and wide spatial extent of this project area, modifications to the selected plan may be necessary if land parcels targeted for acquisition are unavailable. In the case of the Natural Storage and Water Quality Treatment Areas, we recommend that previously identified parcels from Alternative 4 that were not included in the final plan be re-evaluated if those in the selected plan become unavailable. If the Corps modifies the plan to include those previously identified parcels from Alternative 4, it will need additional surveys for federally listed species, including but not limited to, Audubon's crested caracara, wood stork, bald eagle and eastern indigo snake. It may also need to reinitiate consultation under section 7 of the Endangered Species Act. The FWS is committed to, and the Corps of Engineers has acknowledged, the need for continued coordination as this project proceeds through detailed design, construction, operation, and monitoring.

Specific Comments

☐ Volume 1 Main Report, Section 6 Plan Formulation and Alternative Evaluation (Revised); Subsection 6.3, Development of Alternative Plans; Subsection 6.3.4, Components Considered in Alternatives; Subsection 6.3.4.2, Stormwater Treatment Areas, Page 20:

The Department recommends that this section include a discussion of the ultimate fate of the nutrients in contaminated waters routed into Storage Reservoirs and into Stormwater Treatment Areas, particularly whether there will be seepage to ground water.

☐ Page 6-23; Section 6 Plan Formulation and Alternative Evaluation, Subsection 6.3.4.5. Artificial Habitat:

The PIR states (Page iv, Summary) that artificial reef balls and artificial submerged aquatic vegetation (SAV) will be used to create 90 acres of habitat at sites where muck is removed. The PIR does not discuss the site conditions where the artificial SAVs are installed. Also, it does not address the effective stability or ultimate bioassimilation of this artificial habitat. To help clarify these ecological uncertainties, the report should explain the goals, including references, of the use of proposed artificial SAV, especially as opposed to the use of real SAV.

☐ Summary, Page v

The draft PIR states that the Natural Storage and Water Quality Treatment Areas and the North
Fork Floodplain Restoration would provide "... increased spatial extent of natural wetlands and uplands for wildlife." We concur with this benefit, but note that these areas are also expected to benefit the following federally listed species: Audubon's crested caracara, wood stork, bald eagle, Eastern indigo snake, red-cockaded woodpecker, Florida scrub jay, Everglade snail kite, and Florida panther.

**Summary, Page viii**

The Summary of Benefits Table is not referenced in the preceding text. It should be discussed or deleted. Also in this table, the total estuarine habitat units for the "without-project condition" differs from that presented in Table 6-16 on Page 6-75. Please clarify which table is correct. Table 6-21 on Page 6-99 and the Summary of Benefits Table on Page SEIS-x may also need to be modified.

**Section 11, Pages 11-5 through 11-6**

We strongly support recommendations (u) and (y) that recommend the reservation by the State of Florida of baseline, as well as project water, for the St. Lucie Estuary and recommend that actions to be taken in the event of changes in any adopted reservation. Water being made available by CERP projects over and above existing levels cannot be treated as "stand alone" contributions toward restoration, because the benefits of "new" CERP water depend on the interaction between new and already-existing water in natural systems. Additionally, many natural areas within the CERP domain are not short of water but have too much, at least some of the time. We, therefore, strongly support the recommendation that the local sponsor act to protect baseline flows to the St. Lucie Estuary. A similar recommendation should be included for protection of baseline water that is to be retained in natural areas targeted for restoration as part of the IRLS plan.

**Appendix K; Section 1.2.1, Page K-2**

In the last sentence of the first paragraph, the phrase "These increments of" should be deleted from the sentence, so that it reads only "Water made available by the project ... must be identified and subsequently reserved." Because the guidance memorandum on identification of water to be reserved has not yet been developed, the IRLS PIR should not presume that water made available by projects "must" be identified incrementally, only that this is the approach taken in this PIR, which is being completed prior to the issuance of the guidance memoranda.

**Appendix K; Section 2.1, Page K-7**

In the first paragraph, following should be added to points (1) and (2): "Beneficial ... effects ... for the protection of fish and wildlife and restoration of the natural system within the watershed. ..."
Appendix K; Section 3.1, Page K-16

In the second paragraph, the appendix states that a key premise is to avoid double-counting of project water being identified. However, if project water moving through the regional system provides benefits to multiple natural areas, it should be identified for all affected basins. Although the form of water reservations has not been decided upon by the state of Florida, it seems probable that reservations would have to refer to specific basins or natural areas that are the beneficiaries of the reserved water. A quantity of water moving through the Central and Southern Florida system could therefore figure in more than one reservation, and thus should be identified for any basins in which the water is providing a project benefit.

Appendix K; Section 3.2, Pages K-16 through K-17

We support the use of volume-probability curves separated into wet- and dry-season time periods as a sound approach both to identify water to be reserved and to evaluate of effects on existing legal sources. We believe that for most natural areas; however, future PIRs will need to supplement these analyses with use of performance measures that consider changes in key hydrologic parameters affecting the natural system. Again, we anticipate that this procedure would be outlined in forthcoming guidance memoranda.

Appendix K; Section 3.2, Page K-17

In the first line of the page, please clarify what is meant by “with-project condition.” Is this the model simulation that includes all other CERP project features, or the simulation that is used for the “next added increment” evaluation of the project? We believe that the latter modeling should be used as a basis for identifying water made available by the project and for conducting savings clauses analyses.

Appendix K; Section 4.3.1, Page K-27

In the second paragraph, we agree that the amount of water beneficially retained in the natural areas is appropriate as a measure of water to be reserved for natural areas restoration. We are concerned, however, that the measure proposed to evaluate how much beneficial water is retained is the amount of water being discharged consistent with target values. The logic presented in the appendix is that, “additional storage increases the amount of water available to be released.” However, an increase in water discharged from a natural area will in general be a composite of both beneficial water being retained and detrimental water lost. The former would help maintain desired water elevations and hydroperiods, while the latter would reduce them. The appendix should more fully document the logic for treating all discharges from the natural areas as beneficial.

Appendix K; Section 5.3., Page K-32
In the second paragraph, the appendix does not include a quantitative analysis to determine whether or not existing legal sources of water for fish and wildlife would be eliminated or transferred as a result of the project. The rationale presented is that elimination or transfer of fish and wildlife sources of water was not considered (intended) as part of any of the study alternatives, and because most adverse effects on fish and wildlife in the study area are a result of excess fresh water. Although this rationale is probably adequate for the IRLS project, we do not support this as a general approach to evaluating effects of other CERP projects on existing sources of water for fish and wildlife. Elimination or transfer of an existing legal source need not be an intended project effect, but could be an unanticipated side-effect of project features that affect ground or surface water levels in or near existing wetlands, uplands, or tidal areas. Any future evaluation of existing legal sources for fish and wildlife should be based upon comparisons of quantitative performance measures for identified water-dependent habitats, and that effects should be evaluated at both the local project and regional scales.

☐ Appendix K; Section 7.2.4.1, Page K-68

This section discusses coordination of the Endangered Species Act between the FWS and the Corps of Engineers. The draft PIR states,

\textit{The USFWS has confirmed, by letter dated April 2001, that it agrees with the biological assessment prepared for the project by the USACE. In February of 2001 the USACE requested concurrence from the USFWS under the provisions of the Endangered Species ACT (ESA) of 1973 (50 CFR 402) that the project would cause no adverse effect to listed species. The USFWS agreed with this summary in a letter dated March 2, 2001. This letter provides that the USACE perform surveys for Threatened and Endangered plants and for Caracara. Coordination with the USFWS will continue throughout project implementation.}

As two points of clarification, in the March 2, 2001 letter, the FWS concurred with the Corps of Engineers' "not likely to adversely effect" determination, not a "no effect" determination as stated above. Second, in the February 2001 letter, the Corps of Engineers agreed to conduct detailed surveys for all listed species in appropriate habitat types on any newly acquired project lands. This not only includes Audubon's crested caracara and federally listed plants, but also Florida scrub jay, wood stork, red-cockaded woodpecker, Everglade snail kite, Florida panther, bald eagle, and eastern indigo snake.

III. Summary

The Department supports authorization of the IRLS Feasibility Study to proceed to final PIR and then detailed design. The draft PIR and SFEIS provide a balanced and accurate description of the environmental impacts of the plan. Our recommended changes contained herein are intended to allow for equal consideration of wildlife conservation with other features of the project, minimize incidental take of federally listed species, and to improve the public's understanding of
the plan's anticipated ecological benefits.

As detailed design proceeds, we are committed to providing expert technical assistance on the protection of threatened and endangered species and the conservation of fish and wildlife and their habitats. We see a need for further planning and coordination for the following issues:

1. Surveys for several threatened and endangered species on lands to be acquired for the project;

2. Assessments of environmental and water quality monitoring data for the watershed and estuarine components as set forth in Appendix L;

3. Evaluation of the impacts on Natural Storage and Water Quality Treatment Areas of less than fee acquisition;

4. Development of "fish and wildlife friendly" designs for Stormwater Treatment Areas;

5. Evaluation of potential negative ecological effects at the muck disposal site(s); and

6. Ecological evaluations of the new alignment for the C-44 Reservoir and Stormwater Treatment Areas in addition to any other project component footprint that may change.

If you have any questions regarding these comments you can reach me at 404-331-4524.

Sincerely,

Willie R. Taylor
Director
Office of Environmental Policy
and Compliance

cc:
USGS (B. Johnson, Reston, VA)
FWS (K. Moody, Atlanta, GA)
FWS (J. Slack, Vero Beach)
SOL (Courtney Taylor)
OEPC-Atlanta
Florida House of Representatives
Gayle B. Harrell
State Representative, 81st District

121 South West Port St. Lucie Blvd.
Port St. Lucie, Florida 34984
Office: (772) 873-6500
Fax: (772) 873-6502
January 12, 2004

Room 214, House Office Bldg.
402 South Monroe Street
Tallahassee, Florida 32399
(850) 488-8749

Col. Carl Carpenter
District Engineer
Army Corps of Engineers
PO Box 4970
Jacksonville, FL 32232-0019

Dear Col. Carpenter:

Unfortunately I am unable to attend this evening’s final public hearing on the Indian River Lagoon Restoration Plan. I am in Tallahassee for a scheduled Committee Week in preparation for the 2004 Legislative Session. Please accept this letter as my public statement of support of the Indian River Lagoon Project Implementation Report (PIR).

Moving forward as rapidly as possible with the IRL Plan is of critical importance to the overall Comprehensive Everglades Restoration Project and also to our local rivers and estuaries. I urge you to move forward with the review of the PIR as expeditiously as possible so that the IRL Plan will complete the process in a timely manner and be available for funding in the Water Resources Development Act 2004 appropriations process.

Again, you have my total support and if I can be of service in any way, please do not hesitate to contact my office.

Sincerely,

Gayle Harrell
State Representative
81st District

GH:js

♦ Health Care ♦ Chair, Subcommittee on Health Standards ♦ Subcommittee on Health Appropriations ♦
♦ Education K-20 ♦ Subcommittee on Education Innovation ♦
♦ Select Committee on Medical Liability Insurance ♦ Coordinating Committee on Public Security ♦
♦ State Drug Policy Advisory Council ♦
Ms. Lauren P. Milligan, Environmental Consultant  
Florida State Clearinghouse  
DEP Office of Intergovernmental Programs  
3900 Commonwealth Blvd., Mail Station 47  
Tallahassee, Florida 32399-3000

Dear Ms. Milligan:

Subject: Indian River Lagoon - FL200312294920C

In response to the subject Intergovernmental Coordination and Review request, the Department has the following comments regarding the Army Corps of Engineers' and South Florida Water Management's Central and Southern Florida Indian River Lagoon draft project implementation report and supplement to the Final Environmental Impact Statement (EIS) for Martin and St. Lucie counties.

Mitigation is always a top priority for the Department since mitigation opportunities are hard to come by to offset impacts transportation projects have on the environment. The Department is proposing to construct a new bridge crossing at Indian Street in Palm City and is currently conducting an in-house EIS for the bridge project. Financial Management project # 230978-1. The Department would like to discuss mitigation opportunities within the project limits for unavoidable impacts to the river and associated wetlands. The exact impact quantities are still being calculated.

In return for our contribution, the Department will benefit from this action by receiving mitigation credits, assigned to us by the South Florida Water Management District, the Army Corp of Engineers, or any other agency that has jurisdiction over the area, for the Indian Street bridge project in Palm City.

The applicant should coordinate with Ms. Ann Broadwell, District Environmental Administrator, at (954) 777-4325. Thank you for the chance to participate in this review process.

Sincerely,

Larry Hymowitz, AICP  
Intergovernmental Coordinator

LH:TS

cc: Sandra Whitmire  
Nancy A. Ziegler  
Ann Broadwell  
Larry Merritt

File: 4280.45; 4280.10; 4280.15

www.dot.state.fl.us
FLORIDA DEPARTMENT OF STATE
Glenda E. Hood
Secretary of State
DIVISION OF HISTORICAL RESOURCES

Ms. Lauren Milligan
Director, Florida State Clearinghouse
Florida Department of Environmental Protection
3900 Commonwealth Boulevard, Mail Station 47
Tallahassee, Florida 32399-3000

January 30, 2004

RE:  DHR No.: 2004-39 / Date Received by DHR: January 2, 2004 / SAI #: FL200312294920C / Jacksonville Corps of Engineers / Draft Project Implementation Report and Supplement to the Final Environmental Impact Statement for the Central and Southern Florida Project Indian River Lagoon – South Martin, St. Lucie and Part of Okeechobee Counties, Florida

Dear Ms. Milligan:

Our office received and reviewed the above referenced project in accordance with Section 106 of the National Historic Preservation Act, as amended, 36 C.F.R., Part 800: Protection of Historic Properties, and the National Environmental Policy Act of 1969, as amended. The State Historic Preservation Officer is to advise and assist federal agencies when identifying historic properties (archaeological, architectural, and historical resources) listed, or eligible for listing, in the National Register of Historic Places, assessing the project’s effects, and considering alternatives to avoid or minimize adverse effects.

We have reviewed those portions of Section 6 dealing with Cultural Resources; specifically, Paragraph 6.5.3.4.10. We note that twenty-six recorded historic properties occur within the project area, and that some sites will be adversely affected by implementation of the recommended plan. Although site density and project locations indicate that unrecorded sites may occur within the project area, we note that cultural resource surveys will be conducted within these impact areas prior to construction. Where possible, projects will be redesigned to avoid adverse effects to cultural resources. Unavoidable adverse effects will be minimized through mitigation measures, including data recovery excavations, developed and coordinated with this office. We concur with Paragraph 6.5.3.4.10, and look forward to coordinating with the Jacksonville District Corps of Engineers and the South Florida Water Management District.

If you have any questions concerning our comments, please contact Janice Maddox, Historic Sites Specialist, by electronic mail at jmaddox@dos.state.fl.us, or by telephone at 850/245-6333. Your interest in protecting Florida’s historic properties is appreciated.

Sincerely,

Frederick Gaske, Acting Director, and
Deputy State Historic Preservation Officer

XC: Jasmin Raffington, FCZMP

500 S. Bronough Street • Tallahassee, FL 32399-0250 • http://www.flheritage.com

Director’s Office (850) 245-6300 • FAX: 245-6435
Archaeological Research (850) 245-6444 • FAX: 245-6436
Historic Preservation (850) 245-6333 • FAX: 245-6437
Historical Museums (850) 245-6400 • FAX: 245-6433
Palm Beach Regional Office (561) 279-1475 • FAX: 279-1476
St. Augustine Regional Office (904) 825-5045 • FAX: 825-5044
Tampa Regional Office (813) 272-3843 • FAX: 272-2340
Mr. James C. Duck  
Chief, Planning Division  
Environmental Branch, South Florida Section  
U.S. Army Corps of Engineers  
P.O. Box 4970  
Jacksonville, Florida 32232-0019

Re: Comprehensive Everglades Restoration Plan (CERP); Indian River Lagoon South Project Implementation Report; Martin, Okeechobee, and St. Lucie, Counties

Dear Mr. Duck:

The Office of Environmental Services, Everglades Protection and Restoration Program, of the Florida Fish and Wildlife Conservation Commission (FWC), prepared this letter regarding the Indian River Lagoon South Project Implementation Report (PIR). Our office has coordinated with the FWC T.M. Goodwin Waterfowl Management Office in formulating our concerns and recommendations.

The Indian River Lagoon South Feasibility Project (IRL-South) is designed to attenuate freshwater inflows to the St. Lucie Estuary, as well as reduce the pollutant loading from these inflows. The project includes four reservoirs (12,610 total acres), four stormwater treatment areas (8,731 total acres), natural storage areas (92,130 acres), 90 acres of artificial substrate, and 5,500,000 cubic yards of muck removal. These features are expected to result in a 41% reduction of phosphorus load and 20% reduction of nitrogen load to the estuary, restoration of 53,665 acres of wetlands, creation of 2,650 acres of estuarine benthic habitat, restoration of 889 acres of estuarine oyster habitat, restoration of 922 acres of estuarine submerged aquatic vegetation, restoration of 3,089 acres of estuarine floodplain, and improved agricultural water supplies.

**FWC Issues and Recommendations**

Our staff has identified the following issues and recommendations that should be addressed while the project is designed and implemented.
The plan needs to clarify that it will not stop the detrimental water releases from Lake Okeechobee. The PIR needs to make the distinction up-front that large-scale water releases from Lake Okeechobee will periodically continue until other CERP projects (e.g. Lake Okeechobee Watershed Project, Aquifer Storage and Recovery, and the Everglades Agricultural Area Reservoir) can address the water storage needs of the upper Everglades watershed. The plan was formulated to address the water inflows that originate within the watershed of Martin and St. Lucie counties. Therefore the project as planned would reduce the further degradation of the St. Lucie Estuary by inflows from the local watershed (the most damaging inflows), but will not address the releases of excess water from Lake Okeechobee.

Impacts to state-listed species. Impacts to the 32 state-listed species potentially occurring in the project area could result from the construction, operation, and maintenance of the features described in the Indian River Lagoon South PIR (Table 1). These impacts may include destruction of critical habitats, disturbance of bird nesting attempts, or disturbance of foraging areas due to construction or operations. Noise, lighting, and turbidity in surrounding areas and waters may occur during construction at the sites, and should be minimized as much as possible. Prior to detailed project planning and construction, surveys should be conducted at the site of each feature to further assess potential impacts to listed species.

Table 1. State-listed species that are designated as endangered (E), threatened (T), or species of special concern (SSC) that are likely to occur in the project area.

<table>
<thead>
<tr>
<th>Common Name</th>
<th>Species Name</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>FISH</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mangrove rivulus</td>
<td><em>Rivulus marmoratus</em></td>
<td>SSC</td>
</tr>
<tr>
<td><strong>REPTILES</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>American alligator</td>
<td><em>Alligator mississippiensis</em></td>
<td>SSC</td>
</tr>
<tr>
<td>Eastern indigo snake</td>
<td><em>Drymarchon corais couperi</em></td>
<td>T</td>
</tr>
<tr>
<td>Florida pine snake</td>
<td><em>Pitophis melanoleucus mugitus</em></td>
<td>SSC</td>
</tr>
<tr>
<td>Gopher tortoise</td>
<td><em>Gopherus polyphemus</em></td>
<td>SSC</td>
</tr>
<tr>
<td>Green turtle</td>
<td><em>Chelonia mydas</em></td>
<td>E</td>
</tr>
<tr>
<td><strong>AMPHIBIANS</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gopher frog</td>
<td><em>Rana capito</em></td>
<td>SSC</td>
</tr>
<tr>
<td><strong>BIRDS</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>American oystercatcher</td>
<td><em>Haematopus palliatus</em></td>
<td>SSC</td>
</tr>
<tr>
<td>Audubon’s crested caracara</td>
<td><em>Polyborus planus audubonii</em></td>
<td>T</td>
</tr>
<tr>
<td>Bald eagle</td>
<td><em>Haliaeetus leucocephalus</em></td>
<td>T</td>
</tr>
<tr>
<td>Black skimmer</td>
<td><em>Rynchops niger</em></td>
<td>SSC</td>
</tr>
<tr>
<td>Brown pelican</td>
<td><em>Pelecanus occidentalis</em></td>
<td>SSC</td>
</tr>
<tr>
<td>Burrowing owl</td>
<td><em>Speotyto cunicularia</em></td>
<td>SSC</td>
</tr>
<tr>
<td>Florida sandhill crane</td>
<td><em>Grus canadensis pratensis</em></td>
<td>T</td>
</tr>
<tr>
<td>Florida scrub jay</td>
<td><em>Aphelocoma coerulescens</em></td>
<td>T</td>
</tr>
<tr>
<td>Least tern</td>
<td><em>Sterna antillarum</em></td>
<td>T</td>
</tr>
<tr>
<td>Limpkin</td>
<td><em>Aramus guarauna</em></td>
<td>SSC</td>
</tr>
<tr>
<td>Little blue heron</td>
<td><em>Egretta caerulea</em></td>
<td>SSC</td>
</tr>
<tr>
<td>Red-cockaded woodpecker</td>
<td><em>Picoides borealis</em></td>
<td>SSC</td>
</tr>
<tr>
<td>Reddish egret</td>
<td><em>Egretta rufescens</em></td>
<td>SSC</td>
</tr>
</tbody>
</table>
Many of the state-listed species inhabit similar habitats and therefore may experience similar impacts associated with the Indian River Lagoon South Project. Shorebirds such as the black skimmer (*Rynchops niger*) and least tern (*Sterna antillarum*) have been known to nest in ruderal habitats such as those that will occur in and around the footprints of reservoirs and stormwater treatment areas proposed in the project. Precautions should be taken to avoid negative impacts to these birds.

Several state-listed species of raptors and wading birds, such as the bald eagle (*Haliaeetus leucocephalus*), snail kite (*Rostrhamus sociabilis*), Florida sandhill crane (*Grus canadensis pratensis*), limpkin (*Aramus guarauna*), little blue heron (*Egretta caerulea*), reddish egret (*Egretta rufescens*), roseate spoonbill (*Ajaia ajaja*), snowy egret (*Egretta thula*), tricolored heron (*Egretta tricolor*), white ibis (*Eudocimus albus*), and wood stork (*Mycteria americana*), may roost, loaf, and forage in and around the proposed reservoirs, stormwater treatment areas, and natural storage areas. The FWC “Florida Atlas of Breeding Sites for Herons and their Allies, Update 1999” indicates that an active colony is located in the Cypress Creek tract of the natural storage areas. The restoration of this property should benefit this colony and wading birds in general. If nesting occurs at any of the plan’s sites, precautions should be taken to minimize disturbance. The Florida Fish and Wildlife Conservation Commission and the Florida Department of Environmental Protection have developed recommended setback distances around wading bird colonies of 330 feet (100 meters) to prevent human disturbance of nesting sites.

The FWC has described Strategic Habitat Conservation Areas (SHCA) for many of the state-listed species. The SHCAs depict private lands that are needed to meet the minimum conservation goals for a species or species group. Strategic Habitat Conservation Areas for wading birds and the Florida sandhill crane are located throughout the natural storage areas considered for preservation and restoration, including the Allapattah, Atlantic Ridge, Cane Slough #1, Cypress Creek, Monreave Ranch, North Fork of the St.Lucie River, St. Lucie Pinelands, Trail Ridge North, and the V2 Ranch properties. The preservation and restoration of these properties will result in benefits for wading birds. A Strategic Habitat Conservation Area for wading birds is also located on an area within the footprint of the C-23/24 North Reservoir. During detailed design, attempts should be made to minimize adverse impacts to habitats within the SHCA.
Another group of animals that may potentially be impacted are those that inhabit dry sandy soils and ruderal habitats. Species such as the burrowing owl (*Speotyto cunicularia*), Florida mouse (*Podomys floridanus*), Florida pine snake (*Pituophis melanoleucus mugitus*), gopher frog (*Rana capito*), eastern indigo snake (*Drymarchon corais couperi*), and gopher tortoise (*Gopherus polyphemus*) may be present at the proposed project footprints, and appropriate surveys and precautions should be employed. These species should benefit from the restoration of upland habitats located in the natural storage areas. Activities that may impact burrows of gopher tortoises and burrowing owls are regulated by the FWC’s permitting office in Tallahassee.

The FWC has developed Habitat Protection and Management Guidelines for some of the state-listed species potentially occurring within the project area. We recommend these guidelines be followed, as appropriate, during detailed project design, construction, and maintenance. A list of references is included at the end of this letter.

Overall, the large expanse of natural storage areas proposed for restoration will benefit all of the state-listed species previously mentioned. The diverse mosaic of habitats within these lands will result in the preservation of habitat that potentially would be lost to development in the future.

**Incorporate fish and wildlife-friendly features.** Features that will enhance habitats for fish and wildlife should be included in the design of the reservoirs and stormwater treatment areas where compatible with the proposed function of the component. Existing ditches and borrow pits placed within reservoirs could serve as deep-water refugia for aquatic organisms during low water / dry down conditions. When left in place within reservoir and stormwater treatment area footprints, dead trees can provide structure for wetland birds for foraging and roosting activities. The U.S. Fish and Wildlife Service and FWC are developing a list of suggested wildlife features that can be incorporated into the design of CERP project reservoirs and stormwater treatment areas.

**Inclusion of the 92,130 acres of natural areas is integral to the IRL-South Plan.** We believe that the proposed restoration of natural storage areas is the highlight of the entire plan and is integral for watershed preservation. These natural areas fulfill one of the overarching goals of CERP by increasing the spatial extent of natural areas in the system while also providing stormwater attenuation, water storage, water quality treatment, aquifer recharge, and wildlife habitat. With rapid development occurring throughout the state, Martin and St. Lucie counties contain some of the few areas within the Everglades watershed in which the expansion of natural areas can be accomplished. Additionally, the water storage and nutrient removal benefits gained by inclusion of the natural storage areas has allowed the reservoirs and stormwater treatment areas in the selected alternative (Alternative 6) to be decreased in size. This decrease allows the proposed reservoir and stormwater treatment area footprints to impact less acreage in the watershed.

**Include recreational access to the features.** The IRL-South plan involves the creation of eight large reservoirs and stormwater treatment areas encompassing 21,341 total acres, and preservation and restoration of 92,130 acres of natural areas. The FWC requests that the
potential for future public access, compatible with the project's goals and objectives, be designed into each of these features. Public access for wildlife viewing, fishing, hunting, and canoeing and kayaking, even if limited, will lead to increased support for the project. Additionally, public recreation can have a large positive effect on the local economy. Leasing areas that can be developed into parking and boat launch facilities will enhance the potential for public recreational opportunities that may be integrated into this project. The demand for recreational opportunities in south Florida is continuously increasing. Access to these features and natural areas will alleviate some of the pressure that is placed on existing public natural lands.

In conclusion, we believe that the plan will have many positive effects on the fish and wildlife resources of the region. We believe that the restoration and conservation of natural areas for water storage, water quality, and habitat benefits is a progressive idea that should be considered for use in other CERP projects. Additionally, we request that the potential for public access be a consideration in the detailed design of the IRL-South plan's components. For more information on FWC permitting requirements, please contact our Permit Coordinator, Ms. Angela Williams, at (850) 921-5990. Questions regarding our concerns and recommendations can be directed to Mr. Chris Harnden at the Everglades Protection and Restoration office in Vero Beach at (772) 778-5094. We will continue to provide feedback to the project delivery team as the project is further designed and implemented.

Sincerely,

Brian S. Barnett, Interim Director
Office of Environmental Services

bsb/ch
a:\CC 585.doc
ENV 2-16/2/1


To: Mr. James C. Duck

From: Sally Mann

FAX # 904/232-3442

Date: 3/10/04

Pages: 2

Subject: Acknowledgement of Receipt of Consistency Determination for the Indian River Lagoon South Draft PIR, SEIS

"More Protection, Less Process"

Printed on recycled paper.
March 9, 2004

Mr. James C. Duck
Chief, Planning Division
Jacksonville District
U. S. Army Corps of Engineers
Post Office Box 4970
Jacksonville, Florida 32232-0019

Re: Department of the Army, Jacksonville District Corps of Engineers and South Florida Water Management District – Central and Southern Florida Project, Indian River Lagoon, South, Draft Project Implementation Report and Supplement to the Final Environmental Impact Statement, December 2003 – Martin, St. Lucie and Okeechobee Counties, Florida.

SAI: FL200312294920C

Dear Mr. Duck:

We have received your letter dated February 25, 2004, in which your office provided the federal consistency determination required by 15 CFR 930.36. When considered with the original Supplement to the Final Environmental Impact Statement, we concur with your assessment that the project is consistent with the Florida Coastal Zone Management Program.

Thank you for providing the additional information in such a timely manner. If you have additional questions, please contact Mr. Bob Hall at 850/245-2163.

Yours sincerely,

Sally B. Mann, Director
Office of Intergovernmental Programs

cc: Colonel Robert M. Carpenter, COE, Jacksonville
Larry Hymowitz, DOT
Frederick Gaske, DOS
Ernie Barnett, DEP, MS 45
Wynsum Hatton, TCRPC
Jim Golden, SFWMD
Greg Knecht, DEP, MS 3560

“More Protection, Less Process”
Printed on recycled paper.
February 17, 2004

Colonel Robert M. Carpenter
District Engineer, Planning Division
Ecosystem Restoration Section
Jacksonville District
U. S. Army Corps of Engineers
Post Office Box 4970
Jacksonville, Florida 32232-0019

Re: Department of the Army, Jacksonville District Corps of Engineers and South Florida Water Management District – Central and Southern Florida Project, Indian River Lagoon, South, Draft Project Implementation Report and Supplement to the Final Environmental Impact Statement, December 2003 – Martin, St. Lucie and Okeechobee Counties, Florida.

SAI: FL200312294920C

Dear Colonel Carpenter:

The Florida State Clearinghouse, pursuant to Executive Order 12372, Gubernatorial Executive Order 95-359, the Coastal Zone Management Act, 16 U.S.C. §§ 1451-1464, as amended, and the National Environmental Policy Act, 42 U.S.C. §§ 4321, 4331-4335, 4341-4347, as amended, has coordinated the review of the above-referenced document.

The Corps is advised that the referenced direct federal activity is subject to review by the State of Florida under the Coastal Zone Management Act, 16 U.S.C. 1451-1465 (CZMA), and its implementing regulation, 15 C.F.R. 930, Subpart C. The federal consistency determination required by 15 C.F.R. 930.36 was not provided in the draft SEIS; therefore, the review that is required by the CZMA and 15 CFR 930, Subpart C cannot be initiated. The Clearinghouse staff understands that the federal consistency determination will be provided with the final SEIS. The Corps is encouraged, however, to provide the Clearinghouse with its consistency determination as soon as the information becomes available. The consistency determination may be provided prior to preparation of the final SEIS, or it may be included in the Final SEIS.

The Corps is also advised that all subsequent environmental documents prepared for the project must be reviewed by the state to ensure continued compliance with all applicable state goals, objectives and policies. The state's consistency concurrence with the project will be based, in part, on the adequate resolution of any issues identified during this and subsequent reviews.

The Department of Environmental Protection (DEP) indicates that its previous review of this project supported Alternative 6 which is the recommended plan for constructing a multi-purpose project that meets the goals and objectives of the Comprehensive Everglades Restoration Plan (CERP). The
department offers specific comments to guide the final plan design and implementation with proposed language for the reservation of available baseline water for natural systems. Please see the enclosed memorandum from DEP.

The Department of State (DOS) indicates that twenty-six recorded historic properties occur within the project area, and that some sites will be adversely affected by implementation of the recommended plan. DOS also notes that cultural resource surveys will be conducted within impact areas prior to construction with avoidance, minimization and mitigation measures utilized. DOS is looking forward to coordination with the Corps and the SFWMD to assist in avoiding impacts to cultural resources. Please see the enclosed comments from the DOS for additional information.

The Florida Department of Transportation (FDOT) states that it is proposing to construct a new bridge crossing at Indian Street in Palm City, and the agency is seeking opportunities for wetland mitigation. FDOT would like to discuss mitigation opportunities within the Indian River Lagoon South project, in the event that it will need to mitigate unavoidable impacts to the river and associated wetlands. Please see the enclosed comments from FDOT for additional details.

The Treasure Coast Regional Planning Council (TCRPC) states that the recommended plan is consistent with its Strategic Regional policy Plan and enumerates the goals and policies that it furthers. Please see the enclosed TCRPC comments.

The South Florida Water Management District states that a consistency determination is not necessary from that agency because the SFWMD is a partner with the U.S. Army Corps of Engineers. Please see the enclosed Clearinghouse tracking summary.

Thank you for the opportunity to review this project. If you have any questions regarding this letter, please contact Mr. Bob Hall at 850/245-2163.

Sincerely,

[Signature]

Sally B. Mann, Director
Office of Intergovernmental Programs

SBM/rwh
Enclosures
cc: Larry Hymowitz, DOT
Frederick Gaske, DOS
Ernie Barnett, DEP, MS 45
Wynsum Hatton, TCRPC
Jim Golden, SFWMD
Greg Knecht, DEP, MS 3560
Thank you for attending this evening's Public Meeting. We value your contribution. If you would like to provide additional comments on this evening's presentation and discussion, please provide comments below and return to us.

COMMENTS: (May be continued on reverse)

My name is Dorothy Geeben, Mayor of the Town of Ocean Breeze Park.
I am proud to say I am 95 years young and have been told I am the oldest, active mayor in the United States.
Since 1952 I have lived in the Town of Ocean Breeze Park, located on the Indian River Lagoon. In 1962 I moved into a new mobile home directly across the street from the lagoon with a million-dollar view.
Having lived over one-half of my life on the Indian River Lagoon, fishing and boating with my husband during the 1950's and 60's, I care very deeply about the river and support the plan for its restoration.

This was a very interesting meeting - I did not get to tell about the Town of Ocean Breeze which this was my Ancestry - I live here 90 years - Busy all the time.

Dorothy Geeben

NAME AND ADDRESS: (Optional)
Mayor Dorothy Geeben
1 Ocean Breeze Drive
Jensen Beach, FL 34957

Please mail comments to:
U.S. Army Corps of Engineers
Attn: Robert Dunne
P.O. Box 4970, Jacksonville, FL 32232-0019

Or Email To: Robert.M.Dunne@usace.army.mil
Indian River Lagoon Restoration Plan

U.S. Corps of Engineers Public Hearing
Indian Riverside Park, Jensen Beach
January 13, 2004 – 6:30 p.m.

The Town of Jupiter Island is located at the southern boundary of Martin County and borders the Atlantic Ocean on the east and approximately 9 miles of the Indian River Lagoon borders its western boundary.

The Town and its residents are guided through its Comprehensive Plan, which provides the foundation for an established record of protecting the natural resources existing within the community. Throughout the Town’s history, there have been numerous land grants and acquisitions along the eastern and western boundaries of the lagoon which has contributed in maintaining the integrity of one of the most significant stretches of undeveloped Barrier Island’s on Florida’s east coast between Cape Canaveral and South Miami consisting of over 2000 acres.

The Town of Jupiter Island fully endorses the Indian River Lagoon Restoration Plan and thanks all who have championed this effort throughout the years.

From:
Mayor of Town of Jupiter
February 10, 2004

Mike Rogalski, USACE Project Manager
Jacksonville District
P.O. Box 4970
Jacksonville, Florida 32232-0019

Dave Unsell, SFWMD Project Manager
3301 Gun Club Road
West Palm Beach, Florida 33406

Re: Indian River Lagoon-South Draft Project Implementation Report
Comments on the Assurances Process Outlined in Appendix K

Dear Sirs:

The Lake Worth Drainage District offers the attached comments on the Appendix K regarding the assurances process for Central and Southern Florida Project, Indian River Lagoon-South Draft Project Implementation Report Supplement to the Final Environmental Impact Statement, December 2003 (“Draft PIR”). LWDD would like to commend the Corps of Engineers (“COE”) for its efforts in creating a Draft PIR that incorporates many of LWDD’s comments on the other programmatic aspects of CERP, including the Programmatic Regulations. The COE has been responsive to the concerns and issues raised by the various stakeholders in Everglades restoration.

By way of the attached comments, the LWDD wishes to reiterate its support for the long term restoration of the Everglades. The LWDD remains committed to the success of CERP.

This Draft PIR demonstrates fundamental guiding principles of CERP implementation. The foundation of these principles is to bring stakeholders together in support of the plan. In order for that to occur, processes and work products to implement the plan must be transparent. Stakeholders must have input and must have their concerns addressed. The political landscape can change, so it is important that activities to implement the plan are predictable, consistent and clear.
Previously, the LWDD submitted comments on the Programmatic Regulations. As a part of those comments, the LWDD identified a process for establishing a reservation, a central part of the assurance provisions of WRDA 2000. The establishment of the reservation in this Draft PIR incorporates many of the steps of that process envisioned by the LWDD.

As a member of the community with a stake in the outcome of CERP, the LWDD is encouraged that with some small refinements to Appendix K this Draft PIR can serve as the model for LWDD’s comments on the assurances process to be followed in future projects. This will set the stage for successful CERP implementation.

Yours sincerely,

[Signature]

Michelle Diffenderfer
Erin Deady

c: Bill Winters – Lake Worth Drainage District
   Patrick Martin – Lake Worth Drainage District
   Danna Ackerman-White – Lake Worth Drainage District
   Carl Biersack - Barbour Griffith & Rogers, Inc.
   Terry E. Lewis – Lewis, Longman & Walker, P.A.
LAKE WORTH DRAINAGE DISTRICT- COMMENTS ON THE CENTRAL AND SOUTHERN FLORIDA PROJECT, INDIAN RIVER LAGOON-SOUTH DRAFT PROJECT IMPLEMENTATION REPORT SUPPLEMENT TO THE FINAL ENVIRONMENTAL IMPACT STATEMENT DECEMBER 2003

Introduction

The Lake Worth Drainage District ("the District") submits the following general and specific comments on the Central and Southern Florida Project, Indian River Lagoon-South Draft Project Implementation Report & Supplement to the Final Environmental Impact Statement, December 2003 ("Draft PIR"). Because the LWDD has a limited direct connection to the project components these comments will focus on Appendix K: Project Assurances.

This Draft PIR is critical for many reasons. Primarily, this is the first time that Project Assurances have been addressed in a CERP project and it is important to have an open and transparent process to ensure that all stakeholder needs are met consistent with state and federal law. Water reservations are a central part of the Project Assurances. Second, compliance with the other assurance provisions is important so that the high level of congressional support for CERP implementation can continue. Addressing these assurance provisions in a legally and scientifically valid way with this Draft PIR will set the precedent for CERP projects in the future.

A. Identifying Water for the Natural System

Document Discussion

In previous comments on the Programmatic Regulations, the LWDD outlined a general process by which identification of the water for a reservation in CERP projects should be made. This includes the following steps:

1. Identify the end goal ecotypes within an ecosystem through means of a hydrograph or another similar mechanism (on a regional basis).
2. Identify the amount of water the project produces.
3. Identify the amount of project water that will be used to meet the end goal reservations for the natural system.
4. Identify how water will enter the regional system.
5. Identify whether the water will be used as replacement water for existing legal sources. (Comparison to the pre-CERP baseline).
In Section 2.1, the Draft PIR discusses the operations of CERP project components on a dual-level approach by describing beneficial system-wide effects and beneficial project-level effects. This discussion is similar to that which the LWDD has previously requested. It is important to show the system-wide and project level effects from implementation of a CERP project. The LWDD recognizes the goal of the Draft PIR as one to redistribute and reduce damaging flows to the St. Lucie Estuary. But since this is the first Draft PIR for a CERP project, it is still important to quantify project benefits on the system-wide and project levels. The Draft PIR outlines these benefits in Sections 2.4 and 2.5 and these benefits include:

System-wide:
1. Improved deliveries to the Estuary when needed and available.
2. Deliveries to Lake Okeechobee when water levels and water quality conditions allow for the deliveries.

Project-level:
1. Deliveries of water to each user basin as a result of the project compared to existing conditions in the basin.
2. Restoration of the natural storage and treatment areas (Pal-Mar, Allapattah and Cypress Creek).
3. Minimal water depths maintained in the C-44 STA, C-23/24 STA and C-25 STA.

The LWDD is concerned by the discussion of the project-level effects for the “Natural Storage and Treatment Areas”. The precise use of terms throughout the section is vague. For instance in Section 7.2.1.9.3, the areas are called “Natural Storage and Water Quality Treatment Areas”. Two issues can be raised. The first issue is that the terms should be consistent throughout the document. The second issue is that these three areas are identified for restoration in Section 2.5.1 and the term “Natural Storage and Treatment Areas” could be interpreted to mean water supply storage something more intensive than passive restoration. This use of language should be resolved to avoid misconceptions about the intent and use of these areas. If the idea is to primarily restore these areas and provide ancillary benefits such as water quality treatment or water supply then the name of this component and its purpose should be more clearly reflected. Reservation concepts held by some stakeholders may not include reserving storage for water supply.

The approach to establishing the reservations in the Draft PIR incorporates many of the concepts of the process outlined by the LWDD. The first step the LWDD outlined in its approach is to identify the end ecotypes within an ecosystem through means of a hydrograph or another similar mechanism. The beneficial flows to determine project specific results are outlined for the following areas:

- St. Lucie Estuary (Oligohaline and mesohaline areas of the Estuary)
- The project Stormwater Treatment Areas ("STAs") to protect vegetation and uptake capability
- The natural areas selected for restoration
For each of the targets established in Table 4-1 the sources of the flows are determined and volume probability curves are established over a period of record and specifically for dry season and wet season intervals. The volume probability curve measures the volume of water in acre-feet required for the particular interval in relation to the amount of time that volume is met or exceeded. Therefore, this curve shows the amount of time that the target deliveries for that project specific result are being met. The curve is developed for a variety of modeling scenarios to compare the current conditions, conditions with the preferred IRL alternative, the target and the condition that will occur without the project at all. This process is similar to that outlined in step 3 of the LWDD’s suggested process to establish a water reservation, which is listed earlier in this document.

In Section 4 these volume probability curves are shown for each of the three areas listed above to show targeted quantities of water for the areas of the Estuary, STAs and natural areas. Section 4.3.2 identifies as much as 55 acre-feet of water per year to be delivered to the STAs to maintain minimal operational depths. The document then states that this is to be reserved from other consumptive uses by the state. It is not clear that the numbers used are accurate, please explain if 55 acre feet of water is supposed to equate to 6 inches of water depth for 8,800 acres of STA’s.

While the LWDD agrees that it is important to maintain minimal depths to protect the vegetation and functionality of the STAs it is not clear that Reservations are the appropriate tool to do this. It is the LWDD’s understanding that this water is also to be included in the Draft Operating Manual, perhaps that is the better tool to address the STA’s needs? The LWDD wants to ensure that this water is protected in the Plan by the most appropriate mechanism. If the water should be protected more formally, then a discussion of what tool is best to do that would be helpful such as, by rule, by permit, reservation or Minimum Flow and Level ("MFL"). All of these mechanisms have different approaches to protecting water and the most appropriate tool should be used. The document should include a discussion as to what is the most appropriate mechanism to protect this quantity of water for the STAs.

Comment

• The use of language for natural storage areas should avoid misconceptions about the intent and use of these areas. If the idea is to primarily restore these areas then the name of this component and its purpose should be more clearly reflected.
• Because of the vast difference in the relationship between the stated quantity of 55 acre-feet of water and 8,800 acres of STAs, the Draft PIR should identify the methodology used to derive this figure of 55 acre-feet.
• The Draft PIR should include a discussion as to what is the most appropriate mechanism to protect this quantity of water for the STAs.
B. Effects on Existing Legal Sources of Water

Document Discussion

Intrinsic to the LWDD’s positions on CERP programmatically, is the tenet that stakeholders must equitably share in the benefits or risks in the implementation of the overall plan. Without this type of equitable distribution of benefits and risks amongst the stakeholders, the delicate balance achieved for supporting CERP will be lost.

Steps 2 and 5 outlined in the LWDD’s vision for establishing a water reservation focus on the need to identify the amount of water a project will produce and whether or not any of that water will be used as replacement water for existing legal sources.

Table 5-1 identifies the existing legal sources of water supply for the IRL-South Project Study area and these are the same sources identified in Section 601(h)(5)(A) of WRDA 2000 or the “assurances provisions”. Table 5-1 further identifies the origination of those legal sources of supply. The text explains that the project is not expected to diminish the quantity of water available for withdrawal from the Floridan or surficial aquifers therefore it is assumed that there will be no impact to availability of water for urban users.

Similar to developing a target flow to identify a reservation, Table 5-2 identifies a target flow for specific agricultural basins. These targets are based on 2050 demands but there is no footnote explaining how these 2050 demands were developed. For clarification purposes, the methodology and land use assumptions for development of these 2050 demand projections should be detailed in the document in this section. The Draft PIR then identifies volume frequency curves to measure effects on these legal sources over a period of record for dry and wet conditions. In almost all instances the preferred alternative delivered a quantity of water greater than the current or future without project condition, thus showing a benefit for agricultural existing legal sources. The project seems to benefit agricultural users by providing a greater level of service for water supply protection while at the same providing new sources from reservoirs. This appears to alleviate continued or increased future reliance on the Floridan aquifer. Because of this, the Draft PIR concludes that there is no need for water from the project to serve as replacement water for an existing legal source and it seems that there is no transfer or elimination from an existing legal source. The document makes clear that agriculture’s existing legal sources are protected consistent with the assurance provisions in WRDA 2000, it is critical to continue to make this type of analysis in the PIR’s.

Comment

- The Draft PIR should include a discussion of the methodology and land use assumptions for development of the 2050 demand projections. These demands should be tied to real time growth management and land use projections such as local government comprehensive plans or another similar land use data set.
- Continue to provide the analysis of impacts on existing legal sources.
C. Project Effect on Levels of Service for Flood Protection

Document Discussion

Section 601(h)(5)(B) requires an analysis of project impacts on levels of service for flood protection. The Draft PIR shows this analysis for the C-44, C-23/24 and C-25 Basins. The Draft PIR flood protection analysis is based on a flow model approach. The Draft PIR acknowledges that while appropriate for the IRL-South project, a stage and duration model is going to be necessary to determine impacts on levels of service for flood protection in other parts of the system where structural operational rules may change. This is particularly true in areas where project effects will be proximate to urban areas, agricultural lands and the facilities of special districts, such as the LWDD.

Section 6.4.2 raises an issue associated with land use patterns and what impacts future growth and development may have on project purposes. An expanded discussion should be included in the document focusing on the interface between future land use patterns and growth and how future project purposes might be affected. Specifically, the relationship between project purposes and the SFWMD’s regulatory requirements would be useful to determine if future growth and development might diminish project benefits over time.

Based on the analysis done in Section 6 regarding levels of service for flood protection, in almost every instance there is an improvement in the level of service realized because of the implementation of the preferred alternative. This is largely due to the significant increase in storage capability and better management of local run-off.

Comment

- The Corps should ensure that appropriate modeling tools, including stage and duration, are available and used in future PIRs to evaluate levels of service for flood protection.
- A discussion on the relationship between future land use patterns and the potential impact on project purposes should be included in the Draft PIR. The integration between other state programs, such as regulation, and project purposes should be a specific focus of that discussion.

D. Compliance with State CERP requirements

Document Discussion

Introduction to Section

Section 7 is included to fulfill the requirements of WRDA 2000 for state coordination and the state’s statutory requirements for CERP implementation including
Sections 373.1501, F.S., 373.026, F.S. and 373.470, F.S. The section also describes the State's interest in correcting the damaging freshwater discharges to tide that are harming the estuarine system. The section then describes the individual State statutory requirements and required analyses.

In the second paragraph of Section 7, the Draft PIR states that the project will provide water supply for agriculture to offset reliance on the Floridan aquifer. This creates a project benefit because reliance on the Floridan aquifer for agriculture could be lessened because of the water produced by the project. How this water supply benefit to agriculture creates opportunities for urban users and the environment should be described in this section as well.

**Water Supply Demand**

Section 7.2.1.3 describes Water Supply Demand. In this section, two tables identify the urban and municipal/industrial demands. The source of the data for the urban demands is the 1998 SFWMD Upper East Coast Water Supply Plan. The source and methodology for developing the municipal/industrial plan is not identified. The source and methodology for developing the municipal/industrial demands should be identified as previously discussed.

Additionally, this section raises an issue associated with competition of sources between agricultural water demands and environmental water demands, yet the section merely references other sections in the PIR and appendices of the Feasibility Study, or the precursor document to the Draft PIR. This discussion at the top of page K-48 is confusing and raising this issue without a full discussion of how this issue is resolved could cause great concern from certain stakeholders. This section should elaborate on the statement that this competition is less than expected with some additional information on the fact that very low flows entering the St. Lucie Estuary during dry periods is a benefit to the natural system at that particular time.

**Increasing Supply through Reservoirs**

The section raises the issue of supplemental supplies for agriculture, yet the data could be presented a bit more clearly. For instance Tables 7-3 and 7-4 describe how much water is provided by the reservoirs to agriculture and the percentage of Floridan withdrawals that can be replaced by reservoir sources. There should be an additional Table which describes agricultural demands, supplemental demands, the amount of demand met from the Floridan and the amount of demand met with reservoir sources. Through this type of analysis, agricultural interests will be able to see clearly how their demands will be met into the future through current withdrawals from the Floridan as well as replacement of their sources. Some of this data is available from Table 7-3 and 7-4, but the suggested format could make it clearer.

Section 7.2.1.9 describes the Water Supply Performance of the project components. The first part of this section describes in detail the storage reservoirs, their
capacity and how water from the reservoirs will enter the regional system. This is consistent with Step 4 outlined in the LWDD’s suggested process for establishing a reservation. The descriptions of deliveries from the STAs and Natural Storage and Water Quality Treatment areas contain similar descriptions in following Sections.

**Water Quality**

Tables 7-6 and 7-7 describe the Phosphorous and Nitrogen loads to the St. Lucie Estuary and the Indian River Lagoon. Specifically, Table 7-7 shows the loads predicted without the project by 2050, the loads with the recommended plan and the target loads. The recommended plan will not entirely meet the targets and it is anticipated that other projects such as Best Management Practices (“BMPs”) will provide that additional load reduction to meet the target.

**Water Budget**

Table 7-13 shows a water budget for the recommended plan and Table 7-14 shows a water budget for the 2050 base without the project. This information is presented by Drainage Basin in acre-feet per year. Section 7.7 identifies the increased water supply available from the project. This quantity includes 120,000 acre-feet of storage in the reservoirs and STAs and 30,000 acre-feet in the natural storage areas. The balance of Appendix K includes volume probability curves over a period of record and also for wet and dry years for deliveries to the St. Lucie Estuary, North South Forks, Total deliveries to the Indian River Lagoon, deliveries to Lake Okeechobee, deliveries to maintain the STAs, releases from the Natural Storage and Treatment areas, deliveries to agriculture and releases having no identified benefit. These volume probability curves account for every system-wide and project-level benefit from the project. This approach is consistent with Step 2 listed above in the LWDD’s recommended process for establishing a reservation which is to identify the amount of water the project produces.

**Comment**

- The water supply benefit to agriculture which creates opportunities for urban users and the environment should be described in the Draft PIR.
- The source and methodology for developing the municipal/industrial demands should be identified.
- This section should elaborate on the statements regarding competition between agricultural and environmental water supply.
- There should be an additional Table in this Section which describes agricultural demands, supplemental demands, the amount of demand met from the Floridan and the amount of demand met with reservoir sources.

**E. Conclusion**

In conclusion, the LWDD supports the process followed in Appendix K of the Draft PIR for the Indian River Lagoon-South project. It is fundamental that the Draft PIR
and future PIRs address the project assurance provisions in a transparent way for stakeholders to ensure that the projects provide the anticipated benefits and minimizes risks. In order for all stakeholders to maintain support for CERP, future PIRs should continue to follow the same approach as this Draft PIR does. The specific state and federal requirements must be articulated and the document must address those requirements in a comprehensive way. By including the LWDD’s suggested comments in this document, the Draft PIR should serve as a model for the LWDD’s review of future PIRs.

WHEREAS, the Everglades ecosystem, spanning from the Kissimmee River Valley to Florida Bay, is a significant national resource and international treasure; and

WHEREAS, the Board of County Commissioners of Broward County has long supported Everglades restoration and recognizes it as an important part of the future economic well being of the region; and

WHEREAS, on December 11th, 2000, Congress approved the Comprehensive Everglades Restoration Plan (CERP); and

WHEREAS, Everglades restoration must move forward expeditiously; and

WHEREAS, Everglades restoration requires that Congress approve each restoration project and three projects were not approved during the 2002 session of Congress; and

WHEREAS, three projects, the Indian River Lagoon Feasibility Study, the Southern Golden Gate Estates project and the Water Preserve Areas (Bird Drive Recharge Area and the Southern Compartment of the Hillsboro Impoundment), are immediately necessary because of development pressure, escalating costs of delay, and impending estuarine ecological collapse; and

WHEREAS, the Southern Compartment of the Hillsboro Impoundment may expand the potential for enhancing Broward County's water supply; and

WHEREAS, these projects promise to provide large-scale restoration early in the CERP process, thus demonstrating the worth of the investment the federal, state and local taxpayers are making in this historic restoration effort; and

WHEREAS, these projects repair previous damage caused by federal and state water control projects; and

WHEREAS, these projects contain more than half of the total land area in the restoration plan, and will provide impressive ecological benefits in 5 to 10 years, including:

- 270 square miles (~172,000 acres) of restored and protected wetlands and uplands,
- restored habitat for more than 2,200 species, at least 35 of which are threatened or endangered (including, manatee, snail kite, wood stork, red-cockaded woodpecker, scrub jay, crested caracara, whooping crane, bald eagle, indigo snake, eastern loggerhead turtle, Atlantic green turtle, leatherback turtle, Atlantic hawksbill, and Atlantic Ridley turtle),
- tens of millions of dollars in associated economic and quality of life benefits annually,
• improved water quality for the Everglades, Florida Bay, 10,000 Islands, St. Lucie Estuary, and Lake Okeechobee; NOW, THEREFORE,

BE IT RESOLVED BY THE BOARD OF COUNTY COMMISSIONERS OF BROWARD COUNTY, FLORIDA:

Section 1. The Board of County Commissioners of Broward County recognizes the significant value of the Comprehensive Everglades Restoration Plan (CERP).

Section 2. The Board of County Commissioners of Broward County urges Congress to authorize the Indian River Lagoon Feasibility Study, the Southern Golden Gate Estates Project and the Water Preserve Areas, including the Bird Drive Recharge Area and the Southern Compartment of the Hillsboro Impoundment, in a Water Resources Development Act or another legislative vehicle consistent with the assurances provisions of WRDA 2000.

Section 3. The Board of County Commissioners of Broward County urges the State of Florida Department of Environmental Protection to approve the Indian River Lagoon Feasibility Study, the Southern Golden Gate Estates Project and the Water Preserve Areas, including the Bird Drive Recharge Area and the Southern Compartment of the Hillsboro Impoundment.

Section 4. A certified copy of this resolution shall be sent the Chair of the Committee on Environment and Public Works, the Secretary of the State of Florida Department of Environmental Protection, and of the Audubon of Florida.

Section 5. EFFECTIVE DATE

This Resolution shall become effective upon adoption.

ADOPTED this 25th day of Sept., 2003. # 55
PROCLAMATION

WHEREAS, the Everglades ecosystem, spanning from the Kissimmee River Valley to Florida Bay, is a significant national resource and international treasure; and,

WHEREAS, on December 11, 2000, Congress approved the Comprehensive Everglades Restoration Plan (CERP); and,

WHEREAS, Everglades restoration must move forward expeditiously; and,

WHEREAS, Everglades restoration requires that Congress approve each restoration project and three projects are scheduled for approval during the 2002 session of Congress; and,

WHEREAS, three projects, the Indian River Lagoons Feasibility Study, the Southern Golden Gate Estates project and the Water Preserve Area (Bird Drive Recharge Area and the Southern Compartment of the Hillsboro Impoundment), are immediately necessary because of development pressure, escalating costs of delay, and impending estuarine ecological collapse; and,

WHEREAS, these projects promise to provide large-scale restoration early in the CERP process, thus demonstrating the worth of the investment of federal, state and local taxpayers in this historic restoration effort; and,

WHEREAS, these projects contain more than half of the total land area in the restoration plan, and will provide impressive ecological benefits well before 2010, including: 270 square miles (~172,000 acres) of restored and protected wetlands and uplands; restored habitat for more than 2,200 species, at least 35 of which are threatened or endangered (including, manatee, snail kite, wood stork, red-cockaded woodpecker, scrub jay, crested caracara, whooping crane, bald eagle, indigo snake, eastern loggerhead turtle, Atlantic green turtle, leatherback turtle, Atlantic hawksbill, and Atlantic Ridley turtle); tens of millions of dollars in associated economic and quality of life benefits annually; improved water quality for the Everglades, Florida Bay, 10,000 Islands, St. Lucie Estuary, and Lake Okeechobee.

NOW THEREFORE, be it proclaimed by the Board of County Commissioners of Collier County, Florida, that Collier County continues to support implementation of the Comprehensive Everglades Restoration Plan (CERP) through the authorization of the three projects listed above, the Indian River Lagoons Feasibility Study, the Southern Golden Gate Estates project and the Water Preserve Areas (Bird Drive Recharge Area and the Southern Compartment of the Hillsboro Impoundment), in a Water Resources Development Act of 2002 or another legislative vehicle consistent with the assurances provisions of WROA 2000. In regard to the Southern Golden Gate Estates Project, Collier County would like guarantees that any flooding caused by the project will not occur outside of the designated project area and that the State and Federal Government recognize the rights of the public to recreate in the project area in a reasonable manner.

Furthermore Collier County calls on Congress and the Florida Delegation to endeavor to pass legislation approving the Indian River Lagoons Feasibility Study, the Southern Golden Gate Estates project and the Water Preserve Area (Bird Drive Recharge Area and the Southern Compartment of the Hillsboro Impoundment).

DONE AND ORDERED THIS 10th Day of September, 2002.

BOARD OF COUNTY COMMISSIONERS
COLLIER COUNTY, FLORIDA

IM COLETTA, CHAIRMAN

ATTEST:
DWIGHT E. BROCK, CLERK
RESOLUTION: August 30, 2002

WHEREAS, the Everglades ecosystem, spanning from the Kissimmee River Valley to Florida Bay, is a significant national resource and international treasure;

WHEREAS, on December 11th, 2000, Congress approved the Comprehensive Everglades Restoration Plan (CERP);

WHEREAS, Everglades restoration must move forward expeditiously;

WHEREAS, Everglades restoration requires that Congress approve each restoration project and three projects are scheduled for approval during the 2002 session of Congress;

WHEREAS, three projects, the Indian River Lagoon Feasibility Study, the Southern Golden Gates Estates project and the Water Preserve Areas (Bird Drive Recharge Area and the Southern Compartment of the Hillsboro Impoundment), are necessary immediately, due to development pressure, escalating costs of delay, and ongoing negative impacts to the estuarine ecology;

WHEREAS, these projects promise to provide large-scale restoration early in the CERP process, thus demonstrating the worth of the investment the federal, state and local taxpayers are making in this historic restoration effort;

WHEREAS, these projects repair previous damage caused by federal and state water control projects;

WHEREAS, these projects have the ability to provide additional water storage opportunities which will reduce demands on ground and surface waters throughout the ecosystem;

David E. Hazellief, Chairman

304 NW 2nd Street • Okeechobee, Florida 34972 • 863-763-6441. Fax 863-763-9529
WHEREAS, these projects contain more than half of the total land area in the restoration plan, and will provide impressive ecological benefits well before 2010, including:

- 270 square miles (~172,000 acres) of restored and protected wetlands and uplands,
- restored habitat for more than 2,200 species, at least 35 of which are threatened or endangered (including, manatee, snail kite, woodstork, red-cockaded woodpecker, scrub jay, crested caracara, whooping crane, bald eagle, indigo snake, eastern loggerhead turtle, Atlantic green turtle, leatherback turtle, Atlantic hawksbill, and Atlantic Ridley turtle),
- tens of millions of dollars in associated economic and quality of life benefits annually,
- improved water quality for the Everglades, Florida Bay, 10,000 Islands, St. Lucie Estuary, and Lake Okeechobee.

NOW, THEREFORE, BE IT RESOLVED THAT:

The County Coalition continues to support implementation of the Comprehensive Everglades Restoration Plan (CERP) through the authorization of the three projects listed above, the Indian River Lagoon Feasibility Study, the Southern Golden Gates Estates project and the Water Preserve Areas (Bird Drive Recharge Area and the Southern Compartment of the Hillsboro Impoundment), in a Water Resources Development Act of 2002 or another legislative vehicle consistent with the assurances provisions of WRDA 2000.

BE IT FURTHER RESOLVED THAT:

The County Coalition calls on Congress and the Florida Delegation to endeavor to pass legislation approving the Indian River Lagoon Feasibility Study, the Southern Golden Gates Estates project and the Water Preserve Areas (Bird Drive Recharge Area and the Southern Compartment of the Hillsboro Impoundment).

DULY PASSED AND ADOPTED THIS 30th DAY OF AUGUST, 2002

COUNTY COALITION

[Signature]
David E. Hazellief, Chairman
RESOLUTION OF THE BOARD OF COUNTY COMMISSIONERS OF PALM BEACH COUNTY, FLORIDA, SUPPORTING AUTHORIZATION OF COMPREHENSIVE EVERGLADES RESTORATION PLAN (CERP) PROJECTS FOR 2002

WHEREAS, the Everglades ecosystem, spanning from the Kissimmee River Valley to Florida Bay, is a significant national resource and international treasure;

WHEREAS, on December 11th, 2000, Congress approved the Comprehensive Everglades Restoration Plan (CERP);

WHEREAS, Everglades restoration must move forward expeditiously;

WHEREAS, Everglades restoration requires that Congress approve each restoration project and three projects scheduled for approval during the 2002 session of Congress;

WHEREAS, these projects, in particular, and other land-related projects are immediately necessary because of development pressure, escalating costs of delay, and impending estuarine ecological collapse;

WHEREAS, these projects promise to provide large-scale restoration and other benefits early in the CERP process, thus demonstrating the worth of the investment, the federal, state and local taxpayers are making in this historic effort;

WHEREAS, these projects contain more than half of the total land area in the restoration plan, and will provide impressive ecological benefits well before 2010, including:

* 265 square miles (~170,000 acres) of restored and protected wetlands and uplands,

* restored habitat for more than 2,200 species, at least 35 of which are threatened or endangered (including, manatee, snail kite, wood stork, red-cockaded woodpecker, scrub jay, crested caracara, whooping crane, bald eagle, indigo snake, eastern loggerhead turtle, Atlantic green turtle, leatherback turtle, Atlantic hawksbill, and Atlantic Ridley turtle),

* tens of millions of dollars in associated economic and quality of life benefits annually,

* improved water quality for the Everglades, Florida Bay, 10,000 Islands, St. Lucie Estuary, and Lake Okeechobee.
NOW, THEREFORE, BE IT RESOLVED BY THE BOARD OF COUNTY COMMISSIONERS OF PALM BEACH COUNTY, FLORIDA, that:

1. Palm Beach County continues to support implementation of the Comprehensive Everglades Restoration Plan (CERP) through the authorization of the three projects listed above, the Indian River Lagoon Feasibility Study, the Southern Golden Gates Estates project and the Water Preserve Areas Feasibility Study, in a Water Resources Development Act of 2002 or another legislative vehicle consistent with the assurances provisions of WRDA 2000.

2. Palm Beach County calls on Congress and the Florida Delegation to endeavor to pass legislation approving the Indian River Lagoon Feasibility Study, the Southern Golden Gates Estates project and the Water Preserve Areas Feasibility Study.

3. Palm Beach County supports an early authorization for projects in the L-8 Basin that will provide environmental, flood control and water supply benefits to all stakeholders in the Comprehensive Everglades Restoration Plan.

The foregoing Resolution was offered by Commissioner Marcus, who moved its adoption. The motion was seconded by Commissioner Roberts, and upon being put to a vote, the vote was as follows:

Commissioner Warren H. Newell, Chairman - Aye
Commissioner Carol A. Roberts, Vice Chair - Aye
Commissioner Karen T. Marcus - Aye
Commissioner Mary McCarty - Aye
Commissioner Burt Aaronson - Aye
Commissioner Tony Masilotti - Absent
Commissioner Addie Greene - Aye

The Chairman thereupon declared the Resolution duly passed and adopted this 23 day of July, 2002.

PALM BEACH COUNTY, FLORIDA, BY ITS BOARD OF COUNTY COMMISSIONERS

DOROTHY H. WILKEN, CLERK

By: ________
Deputy Clerk

APPROVED AS TO FORM AND LEGAL SUFFICIENCY

By: ________
Assistant County Attorney
RESOLUTION NO. 02-184

A RESOLUTION SUPPORTING AUTHORIZATION OF COMPREHENSIVE EVERGLADES RESTORATION PLAN (CERP) PROJECT FOR PROJECTS FOR 2002

WHEREAS, the Board of County Commissioners of St. Lucie County, Florida has made the following determinations:

1. The Everglades ecosystem, spanning from the Kissimmee River Valley to Florida Bay, is a significant national resource and international treasure.

2. On December 11, 2000, Congress approved the Comprehensive Everglades Restoration Plan (CERP), and Everglades restoration must move forward expeditiously.

3. Everglades restoration requires that Congress approve each restoration project and three projects are scheduled for approval during the 2002 session of Congress.

4. These projects, in particular, are immediately necessary because of development pressure, escalating costs of delay, and impending estuarine ecological collapse.

5. These projects promise to provide large-scale restoration early in the CERP process, thus demonstrating the worth of the investment the federal, state and local taxpayers are making in this historic restoration effort.

6. These projects repair previous damage caused by federal and state water control projects.

7. These projects contain more than half of the total land area in the restoration plan, and will provide impressive ecological benefits well before 2010, including:

- 265 square miles (170,000 acres) of restored and protected wetlands and uplands.
- restored habitat for more than 2,200 species, at least 35 of which are threatened or endangered (including, manatee, snail kite, wood stork, red-cockaded woodpecker, scrub jay, crested caracara, whooping crane, bald eagle, indigo snake, eastern
loggerhead turtle, Atlantic green turtle, leatherback turtle, Atlantic hawksbill, and Atlantic Ridley turtle).

- tens of millions of dollars in associated economic and quality of life benefits annually.

- improved water quality for the Everglades, Florida Bay, 10,000 Islands, St. Lucie Estuary, and Lake Okeechobee.

NOW, THEREFORE BE IT RESOLVED by the Board of County Commissioners of St. Lucie County, Florida:

1. St. Lucie County continues to support implementation of the comprehensive Everglades Restoration Plan (CERP) through the authorization of the three projects listed above, the Indian River Lagoon Feasibility Study, the Southern Golden Gates Estates project and the Water Preserve Areas Feasibility Study, in a Water Resources Development Act of 2002 or another legislative vehicle consistent with the assurances provisions of WRDA 2000.

2. St. Lucie County calls on Congress and the Florida Delegation to endeavor to pass legislation approving the Indian River Lagoon Feasibility Study, the Southern Golden Gates Estates project and the Water Preserve Areas Feasibility Study.

3. The County Administrator is hereby directed to forward copies of this resolution to members of Congress and the Florida Delegation.

After motion and second the vote on this resolution was as follows:

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<tr>
<th>Name</th>
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<tr>
<td>Chairman Doug Coward</td>
<td>AYE</td>
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<td>Vice-Chairman Cliff Barnes</td>
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<td>Commissioner Paula A. Lewis</td>
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<td>Commissioner Frannie Hutchinson</td>
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<td>Commissioner John D. Bruhn</td>
<td>AYE</td>
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PASSED AND DULY ADOPTED this 16th day of July, 2002.

ATTEST:

[Signature]
DEPUTY CLERK

BOARD OF COUNTY COMMISSIONERS
ST. LUCIE COUNTY, FLORIDA

BY: [Signature]

CHAIRMAN

APPROVED AS TO LEGAL FORM AND CORRECTNESS:

[Signature]

COUNTY ATTORNEY
Resolution # 075-2003


WHEREAS, the Everglades ecosystem, spanning from the Kissimmee River Valley to Florida Bay, is a significant national resource and international treasure; and

WHEREAS, Monroe County has long supported Everglades restoration and recognizes it as an important part of the future economic well being of the region; and

WHEREAS, on December 11th, 2000, Congress approved the Comprehensive Everglades Restoration Plan (CERP); and

WHEREAS, Everglades restoration must move forward expeditiously; and

WHEREAS, Everglades restoration requires that Congress approve each restoration project and three projects were not approved during the 2002 session of Congress; and

WHEREAS, three projects, the Indian River Lagoon Feasibility Study, the Southern Golden Gate Estates project and the Water Preserve Areas (Bird Drive Recharge Area and the Southern Compartment of the Hillsboro Impoundment), are immediately necessary because of development pressure, escalating costs of delay, and impending estuarine ecological collapse; and

WHEREAS, the Southern Compartment of the Hillsboro Impoundment may expand the potential for enhancing critical water storage; and

WHEREAS, these projects promise to provide large-scale restoration early in the CERP process, thus demonstrating the worth of the investment the federal, state and local taxpayers are making in this historic restoration effort; and

WHEREAS, these projects repair previous damage caused by federal and state water control projects; and

WHEREAS, these projects contain more than half of the total land area in the restoration plan, and, if approved expeditiously, will provide impressive ecological benefits well before 2010, including:

- 270 square miles (~172,000 acres) of restored and protected wetlands and uplands,
- restored habitat for more than 2,200 species, at least 35 of which are threatened or endangered (including, manatee, snail kite, wood stork, red-cockaded woodpecker, scrub jay, crested caracara, whooping crane, bald eagle, indigo snake, eastern loggerhead turtle, Atlantic green turtle, leatherback turtle, Atlantic hawksbill, and Atlantic Ridley turtle),
- tens of millions of dollars in associated economic and quality of life benefits annually,
- improved water quality for the Everglades, Florida Bay, 10,000 Islands, St. Lucie Estuary, and Lake Okeechobee; NOW, THEREFORE,

BE IT RESOLVED BY THE BOARD OF COUNTY COMMISSIONERS, MONROE COUNTY, FLORIDA:
Section 1. Monroe County recognizes the significant value of the Comprehensive Everglades Restoration Plan (CERP).

Section 2. Monroe County urges Congress to authorize the Indian River Lagoon Feasibility Study, the Southern Golden Gate Estates Project and the Water Preserve Areas, including the Bird Drive Recharge Area and the Southern Compartment of the Hillsboro Impoundment, in a Water Resources Development Act or another legislative vehicle consistent with the assurances provisions of WRDA 2000.

Section 3. Monroe County urges the State of Florida Department of Environmental Protection to approve the Indian River Lagoon Feasibility Study, the Southern Golden Gate Estates Project and the Water Preserve Areas, including the Bird Drive Recharge Area and the Southern Compartment of the Hillsboro Impoundment.

Section 4. A certified copy of this resolution shall be sent to the Chair of the Committee on Environment and Public Works, the Secretary of the State of Florida Department of Environmental Protection, and the President and CEO of Audubon of Florida.

Section 5. EFFECTIVE DATE
This Resolution shall become effective upon adoption.

ADOPTED this 19th day of February, 2003.

Mayor Dixie Spehar
Mayor Pro Tem Murray Nelson
Commissioner Charles “Sonny” McCoy
Commissioner George Neugent
Commissioner David P. Rice

yes
yes
yes
yes

(Seal)
Attest: DANNY L. KOLHAGE, Clerk

By Lucretia DeSantis
Deputy Clerk

BOARD OF COUNTY COMMISSIONERS
OF MONROE COUNTY, FLORIDA

M. Spehar
Mayor/Chairperson

APPROVED AS TO FORM
AND LEGAL ST. CLERK
BY SUSANNE HUTTON
DATE 3/01/03

FILED FOR RECORD
2003 MAR 11 AM 5 U
Miami-Dade Legislative Item
File Number: 022812

File Number: 022812
Version: 0
File Type: Resolution
Reference: R-978-02
File Name: RESO OF SUPPORT OF EVERGLADES RESTORATION
Requester: NONE
Cost:
Agenda Date: 9/24/2002 Agenda Item Number: 9A3
Notes: THIS IS FINAL VERSION AS ADOPTED. Title: RESOLUTION OF SUPPORT FOR EVERGLADES RESTORATION
ALSO SEE ORIGINAL LEGISTAR #022673.
Indexes: EVERGLADES  Sponsors: Katy Sorenson
Jimmy L. Morales
Sunset Provision: No  Effective Date:  Expiration Date:
Registered Lobbyist: None Listed

Legislative History

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Legislative Text

TITLE
RESOLUTION OF SUPPORT FOR EVERGLADES RESTORATION

BODY
WHEREAS, the Everglades ecosystem, spanning from the Kissimmee River Valley to Florida Bay, is a significant national resource and international treasure; and
WHEREAS, on December 11, 2000, Congress approved the Comprehensive Everglades Restoration Plan (CERP); and
WHEREAS, Everglades restoration must move forward expeditiously; and
WHEREAS, Everglades restoration requires that Congress approve each restoration project and three
projects are scheduled for approval during the 2002 session of Congress; and
WHEREAS, three projects, the Indian River Lagoon Feasibility Study, the Southern Golden Gates
Estates project and the Water Preserve Areas (Bird Drive Recharge Area and the Southern
Compartment of the Hillsboro Impoundment), are immediately necessary because of the development
pressure, escalating costs of delay, and impending estuarine ecological collapse; and
WHEREAS, these projects promise to provide large-scale restoration early in the CERP process, thus
demonstrating the worth of the investment the federal, state and local taxpayers are making in this
historic restoration effort; and
WHEREAS, these projects repair previous damage caused by federal and state water control projects; and

WHEREAS, these projects contain more than half of the total land area in the restoration plan, and will
provide impressive ecological benefits well before 2010, including:
* 270 square miles (~172,000 acres) of restored and protected wetlands and uplands,
* restored habitat for more than 2,200 species, at least 35 of which are threatened or endangered
  (including manatee, snail kite, wood stork, red-cockaded woodpecker, scrub jay, crested caracara,
  whippoorwill, bald eagle, indigo snake, eastern loggerhead turtle, Atlantic green turtle, leatherback
  turtle, Atlantic hawksbill, and Atlantic Ridley turtle),
* tens of millions of dollars in associated economic and quality of life benefits annually,
* improved water quality for the Everglades, Florida Bay, 10,000 Islands, St. Lucie Estuary, and Lake
  Okeechobee,

NOW, THEREFORE, BE IT RESOLVED BY THE BOARD OF COUNTY COMMISSIONERS OF
MIAMI-DADE COUNTY, FLORIDA, that Miami-Dade County hereby supports maintaining the
CERP goals and objectives, while maintaining and improving flood protection for the urban and
agricultural areas of South Florida and supports implementation of the Comprehensive Everglades
Restoration Plan (CERP) through the authorization of the three projects listed above, the Indian River
Lagoon Feasibility Study, the Southern Golden Gates Estates project and the Water Preserve Areas
(Bird Drive Recharge Area and the Southern Compartment of the Hillsboro Impoundment), in a Water
Resources Development Act of 2002 or another legislative vehicle consistent with the assurances
provisions of WRDA 2000, and

BE IT FURTHER RESOLVED BY THE BOARD OF COUNTY COMMISSIONERS OF MIAMI-
DADE COUNTY, FLORIDA that Miami-Dade County hereby calls on Congress and the Florida
Delegation to endeavor to pass legislation approving the Indian River Lagoon Feasibility Study, the
Southern Golden Gates Estates project and the Water Preserve Areas (Bird Drive Recharge Area and
the Southern Compartment of the Hillsboro Impoundment).
February 10, 2004

Mike Rogalski, USACE Project Manager
Jacksonville District
P.O. Box 4970
Jacksonville, Florida 32232-0019

Dave Unsell, SFWMD Project Manager
3301 Gun Club Road
West Palm Beach, Florida 33406

Re: Indian River Lagoon-South Draft Project Implementation Report
Comments on the Assurances Process Outlined in Appendix K

Dear Sirs:

The Seminole Tribe of Florida offers the attached comments on Appendix K regarding the Assurances process for the Central and Southern Florida Project, Indian River Lagoon-South Draft Project Implementation Report Supplement to the Final Environmental Impact Statement, December 2003 ("Draft PIR"). The Tribe would like to commend the Corps of Engineers ("COE") for its efforts in creating an Assurances process in this Draft PIR that incorporates many of the Tribe’s comments on the other programmatic aspects of CERP, including the Programmatic Regulations. The COE has been responsive to the concerns and issues raised by the various stakeholders in Everglades restoration.

By way of the attached comments, the Tribe wishes to reiterate its support for the long term restoration of the Everglades. The Tribe has a long history in Florida which will continue into the future. The Tribe is committed to the success of CERP.

This Draft PIR demonstrates fundamental guiding principles of CERP implementation. The foundation of these principles is to bring stakeholders together in support of the plan. In order for that to occur, processes and work products to implement the plan must be transparent. Stakeholders must have input and must have their concerns addressed. The political landscape can change, so it is important that activities to implement the plan are predictable, consistent and clear.
Previously, the Tribe submitted comments on the Programmatic Regulations and Pre-CERP and Planning Baselines. As a part of those comments, the Tribe identified a process for establishing a reservation, a central part of the assurance provisions of WRDA 2000. The establishment of the reservation in this Draft PIR potentially incorporates the steps of that process envisioned by the Tribe.

As member of the community with a stake in the outcome of CERP, the Tribe is encouraged that with some small refinements Appendix K to the Draft PIR can serve as the model for the assurances process for future projects. This will set the stage for the success of CERP implementation.

Yours sincerely,

Michelle Diffenderfer
Erin Deady

c: Jim Shore, Esquire – Seminole Tribe of Florida
    Ross Holzman, Esquire – Seminole Tribe of Florida
    Craig Tepper – Seminole Tribe of Florida
    Patty Power – Jefferson Government Relations
Introduction

The Seminole Tribe of Florida (“the TRIBE”) submits the following general and specific comments on the Central and Southern Florida Project, Indian River Lagoon-South Draft Project Implementation Report & Supplement to the Final Environmental Impact Statement, December 2003 (“Draft PIR”). Because the TRIBE has a limited direct connection to the project components these comments will focus on Appendix K: Project Assurances.

This Draft PIR is critical for many reasons. Primarily, this is the first time that Project Assurances have been addressed in a CERP project and it is important to have an open and transparent process to ensure that all stakeholder needs are met consistent with tribal, state and federal law. Water reservations are a central part of the Project Assurances. Second, compliance with the other assurance provisions is important so that the high level of congressional support for CERP implementation can continue. Addressing these assurance provisions in a legally, scientific and easily implementable way with this Draft PIR will set the precedent for CERP projects in the future.

A. Identifying Water for the Natural System

Document Discussion

In previous comments on the Programmatic Regulations, the TRIBE outlined a general process by which a reservation for water should be made. This includes the following steps:

1. Identify the end goal ecotypes within an ecosystem through means of a hydrograph or another similar mechanism (on a regional basis).
2. Identify the amount of water the project produces.
3. Identify the amount of project water that will be used to meet the end goal reservations for the natural system.
4. Identify how water will enter the regional system.
5. Identify whether the water will be used as replacement water for existing legal sources. (Comparison to the pre-CERP baseline).
In Section 2.1, the Draft PIR discusses the operations of the CERP project components on a dual-level approach by describing beneficial system-wide effects and beneficial project-level effects. This discussion is similar to that which the TRIBE has previously requested. It is important to show the system-wide and project level effects from implementation of the CERP project. The TRIBE recognizes the goal of the Draft PIR as one to redistribute and reduce damaging flows to the St. Lucie Estuary. But since this is the first Draft PIR for a CERP project, it is still important to quantify project benefits on the system-wide and project level, simultaneously through a typical wet and dry season water year for the regional watershed. The Draft PIR outlines these benefits in Sections 2.4 and 2.5 and these benefits include:

System-wide:
1. Improved deliveries to the Estuary when needed and available.
2. Deliveries to Lake Okeechobee when water levels and water quality conditions allow for the deliveries.

Project-level:
1. Deliveries of water to each user basin as a result of the project compared to existing conditions in the basin.
2. Restoration of the natural storage and treatment areas (Pal-Mar, Allapattah and Cypress Creek).
3. Minimal water depths maintained in the C-44 STA, C-23/24 STA and C-25 STA.

The TRIBE is concerned by the discussion of the project-level effects for the “Natural Storage and Treatment Areas”. The precise use of terms throughout the section is vague. For instance in Section 7.2.1.9.3, the areas are called “Natural Storage and Water Quality Treatment Areas”. Two issues can be raised. The first issue is that the terms should be consistent throughout the document. The second issue is that these three areas are identified for restoration in Section 2.5.1 and the term “Natural Storage and Treatment Areas” could be interpreted to mean water supply storage. This use of language should be resolved to avoid misconceptions about the intent and use of these areas. If the idea is to primarily restore these areas and provide ancillary benefits such as water quality treatment or water supply then the name of this component and its purpose should be more clearly reflected. Reservation concepts held by some stakeholders may not include reserving storage for water supply.

The approach to establishing the reservations in the Draft PIR incorporates many of the concepts of the process outlined by the TRIBE. The first step the TRIBE outlined in its approach is to identify the end ecotypes within an ecosystem through means of a hydrograph or another similar mechanism. The beneficial flows or levels to determine project specific results are outlined for the following areas:

- St. Lucie Estuary (Oligohaline and mesohaline areas of the Estuary)
- The project Stormwater Treatment Areas (“STAs”) to protect vegetation and uptake capability
- The natural areas selected for restoration
For each of the targets established in Table 4-1 the sources of the flows are determined and volume probability curves are established over a period of record and specifically for dry season and wet season intervals. The volume probability curve measures the volume of water in acre-feet required for the particular interval in relation to the amount of time that volume is met or exceeded. Therefore, this curve shows the amount of time that the target deliveries for that project specific result are being met. The curve is developed for a variety of modeling scenarios to compare the current conditions, conditions with the preferred IRL alternative, the target and the condition that will occur without the project at all. This process is similar to that outlined in step 3 of the TRIBE’s suggested process to establish a water reservation, which is listed earlier in this document.

In Section 4 these volume probability curves are shown for each of the three areas listed above to show targeted quantities of water for the areas of the Estuary, STAs and natural areas. Section 4.3.2 identifies as much as 55 acre-feet of water per year to be delivered to the STAs to maintain minimal operational depths. The document then states that this is to be reserved from other consumptive uses by the state. It is not clear that the numbers used are accurate, please explain if 55 acre feet of water is supposed to equate to 6 inches of water depth for 8,800 acres of STA’s. It is not clear that this amount would be sufficient in dry seasons during drought years to replenish the water table and hold water levels in the facilities to a 6 inch minimum operational depth.

While the TRIBE agrees that it is important to maintain minimal depths to protect the vegetation and functionality of the STAs it is not clear that Reservations are the appropriate tool to do this. It is the TRIBE’s understanding that this water is also to be included in the Draft Operating Manual, perhaps that is the better tool to address the STA’s needs? The TRIBE wants to ensure that this water is protected in the Plan by the most appropriate mechanism. If the water should be protected more formally then a discussion of what tool is best to do that would be helpful such as, by rule, by permit, reservation or Minimum Flow and Level (“MFL”). All of these mechanisms have different approaches to protecting water and the most appropriate tool should be used. The document should include a discussion as to what is the most appropriate mechanism to protect this quantity of water for the STAs.

Comments

1. **Comment:**
   - This use of language for natural storage areas should avoid misconceptions about the intent and use of these areas. If the idea is to primarily restore these areas then the name of this component and its purpose should be more clearly reflected.

   **Response:**
2. **Comment:**
   - Because of the vast difference in the relationship between the stated quantity of 55 acre-feet of water and 8,800 acres of STAs, the Draft PIR should identify the methodology used to derive this figure of 55 acre-feet.

   **Response:**

3. **Comment:**
   - The Draft PIR should include a discussion as to what is the most appropriate mechanism to protect this quantity of water for the STAs.

   **Response:**

### B. Effects on Existing Legal Sources of Water

**Document Discussion**

Intrinsic to the TRIBE’s positions on CERP programmatically, is the tenet that stakeholders must equitably share in the benefits or risks in the implementation of the overall plan. Without this type of equitable distribution of benefits and risks amongst the stakeholders, the delicate balance achieved for supporting CERP will be lost.

Steps 2 and 5 outlined in the TRIBE’s vision for establishing a water reservation focus on the need to identify the amount of water a project will produce and whether or not any of that water will be used as replacement water for existing legal sources.

Table 5-1 identifies the existing legal sources of water supply for the IRL-South Project Study area and these are the same sources identified in Section 601(h)(5)(A) of WRDA 2000 or the “assurances provisions”. These sources include fish and wildlife, agricultural users, urban users, the Miccosukee and Seminole Tribes and Everglades National Park. Table 5-1 further identifies the origination of those legal sources of supply. The text explains that the project is not expected to diminish the quantity of water available for withdrawal from the Floridan or surficial aquifers therefore it is assumed that there will be no impact to availability of groundwater for urban users in the Basins.

Similar to developing a target flow to identify a reservation, Table 5-2 identifies a target flow for specific agricultural basins. These targets are based on 2050 demands but there is no footnote explaining how these 2050 demands were developed. For clarification purposes, the methodology and land use assumptions for development of these 2050 demand projections should be detailed in the document in this section. The Draft PIR then identifies volume frequency curves to measure effects on these legal sources over a period of record for dry and wet conditions. In almost all instances the preferred alternative delivered a quantity of water greater than the current or future
without project condition, thus showing a benefit for agricultural existing legal sources. The project seems to benefit agricultural users by providing a greater level of service for water supply protection while at the same providing new sources from reservoirs. This appears to alleviate continued or increased future reliance on the Floridan aquifer. Because of this, the Draft PIR concludes that there is no need for water from the project to serve as replacement water for an existing legal source and it seems that there is no transfer or elimination from an existing legal source. The document makes clear that agriculture’s existing legal sources are protected consistent with the assurance provisions in WRDA 2000, it is critical to continue to make this type of analysis in the PIR’s.

**Comment**

4. **Comment:**
   - The Draft PIR should include a discussion of the methodology and land use assumptions for development of the 2050 demand projections. These demands should be tied to real time growth management and land use projections such as local government comprehensive plans or another similar land use data set.

**Response:**

5. **Comment:**
   - Continue to provide the analysis of impacts on existing legal sources.

**Response:**

C. **Project Effect on Levels of Service for Flood Protection**

**Document Discussion**

Section 601(h)(5)(B) requires an analysis of project impacts on levels of service for flood protection. The Draft PIR shows this analysis for the C-44, C-23/24 and C-25 Basins. The Draft PIR flood protection analysis is based on a flow model approach. The Draft PIR acknowledges that while appropriate for the IRL-South project, a stage and duration model is going to be necessary to determine impacts on levels of service for flood protection in other parts of the system where structural operational rules may change. This is particularly true in areas where project effects will be proximate to urban areas, lands held by specific interests such as the TRIBE or agricultural lands.

Section 6.4.2 raises an issue associated with land use patterns and what impacts future growth and development may have on project purposes. An expanded discussion should be included in the document focusing on the interface between future land use patterns and growth and how future project purposes might be affected through the 2050 timeframe. Specifically, the relationship between project purposes and the SFWMD’s regulatory requirements would be useful to determine if future growth and development might diminish project benefits over time.
Based on the analysis done in Section 6 regarding levels of service for flood protection, in almost every instance there is an improvement in the level of service realized because of the implementation of the preferred alternative. This is largely due to the significant increase in storage capability and better management of local run-off.

Comments

6. Comment:
   • The Corps should ensure that appropriate modeling tools, including stage and duration, are available and used in future PIRs to evaluate levels of service for flood protection.

Response:

7. Comment:
   • A discussion on the relationship between future land use patterns and the potential impact on project purposes should be included in the Draft PIR. The integration between other state programs, such as regulation, proposed project operations and project purposes should be a specific focus of that discussion.

Response:

D. Compliance with State CERP requirements

Document Discussion

Introduction to Section

Section 7 is included to fulfill the requirements of WRDA 2000 for state coordination and the state’s statutory requirements for CERP implementation including Sections 373.1501, F.S., 373.026, F.S. and 373.470, F.S. The section also describes the State’s interest in correcting the damaging freshwater discharges to tide that are harming the estuarine system. The section then describes the individual State statutory requirements and required analyses.

In the second paragraph of Section 7, the Draft PIR states that the project will provide water supply for agriculture to offset reliance on the Floridan aquifer. This creates a project benefit because reliance on the Floridan aquifer for agriculture could be lessened because of the water produced by the project. How this water supply benefit to agriculture creates opportunities for urban users and the environment should be described in this section as well.

Water Supply Demand
Section 7.2.1.3 describes Water Supply Demand. In this section, two tables identify the urban and municipal/industrial demands. The source of the data for the urban demands is the 1998 SFWMD Upper East Coast Water Supply Plan. The source and methodology for developing the municipal/industrial plan is not identified. The source and methodology for developing the municipal/industrial demands should be identified as previously discussed.

Additionally, this section raises an issue associated with competition of sources between agricultural water demands and environmental water demands, yet the section merely references other sections in the PIR and appendices of the Feasibility Study, or the precursor document to the Draft PIR. This discussion at the top of page K-48 is confusing and raising this issue without a full discussion of how this issue is resolved could cause great concern from certain stakeholders. This section should elaborate on the statement that this competition is less than expected with some additional information on the fact that very low flows entering the St. Lucie Estuary during dry periods is a benefit to the natural system at that particular time.

Increasing Supply through Reservoirs

The section raises the issue of supplemental supplies for agriculture, yet the data could be presented a bit more clearly. For instance Tables 7-3 and 7-4 describe how much water is provided by the reservoirs to agriculture and the percentage of Floridan withdrawals that can be replaced by reservoir sources. There should be an additional Table which describes agricultural demands, supplemental demands, the amount of demand met from the Floridan and the amount of demand met with reservoir sources. Through this type of analysis, agricultural interests will be able to see clearly how their demands will be met into the future through current withdrawals from the Floridan as well as replacement of their sources. Some of this data is available from Table 7-3 and 7-4, but the suggested format could make it clearer.

Section 7.2.1.9 describes the Water Supply Performance of the project components. The first part of this section describes in detail the storage reservoirs, their capacity and how water from the reservoirs will enter the regional system. This is consistent with Step 4 outlined in the TRIBE’s suggested process for establishing a reservation. The descriptions of deliveries from the STAs and Natural Storage and Water Quality Treatment areas contain similar descriptions in following Sections.

Water Quality

Tables 7-6 and 7-7 describe the Phosphorous and Nitrogen loads to the St. Lucie Estuary and the Indian River Lagoon. Specifically, Table 7-7 shows the loads predicted without the project by 2050, the loads with the recommended plan and the target loads. The recommended plan will not entirely meet the targets and it is anticipated that other projects such as Best Management Practices (“BMPs”) will provide that additional load reduction to meet the target.
Water Budget

Table 7-13 shows a water budget for the recommended plan and Table 7-14 shows a water budget for the 2050 base without the project. This information is presented by Drainage Basin in acre-feet per year. Section 7.7 identifies the increased water supply available from the project. This quantity includes 120,000 acre-feet of storage in the reservoirs and STAs and 30,000 acre-feet in the natural storage areas. The balance of Appendix K includes volume probability curves over a period of record and also for wet and dry years for deliveries to the St. Lucie Estuary, North South Forks. Volume probability curves are also provided for total deliveries to the Indian River Lagoon, deliveries to Lake Okeechobee, deliveries to maintain the STAs, releases from the Natural Storage and Treatment areas, deliveries to agriculture and these releases have no identified benefit. These volume probability curves account for every system-wide and project-level benefit from the project. This approach is consistent with Step 2 listed above in the TRIBE’s recommended process for establishing a reservation which is to identify the amount of water the project produces.

Comment

8. **Comment:**
   • If water supply benefits to agriculture are creating indirect opportunities for urban users and the environment, these should be described in the Draft PIR.

   **Response:**

9. **Comment:**
   • The source and methodology for developing the municipal/industrial demands should be identified.

   **Response:**

10. **Comment:**
    • This section should elaborate on the statements regarding competition between agricultural and environmental water supply.

    **Response:**

11. **Comment:**
    • There should be an additional Table in this Section which describes agricultural demands, supplemental demands, the amount of demand met from the Floridan and the amount of demand met with reservoir sources.

E. **Conclusion**

In conclusion, the TRIBE supports the process followed in Appendix K of the Draft PIR for the Indian River Lagoon-South project. It is fundamental that the Draft PIR and future PIR’s address the project assurance provisions in a transparent way for
stakeholders to ensure that projects provide the anticipated benefits and minimizes risks. In order for all stakeholders to maintain support for CERP, future PIR should continue to follow the same approach as this Draft PIR does. The specific tribal, state and federal requirements must be articulated and the document must address those requirements in a comprehensive way. By including the TRIBE’s suggested comments in this document, the Draft PIR should serve as a model for the Tribe’s review of future PIRs.
Position paper on the Indian River Lagoon South
WRDA 2004 funding request

The Marine Industries Association of the Treasure Coast, Inc. represents 131 employers in Indian River, St. Lucie and Martin Counties, Florida, who employ about 5,000 employees and generate over $715.5 million in annual economic impact to the economy. Our members and customers (the recreational boating public) value clean and ecologically productive waters in the St. Lucie Estuary and the Indian River Lagoon very highly.

For nearly 70 years the St. Lucie Estuary and the Indian River Lagoon South have been ecologically damaged by excessive, nutrient laden fresh water discharges periodically when Lake Okeechobee gets too high from runoff from its watershed. That water went South and West through the Everglades prior to construction of the Herbert Hoover Dike and the C-44 Canal. We have been treated as a storm sewer for much of the Central and South Florida Flood Control District. Our oysters, fish and seagrass have been killed as a result.

We note that Martin County citizens have put their money where their mouth is by raising $50 million by taxing themselves for these projects in connection with the Indian River Lagoon Restoration Plan. Much of the land necessary for reservoirs and cleansing marshes has already been purchased by Martin and St. Lucie Counties and the South Florida Water Management District. The U.S. Army Corps of Engineers has done its part in pushing the project along after exhaustive environmental analysis.

We further note that we have participated in this effort for a number of years and sit on the Rivers Coalition and participate in the St. Lucie River Initiative.

It is time Congress proceeds with the delayed Water Resources Development Act funding to complete that funding. After all, Congress, not the citizens of Martin and St. Lucie Counties, created the pollution problem. Congress diverted the “River of Grass” southerly flow from the Lake East and West through new canals and in to our estuary to drain the Everglades Agricultural Area for farming.

The Marine Industries Association of the Treasure Coast, Inc., on behalf of its members, employees and customers, strongly urges Congress to fully fund the CERP projects to cleanse and reduce the polluting water entering the St. Lucie Estuary and the Indian River Lagoon from the Okeechobee watershed in the WRDA 2004 bill.

January 12, 2004

John Yudin, President
Marine Industries Association of the Treasure Coast, Inc.

JY/vl
Cc: Senator Bob Graham
Senator Bill Nelson
Congressman Mark Foley
Congressman Alcee Hastings
Congressman E. Clay Show
Congressman Dave Weldon
Lennart Lindahl, Chairman – South Florida Water Management District
Martin County Board of County Commissioners
Stuart City Commission
Town of Sewall’s Point Commission
St. Lucie County Board of County Commissioners
City of Ft. Pierce Commissioners
City of Port St. Lucie City Council
Leon Abood, Chairman – Rivers Coalition
Kevin Henderson, Executive Director – St. Lucie River Initiative
David Roach, Executive Director – Florida Inland Navigation District
Gail Byrd, Martin County FIND Commissioner
George Kavanagh, St. Lucie County FIND Commissioner
January 13, 2004

Statement on Indian River Lagoon South Draft Project Implementation Report and Supplement to the Supplemental EIS

Shannon Mayorga, Conservation Coordinator
Audubon of Florida

First, I can’t think of a better way to enter the new year than being on the verge of seeing the first CERP PIR sent to congress for authorization. Audubon congratulates the work of the Corps, the SFWMD, and others who have worked hard to advance Everglades restoration and, specifically, restoration of the St. Lucie Estuary and Indian River Lagoon ecosystems.

The IRL restoration projects represent that sound ecosystem-centric restoration can be achieved through the Comprehensive Everglades Restoration Plan.

As it stands, the IRL plan will increase the spatial extent of wetlands, and restores, cleans, and enhances the area’s wetlands, waterways, and watershed. By simultaneously increasing the amount of natural water storage and limiting the dumping of harmful stormwater into Lake Okeechobee, the water bodies of the Indian River Lagoon and the St. Lucie Estuary will benefit enormously. Further improvements to the ecosystem include stormwater retention and water storage, strategic water diversions, muck removal and habitat enhancement in the estuary, and improving the C & SF project’s current drainage patterns.

The community and political support for an environmental project of this magnitude is unprecedented. Virtually every environmental organization has lent support to the IRL projects, Audubon has worked to secure the support of three chambers of commerce, the NAACP, and virtually every county in South Florida.

This said, Audubon of Florida also notes that the shovels have not yet hit the dirt and that we have a way to go prior to final authorization by Congress.

Audubon of Florida urges the Corps and the SFWMD to maintain the ecological integrity of the Indian River Lagoon restoration projects and move forward expeditiously. If done right, this set of restoration projects will provide direction and leadership for completing other CERP projects in South Florida, which should also utilize the Natural Area Concept.

In summary, on behalf of 40,000 Audubon members in Florida we urge the Corps to further the achievements of CERP by integrating the Natural Area Concept into other components of CERP, and to recognize that the health of the St. Lucy Estuary is interconnected with the recovery of Lake Okeechobee.
A comment has been received for Indian River Lagoon - South:

Email: dlithgow@bellsouth.net
Organization Name: United Waterfowlers Florida
Affiliation: Local / Grassroots Organization

Comment
I was delighted to learn more about the IRL south portion of CERP at the January 13 Meeting. It is nice to see that the plan has gotten to the point where it can be sent up to Washington.

I would like to address one issue that is very important to me. Since these are public lands and wetlands that will be purchased and developed with public dollars I want to stress that public access should be incorporated at every opportunity. The planning for each portion of the project should include stakeholder meetings that will allow for suggestions of possible public uses for the properties. We have a great chance to develop another Stickmarsh or Goodwin or similar area that can have a positive impact on the surrounding economy. I'm sure you will agree that strong public support is needed to get the proper funding in the congress. Having the outdoor community on your side will help to ensure that the funding levels are as high as possible.

I look forward to working with you throughout the completion of these projects

Go to http://www.cerpzone.org/ to review all feedback.
Thank you for attending this evening’s Public Meeting. We value your contribution. If you would like to provide additional comments on this evening’s presentation and discussion, please provide comments below and return to us.

**COMMENTS:** (May be continued on reverse)

I can't tell you how impressed I've been to see such a thorough, well justified, environmentally sensitive restoration project. The Corps deserves a gold star for showing that restoring natural wetlands is good for the River as well as the wildlife.

---

**NAME AND ADDRESS:** (Optional)

Tom Tomlinson, Pres.
Florida Population Connection
P.O. Box 316
Palm City, FL 34991

Please mail comments to:
U.S. Army Corps of Engineers
Attn: Robert Dunne
P.O. Box 4970, Jacksonville, FL 32232-0019

Or Email To: Robert.M.Dunne@usace.army.mil
A comment has been received for Indian River Lagoon - South:

Email: elzer@gate.net
Organization Name: Martin County Conservation Alliance
Affiliation: Local / Grassroots Organization

Comment
Martin County Conservation Alliance P.O. Box 1923 Stuart, FL 34995
January 26, 2004

To: U.S. Army Corps of Engineers
South Florida Water Management District

IRL PIR Comments

Natural Areas
The Martin County Conservation Alliance would like to congratulate the Corps of Engineers and all of those who worked on the Indian River Lagoon PIR. The analysis is highly professional and shows great attention to detail.
More important, it is a significant breakthrough in restoration strategy, both technically and practically. For years environmentalists and environmental agencies have preached that wetlands are multifunctional. They store water. They clean up runoff. They provide critical habitat.
The IRL Plan, for the first time, puts these benefits into practice and documents the benefits through hydrological modeling. The Natural Area concept is a dramatic improvement over structural solutions. It is the only component of the Plan which makes it possible to meet all of the goals of CERP:
- To store water.
- To provide water quality for a sustainable ecosystem
- To meet habitat requirements for endangered species in a restored south Florida Ecosystem
- To expand the spatial extent of short hydroperiod wetlands

We believe that future analysis will demonstrate even greater benefits in terms of operational costs. The natural systems will continue to function without energy costs, without replacement costs for expensive components and without technical manpower requirements.
Add to that the public recreation benefits that cannot be derived from polluted reservoirs and other structural components, and the Natural Area idea becomes a symbol for how restoration can be done most successfully — and most in tune with nature.
An additional, unsung, benefit of the natural storage component of this project is its contribution to stabilizing the watershed. One of the greatest threats to long terms plans are unpredictable changes. Part of the reason the present system is inadequate is that the original C & SF Study did not expect nearly as many people, or as much change in South Florida as has occurred. Our ability to predict the future today is perhaps not much better than 50 years ago. By locking about 25% of the watershed into a permanent, beneficial condition, we know not only that these benefits will continued, but more importantly, that degradation will not occur that would damage these areas and put additional stress on the rest of the system. A part of the watershed now has a predictable, and healthy future. It is likely that in 50 years, this component will be considered the greatest gift to the future that we made.

We urge you to include natural storage in the Okeechobee North plans and in plans for the Caloosahatchee. In both those areas all remaining restorable habitat should be
mapped. Where it can be acquired in tracts of sufficient size and continuity to allow natural hydroporeids, it should be included in calculations for storage and nutrient removal and made an integral part of final plans. In the EAA, the concept of “retiring” areas where soil subsidence has made, or will make, farming unprofitable, should be included in solutions. In calculating the benefits of returning these areas to natural vegetation and more natural hydroporeids, the benefit analysis should include the value of NOT farming. The reduction in water use and the reduction of nutrients should be considered as well as the natural storage. 50,000 to 100,000 acres of additional natural areas in the EAA could be a significant addition to Talisman’s structural storage.
We would like to emphasize that we strongly support the IRL and would not like to see it delayed. Inclusion in WRDA 2004 is critical for both the IRL and the entire Everglades restoration. That said, there are areas in the report that can be strengthened.

Muck
The Alliance supports muck removal in the St. Lucie Estuary. There can be no question of the harmful effects of the flocculent ooze that has accumulated on estuarine bottoms as a result of water management practices.
The PIR is strangely inconsistent in all its references to muck removal. This weakness does not obviate the need for muck removal, but it subjects the plan to unnecessary criticism.
All sections on muck removal should be quickly reviewed and rewritten to achieve consistency and accuracy. Where issues have not been decided, the options and the decision trees for final solutions should be briefly referenced.
The following should be addressed:
Will muck removal address the four deep hot spots or seek to clean shallower areas to provide sustainable substrates for benthic organisms?
All references to spreading muck on natural areas through a slurry pipe should be removed. Implementation should assure that all major construction precedes muck removal.

Southern Diversion Canal
Discussion of the southern diversion canal continues to confuse the identified benefits of reducing C23 discharges with the added diversion of C24 discharges to C44. With the recognition that those flows diverted to C44 cannot be directed to Lake Okeechobee until nutrient issues are resolved, the possible negative impacts of increasing discharges at C44 require analysis.
In the Feasibility Study the C23/C44 Diversion was clearly a separate component with separate planning and timing schedules. This allowed for resolution of the issues mentioned above. In the PIR rewrite, the southern diversion appears to have been folded into the larger C44 complex. This is inappropriate. That complex represents the first IRL project and should begin as soon as possible. The diversion should be delayed for further analysis and adaptive management.

Assurances
The most dramatic problems for the estuary come from mismanagement of Lake Okeechobee water levels. When the Lake is held too high, discharges to the estuary are more likely. High Lake levels cause damage to littoral zones with consequent negative impacts of the quality of the water discharged through C44. When Lake levels are too low for extended periods, long term water quality again suffers from littoral damage.
These effects are dependent on water use permitting for Lake Okeechobee’s service area. High water demands on the Lake require excessively high water levels to store adequate irrigation water for drought years. High water demands also cause an increase in damaging low Lake levels.
While the IRL Plan emphasizes improvements to correct impacts from the regional watershed, it also includes a reservoir on C44. This is the first in a series of storage reservoirs around Lake Okeechobee aimed at allowing more natural management of Lake waters by reducing water demands on the Lake.
This year the estuary has suffered unnecessary damaging discharges because rules for Lake management were inadequate. From February to June, while Okeechobee was a foot above its regulation schedule, virtually no effort was made to gradually (at levels of minimal impact to the estuary) lower lake levels. In the fall, with the lake still too deep. Water was dumped from the Kissimmee into the Lake when water managers had announced that the lake dike was in danger. While the Kissimmee was being overdrained, the safety of the dike was further impaired and discharges to an already damaged estuary were increased. This situation will continue to recur unless the operations manual or the assurances section include solutions.
- Operation of the Kissimmee section of the system must assure that damaging Lake
levels, dike safety problems and damaging discharges to the estuary do not result from Kissimmee drainage which can be avoided.

The potential for increased water demand for Lake Okeechobee must be addressed. The C44 reservoir which is part of the IRL Plan reduces water demand on Lake Okeechobee by partially supplying watershed demand from the reservoir. THAT BENEFIT MUST NOT BE LOST by further increasing demands on the Lake.

If assurances are to be meaningful and if CERP is to meet the requirements of the Programmatic Regulations, the IRL PIR must contain binding requirements that the benefits to quantity and timing and distribution of water that affect successful management of Lake Okeechobee will not be lost to increased permitting or other operational decisions.

REAL ESTATE
The real estate costs of the IRL Plan have been substantially increased in the two years since the Feasibility Report was complete. There appears to be no detailed justification of these increases. The result, combined with excessive "contingency cost" applied only to real estate, is to assign unrealistically high prices, especially for acquisition of citrus. Since most of the reservoirs and structural components are located on citrus groves, this affects the total cost for the project. The per acre cost for citrus in the PIR is over $14,000. There are no sales of citrus in the region (short of urban conversions nearer to I95) which have come anywhere near this price. The high point for citrus sales in the Treasure Coast was in the early nineties when the effects of the freeze that moved citrus south from Polk County were being felt. Overplanting, canker and globalization have reduced per acre prices in the last decade. This can be confirmed with property appraisers in both Martin County and St. Lucie County.

The negative effects of estimating costs are twofold. First, it makes the project more vulnerable to criticism. Secondly, it becomes a self fulfilling prophecy which unnecessarily increases the cost of the project. If the PIR estimates costs at $14,000+ per acre, the District will pay that price and the Corps will not question it.

The Corps would do well to check with County Property Appraisers to more accurately assess trends and costs in citrus acreage in the area for which IRL projects are planned.

CONTINUED WUPPORT
We would again like to emphasize our support for the PIR. We believe these weaknesses can be quickly and easily resolved and make the Plan stronger than ever.

Respectfully submitted,

Donna Melzer, Chair

About MCCA: Martin County Conservation Alliance has been working since 1965 for St. Lucie and Loxahatchee waterways and for the protection, enhancement and sustainability of our entire Martin County quality of life including the preservation of our lagoon and estuary, our natural environment. We strive to protect community, planning, the water, soil, air, native flora and fauna, and natural ecosystems. We support our Comprehensive Plan and the Growth Management Act with an emphasis on sensible growth controls.

Go to http://www.cerpzone.org/ to review all feedback.
Martin County Democratic Executive Committee  
PO Box 159  
Stuart, Florida 34005  

January 21, 2004  

Mr. Robert Dunne, US Army Corps of Engineers  
701 San Marco Blvd.  
Jacksonville, FL 32207-8175  

Dear Sir;  

The attached resolution was passed by the Martin County Democratic Executive Committee on May 19, 2003 relative to our commitment to cleaning up the Everglades and, as a result of your fine work, cleaning up the Indian River Lagoon.  

We recognize the importance of this effort and support your work on the Indian River Lagoon plan.  

Please add our resolution to the comments being collected at this time.  

Thank you,  

Barbara W. Learned, Vice Chair  
Martin County Democratic Executive Committee  
Resolutions Committee of the Martin County DEC
A RESOLUTION ON THE PROTECTION OF THE EVERGLADES

WHEREAS, the Florida Everglades is vital to the ecosystem which provides the habitat for many native species of flora and fauna; and

WHEREAS, the Florida Everglades has been protected to some degree by a joint Federal and Florida bi-partisan governmental partnership aimed at cleaning the polluted water flowing into the Everglades; and

WHEREAS, the Republican Legislature of Florida and Governor John Elias Bush have passed legislation written by the lobbyists for the sugar industry that destroys Florida’s ability to clean up the terrible damage that has been done to the vital resource; and

WHEREAS, two additional years of pollution will be a death knell for many of Florida’s unique life forms, and

WHEREAS, this legislation will cause Florida to lose billions of federal dollars dedicated to the cleanup of the Everglades and related ecosystems, including the Indian River Lagoon; and

WHEREAS, the Florida Republican legislature, through this action, will allow damage to the ecosystem for generations to come; and

WHEREAS, Governor John Elias Bush has the ability to veto such an extension of time for this important step toward the revitalization of the Everglades,

NOW, THEN, THEREFORE, be it RESOLVED on this 19th day of May, 2003 that the Martin County Democratic Executive Committee demands that Governor Bush veto this legislation which alters the obligations of the Sugar Industry to cease its pollution of the water flowing into the Everglades under the 1994 Everglades Forever Act. We further demand that the Florida legislature return to a more acceptable and timely environmental policy that will meet Federal standards and protect or River of Grass.

Chair, Martin County Executive Committee
February 4, 2003

Robert M. Dunne
U.S. Army Corps of Engineers
701 San Marco Blvd
Jacksonville, FL 32207-8175

Dear Mr. Dunne:

The Board of Trustees of the Environmental Studies Council, Inc. has voted to support the implementation of the Indian River Lagoon Plan for the portions of the Everglades Restoration Program in Martin and St. Lucie Counties, and its submission to Congress for funding in the amount of $1.2 billion.

The Council is the fundraising arm of the Environmental Studies Center in Jensen Beach. This school-based environmental education program puts Martin County (FL) school children directly in touch with the many habitats of the Lagoon and the St. Lucie River estuary. These two waterways are their classrooms and have been for 31 years.

More than 15,000 students (K-7 grades) each year walk through mangroves to see their filter systems in operation, seine the Lagoon to study small creatures that come up into their nets, measure erosion on islands in the river, and test salinity and “ooze” in the river. Over the years, the students have shared their testing results with the South Florida Water Management District.

The staff at the Environmental Studies Center has taught thousands of young people the value of the Lagoon and its habitats. More recently, we are beginning to see the results of these programs as students are seeking degrees in environmental education and related fields because of their interest garnered from classes at the Center. The Council is currently providing scholarships to four students interested in environmental careers. We are also supplementing the Center’s budget with one teacher salary each year ($50,000). This is our effort to assure continuity in the curriculum at the school.

While the cleanup of the river is necessary for all the communities along the Lagoon, it is imperative that our children enjoy learning experiences in healthy waterways, finding living organisms, clean water and a strong estuary ecosystem. Instead, they often find dead fish on the river banks and document a growing ooze problem in samples collected from the bottom of the river.

Our quality of life is dependent upon your decision. Your assistance in making this happen is imperative. If you have any questions or would like to visit the Center for a tour, please feel free to contact the Office at (772) 219-1887, or my work office at 1-888-286-8936. Thank you for the consideration I know you will give this project.

Sincerely,

Adrienne Moore
Council President

MISSION STATEMENT:

To protect and enhance the educational programs at the Environmental Studies Center and to promote and extend environmental awareness through community education.
Mr. Robert M. Dunne  
U.S. Army Corps of Engineers  
701 San Marco Blvd  
Jacksonville, FL 32207-8175  

February 8, 2004


Dear Mr. Dunne:

Florida Wildlife Federation wishes to add its name to the list of conservation organizations, local governments, elected officials and the many, many citizens that enthusiastically support moving forward with this much-needed project. The fish and wildlife habitat this project will restore was once one of the most significant environmental assets on Florida’s East Coast. This project will restore lost outdoor recreational amenities in the midst of a growing population and, with recreational value restored, the lost business income derived from that recreation will also be restored. Not only will traditional angling related businesses improve, but also so will tourism and real estate. In Florida, quality fish and wildlife habitat is an economic engine of tremendous importance. The Federation urges the U.S. Army Corps of Engineers to move forward swiftly with this much needed and beneficial project.

However, Florida Wildlife Federation would be remiss not to point out that realizing the full recreational and economic value of this restoration requires revision of the Corps Lake Okeechobee Operations Schedule. We understand that the Corps is in the early stages of this.

The PIR for the Indian River Lagoon CERP project clearly identifies the problem: the estuarine ecosystem is in imminent danger of collapse because of water management practices. Its profound degradation will persist if the negative environmental impacts of the C&SF project are not corrected. Congress asked that CERP be created and implemented to restore the South Florida ecosystem and mitigate the damage done by the C&SF project. As the PIR shows, the Indian River Lagoon – South Project clearly meets these goals.

Local interests in the project area have identified a number of shortcomings in the PIR. With adaptive management, these need not be “show stoppers,” but they are quite important. The Federation urges the Corps to work with local interests to resolve these remaining issues while meeting the March 2004 deadline. Thank you for considering these comments.

Sincerely,

Paul Parks  
Lake Okeechobee Project Director
February 10, 2004

Mr. Robert M. Dunne  
U.S. Army Corps of Engineers 
701 San Marco Blvd 
Jacksonville, FL 32207-8175

Dear Mr. Dunne,

I write to express the Environmental and Land Use Law Center (ELULC)’s strong support for the approval, authorization and implementation of the Indian River Lagoon-South Restoration Plan as described in the December 2003 Draft Project Implementation Report and Supplement to the Final Environmental Impact Statement (IRL Plan).

The existing Central and Southern Florida Flood Control (C&SF) Project has critically harmed the Indian River Lagoon and St. Lucie Estuary, resulting in significant loss of habitat, fish kills and lesioned fish. The IRL Plan is the key to undoing the significant and longstanding environmental harm caused by the C&SF project.

The IRL plan, in many ways, could be considered a model plan for CERP. The Plan’s focus is clearly and undeniably on the restoration, preservation and protection of the River, Estuary, and Lagoon. The Natural Storage and Treatment Components include over 90,000 acres of restored natural areas, providing perhaps the best possible example of what all CERP projects should strive to achieve. The Natural Storage and Treatment Components significantly increase the spatial extent of wetlands and serve as critical habitat to listed and endangered species, while providing 30,000 acre feet of effective storage, substantially reducing phosphorus loading to the basin, and while providing flood protection, groundwater recharge, and significant recreational opportunities – all without the enormous operations and maintenance costs associated with structural solutions.
As you must already be aware, the IRL plan has had and continues to have an unprecedented level of support from all sectors of the community – local, regional, and beyond. The IRL team has earned this support by developing a plan that not only restores the health of the Lagoon and Estuary, but does so while restoring the health of its watershed. We urge the prompt approval and finalization of this Plan, and strongly support the authorization and full funding of this Plan by Congress. More detailed comments on a few aspects of the plan follow.

Sincerely,

Lisa Interlandi
ELULC - IRL PLAN COMMENTS, cont.
February 10, 2004

Nutrient Loads to Lake O

We are pleased to see that the Revised Plan responds to concerns raised regarding nutrient loading to Lake Okeechobee from C44. The sustainability of Lake Okeechobee is critical to the restoration of the Everglades as well as the St. Lucie River and the Indian River Lagoon. Serious water quality problems in the Lake are exacerbated by high nutrient backflows from C44. Recommend: Continuing adaptive management to address nutrient loading to Lake O.

Diversion Canal

It is unclear whether the Diversion Canal component has been modified from a stand alone component to be a part of the C44 reservoir / STA complex and what impact such a modification might have. This component was the most controversial aspect of the Plan and may require further study and analysis to better define its values and impacts. It is unclear if combining the diversion canal with the C44 complex will result in the canal being expedited from the schedule proposed in the feasibility study.
Recommend: the diversion canal remain a separate component of the plan, with separate design and cost estimates, and that its construction be deferred until C23 reservoirs are complete.

Public Private Partnerships

Section 7.7.6 appears to endorse, without limitation, the public private partnership concept introduced by the SFWMD. We are concerned about the lack of process, or any particular safeguards to ensure the public benefit in any such process.
Recommend: Include safeguards to ensure: land needed for CERP projects will remain in public ownership; project designs meets Corps standards; all CERP goals and requirements will be met; and the benefits of lower cost and earlier completion will be achieved.

Land Costs

Land costs appear to have risen 156% in the past two years. While some contingency based on uncertainty is appropriate, these prices appear to be excessive.
Recommend: Actual sales documented by the property appraiser should be reviewed.

C44 Reservoir - Assurances for Lake O

The C44 Reservoir will likely be one of the first reservoirs adjacent to Lake Okeechobee to come online. This reservoir will reduce water supply dependence on Lake O while simultaneously reducing discharges to the Estuary and back into Lake O. The reduction in water supply dependence on Lake Okeechobee is critical for successful establishment of a significantly lower regulation schedule to benefit the health of the Lake’s littoral zone and to reduce the need for discharges into the estuaries. If the increased reservoir storage capacity is used as the basis for increasing permitted water allocations, the natural system benefits associated with the reservoir may not be realized. It is also important to note that reservoirs, to be effective, must be managed for their primary purpose – i.e., to capture and detain stormwater. Reservoirs will be
able to supply irrigation water but that secondary function must not be used as a basis to perpetually store water in the reservoirs, as such would reduce their ability to achieve their primary purpose and the associated environmental benefits.

Recommend: add language to clarify that water supply permits must not reduce or negate the benefits of the C44 Reservoir to Lake O or the Estuary.

Recommend: add language to ensure that reservoir operations will be focused on achieving primary purpose of capturing and detaining stormwater, and associated environmental benefits.
Audubon of Florida strongly supports the recommended plan in the draft *Indian River Lagoon South Project Implementation Report* (IRL-S PIR) and urges its authorization by Congress in 2004. Indian River Lagoon (IRL) restoration is a major project of the Comprehensive Everglades Restoration Plan (CERP) and contributes significantly to the restoration of the greater Everglades ecosystem. Audubon has followed IRL project development very closely and we are impressed with the thoughtfulness and commitment to restoration demonstrated in this project. Everyone involved in the development of the IRL project should be highly commended for this significant step toward the restoration of the Everglades.

This plan has received much public interest, scrutiny, and very broad public support. Resolutions and statements of support have come from twelve (12) South Florida Counties, three (3) Chambers of Commerce, NAACP Florida Chapter, The Everglades Coalition, and The Rivers Coalition. Additionally, Martin County imposed their own sales tax, voluntarily raising more than $50 million toward the project. Perhaps the greatest reflection of public support appeared at the public hearing in Jensen Beach on January 15, 2004, which was attended by more than 250 citizens in strong support of the IRL-S PIR.

In summary, the *Indian River Lagoon South Project Implementation Report* reflects an exciting and long-overdue approach to water resource projects by adding habitat restoration to the usual mix of structural solutions. It is a new approach to project design for the Corps, addressing the contemporary values of the Nation. Audubon looks forward to continuing to work with you and your excellent staffs throughout the detailed design, refinement, and implementation of this key project of the Comprehensive Everglades Restoration Plan.

Sincerely

Mark L. Kraus, Ph.D.
Interim Executive Director

Enclosure
Audubon of Florida has organized the Everglades Restoration Alliance (ERA), a growing list of supporters of moving forward with 180,000 acres of Everglades restoration in the coming year, including the Indian River Lagoon and Southern Golden Gate Estates Restoration Projects. The ERA currently includes:

Local Government
- Broward County Board of County Commissioners
- Collier County Board of County Commissioners
- County Coalition for Responsible Management of Lake Okeechobee and St. Lucie and Caloosahatchee Estuaries, including
  - Lee County
  - Martin County
  - Okeechobee County
  - St. Lucie County
  - Palm Beach County
  - Glades County
  - Hendry County
  - Highlands County
- Lee County Board of County Commissioners
- Martin County Board of County Commissioners
- Miami-Dade County Board of County Commissioners
- Monroe County Board of County Commissioners
- Palm Beach County Board of County Commissioners
- St. Lucie County Board of County Commissioners

Chambers of Commerce
- Chamber South
- Greater Miami Chamber of Commerce
- Greater Miami Hispanic Chamber of Commerce

Minority Organizations
- NAACP Florida Chapter
- Delta Sigma Theta Sorority, Inc.*

Environmental Organizations:
- The Everglades Coalition*
- Audubon of Florida
- Defenders of Wildlife
- Environmental and Land Use Law Center
- The Everglades Foundation
- The Everglades Trust
- National Audubon Society
- National Parks Conservation Association
- National Wildlife Federation
- Natural Resources Defense Council
- 1000 Friends of Florida
- Sierra Club
- World Wildlife Fund

Other
- Day Cancer Research Foundation, Inc.
- Northeast Dade Coalition

* Copy not attached.
Resolution of Support for Everglades Restoration

WHEREAS, the Everglades ecosystem, spanning from the Kissimmee River Valley to Florida Bay, is a significant national resource and international treasure;

WHEREAS, on December 11th, 2000, Congress approved the Comprehensive Everglades Restoration Plan (CERP);

WHEREAS, Everglades restoration must move forward expeditiously;

WHEREAS, Everglades restoration requires that Congress approve each restoration project and three projects are scheduled for approval during the 2002 session of Congress;

WHEREAS, three projects, the Indian River Lagoon Feasibility Study, the Southern Golden Gates Estates project and the Water Preserve Areas (Bird Drive Recharge Area and the Southern Compartment of the Hillsboro Impoundment), are immediately necessary because of development pressure, escalating costs of delay, and impending estuarine ecological collapse;

WHEREAS, these projects promise to provide large-scale restoration early in the CERP process, thus demonstrating the worth of the investment the federal, state and local taxpayers are making in this historic restoration effort;

WHEREAS, these projects repair previous damage caused by federal and state water control projects;

WHEREAS, these projects contain more than half of the total land area in the restoration plan, and will provide impressive ecological benefits well before 2010, including:

- 270 square miles (~172,000 acres) of restored and protected wetlands and uplands,
- restored habitat for more than 2,200 species, at least 35 of which are threatened or endangered (including, manatee, snail kite, wood stork, red-cockaded woodpecker, scrub jay, crested caracara, whooping crane, bald eagle, indigo snake, eastern loggerhead turtle, Atlantic green turtle, leatherback turtle, Atlantic hawksbill, and Atlantic Ridley turtle),
- tens of millions of dollars in associated economic and quality of life benefits annually,
- improved water quality for the Everglades, Florida Bay, 10,000 Islands, St. Lucie Estuary, and Lake Okeechobee.
Thank you for attending this evening’s Public Meeting. We value your contribution. If you would like to provide additional comments on this evening’s presentation and discussion, please provide comments below and return to us.

**COMMENTS:** (May be continued on reverse)

I totally support the IRL + CERP!

FUND IT.

BUILD IT.

SAVE THE RIVER + THE EVERGLADES.

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**NAME AND ADDRESS:** (Optional)

M.B. DAWSON
6014 SW Maple Rd
Palm City, FL 34990

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Please mail comments to:
U.S. Army Corps of Engineers
Attn: Robert Dunne
P.O. Box 4970, Jacksonville, FL 32232-0019

Or Email To: Robert.M.Dunne@usace.army.mil
Thank you for attending this evening’s Public Meeting. We value your contribution. If you would like to provide additional comments on this evening’s presentation and discussion, please provide comments below and return to us.

COMMENTS: (May be continued on reverse)

It's time to actually fund the plan and do something to help the rivers!

NAME AND ADDRESS: (Optional)  
R Dawson  
10014 SW Mapp Rd  
Palm City, FL 34990  

Please mail comments to:  
U.S. Army Corps of Engineers  
Attn: Robert Dunne  
P.O. Box 4970, Jacksonville, FL 32232-0019

Or Email To: Robert.M.Dunne@usace.army.mil
A comment has been received for Indian River Lagoon - South:

Email: jensenjoe@yahoo.com
Organization Name: Local / Grassroots Organization
Affiliation: 

Comment
Dear Sirs:
In the summer of 1989 I had the privilege of being involved in saving a parcel of land 77 acres in size, in a matter of months was to be destroyed by a development, but millions of years in the making.
This parcel of land was owned by a New Jersey company called the Carteret-Jensen Inc. Located in Jensen Beach, this was and still is the southern most parcel in the Savannas, which stretches from Jensen Beach Blvd. north to Ft. Pierce, this land is also the most valuable piece for the Martin County wellfield that is bordering this parcel.
Preservation and water recharge was not on everyone's mind at that time except for myself and many of the other environmentalists I was working with to save this land.
What the developers wanted to do with that land was not short of a sin, it was a sin because they wanted to put 278 zero lot line units all around a 9 acre wetland in the middle of that pristine 77 acres, this project was called Spices.
It was not developed, (the environmentalists won) it was eventually purchased by the State of Florida, is now the Savanna's State Preserve, and open to the public, to see for yourself for all time how wonderful and functional this land still remains.

I bring this up now because it is an important lesson for CERP, land used for water storage is also land for water recharge, and very important when one considers the amount of water now used compared to the amount used in 1989. I can remember when the MC utility was pumping 2.5 million gallons a day, and recently I heard something in the order of 9 mgd. So the need for water storage becomes elementary, and the need for saving the plants and animals will also follow naturally.
Preservation not only for nature's sake, but for our survival will become obvious to some, but others will only see an opportunity to see profit, this must an should be avoided at all costs.
We will only have one more chance at getting this right, because if the developers win, we all loose because when the land is developed, it will be gone forever for preservation, and water recharge.
Please do not let the lessons of the past go unheeded, please save the land necessary for CERP, and for water preservation.
Thank you,
Joseph Florio
Jensen Beach

Go to http://www.cerpzone.org/ to review all feedback.
Col. Robert Carpenter  
US Army Engineer District, Jacksonville  
PO Box 4970  
Jacksonville, Florida 32232-0019

RE: Environmentalist, Everglades Clean Up, Indian River Lagoon and Pollution

Dear Col. Carpenter,

It is time for people, politicians, and Environmentalist, to stop playing God with Nature. Nature is our biggest polluter, then man. There is no way to stop pollution. All we can do is control it as much as possible. All this money we spend on reservoir is a waste. All that is happening is you are contaminating more area and spending Taxpayers money. What happens when this area becomes contaminated? You going to move it to another area and pollute more areas. Pretty soon we will run out of good land. There wont be no end to it as long as man is on Earth. Polluted water will be on this earth as long as there is a Earth and there is nothing we can do about it. It takes some time, but Nature has a way of solving some of these problems, and other problems show up, but you and I wont live long enough to see it. A Example would be when you look at different materials on top of one another. It doesn't make since to move polluted water from one spot to another. There has to be a way to treat the water like we treat sewage and reuse it, or a disease.

Environmentalists complained a long time ago and this problem has kept moving from one spot to another. Example: The water in the St Luce canal was polluted when water was released from Lake O. Now how did it get polluted? Its funny when the water came thru the gate it became polluted. Did the gate cause it to be polluted or was it polluted to start With. Nature created this canal and there was pollution while this was taking place. Why didn't they say it was polluted in the Lake? They complained about the water flowing East and West, but not to the South. They are the reason it did not flow South. These groups will complain all of their life. This is how they get attention. Its called politics.

Nature put all this silt in waterways and it took a long time for that to occur and its great that you are going to remove it. There should be more of that. But when you do, there will be other groups complaining. If you put all the work that has been done, back like nature had it they would still complain. This is how this mess got started. So did Nature have it right? I bet if you put the lake O dike back like nature had it and every time it rained the water coming over the dike was polluting the ground outside the lake, they would still complain.

I would hope that you will keep politics out of this and do what is correct. I don't feel what is being done will solve the problem. Man cannot correct what nature put in place. Example: Kissimmee River and Water from Lake O. I feel like if we were to replace the gates with spillways at a elevation of Plus 12 at locations on the East, West, and South Side of the Lake, and every time it rains the water will automatically draw down to that elevation, and then control the flow of water after it leaves the lake. Such as; the water leaving the lake to the South send it to the Everglades. At the same time have a separate
reservoir to let the farmers circulate their on water. Never to release to release the Farm water to the Everglades. Keep it separate from the water going to the Everglades etc. That won't stop the complaining, but they can't complain too much when it rains and water discharges by nature and not by man.

Every time we try to solve what nature put in place we fail. Another example of environmentalist complaining is about, man thinning the forest. Look at the damage fires has caused man. Nature took care of some of this, but not all. Man was only doing what nature did not do. Burn the under growth if we want to use it.

These groups are there for attention. They cost the taxpayer a lot of money with out reason. You cannot stop pollution. Someone needs to have guts enough to tell the truth about this and stand up to them. Take politics out of it.

Yours Truly

[Signature]

James R. Gray
1614 sw college st.
Stuart, Fla. 34997
A comment has been received for Indian River Lagoon - South:

Email:  mhurchalla@hotmail.com
Organization Name: Individual

Comment

P v #4
- The original plan was to divert both C23 and C24 flows to C44. If this has been changed, it should be clarified.
- This section continues to refer to diversion to Lake Okeechobee via C44 while later sections point out that Lake diversions cannot occur until nutrient targets for the Lake are established and it is clear that the diversion will not interfere with meeting these targets.
- The section asserts that diversion would provide more natural discharge locations. While this is clearly true of the North Fork diversion, it has not been established that diverting C24 flows to C44 constitutes a “more natural location”. Haunert and Konyha’s paper (Feb 26 2001) points out that “value of diversion to the historic South Fork has not been accepted for two reasons: flows from today’s South Fork watershed are not substantially different from those of the pre-developed watershed, and diversions are not free.”
- There is no reference to or calculation of the increased impacts at S80 should all of the C44 diversion be discharged there rather than having a portion go to Lake Okeechobee.

The purpose of this critique is not to suggest that the C23 to C44 diversion should be removed from the Plan. Rather it should be identified as a separate component, accurately characterized and deferred for later implementation so that a more accurate impact assessment can be devised.

Suggested rewrite:
“The diversion of existing flows via a canal connections and operating constraints on new reservoirs and STAs reduces negative impacts from C23 to the middle estuary and provides more natural freshwater flows in the North Fork. In addition it shifts discharges from the C24 outlet to the C44 outlet at S80 and may provide additional water for Lake Okeechobee. Changes include diverting approximately 64,500 acre feet from the C23 basin and C44 basin discharges into the North Fork of the St. Lucie River and diverting residual C23 and C24 flows to the C44 canal. Until nutrient targets are established for Lake Okeechobee, diverted flows would be discharges at S80. These changes in water movement would reduce the damaging impacts associated with freshwater discharges to the middle estuary and would shift discharges from C24 to C44.”

P v #5 The muck section needs to be rewritten for consistency. It will either remove muck from the deep “dead zones” OR it will remove muck from shallow areas where oysters can colonize. There is no evidence that removing muck from the deep zones will provide 2650 acres of clean substrate for oysters. Dredging within the deep zones is the most cost effective way to remove the maximum amount of muck, but the depth of muck in these holes is such that clean substrate will not be exposed.

Again, this is not intended to suggest that muck removal is not important. However, justification for the muck removal should be consistent and accurate.

Suggested rewrite:
Change sentence beginning with “Muck removal…” to:
“Muck removal will decrease turbidity and oxygen demand and aid in the recolonization of bottom organisms.”

P vi
The summary on this page is not consistent with table on P Viii.
This shows 53,665 acres of wetlands restored while the Benefits table shows a total of 40,504 acres of wetlands restored. The 2,650 acres of benthic habitat restored is questionable. Partial removal of deep muck is central holes will not recreate natural bottom conditions. Removing the muck in these holes down to sand is not feasible.

P viii The upland section of the summary of benefits is confusing. It suggests that there will be less upland habitat (21,876 without project, 13,149 with project) as a result of the project. This is not accurate. On the 92,000 acres of Natural Areas, there will be less uplands. Much of the uplands within that area that will be restored to wetlands will be cleared pasture rather than upland habitat. Much of the cleared pasture that is not converted to upland will be restored to native upland habitat. In the without project conditions, much of the Natural Area native upland habitat will be developed for agricultural or urban purposes. The Feasibility study demonstrates that the project will increase the acreage of native upland habitat in the watershed.

Suggestion: Delete this or change to accurate numbers for upland native habitat.

P ix Par 3, first sentence, line 5
...to the estuary and to Lake Okeechobee.

P 1-14 The map is not helpful in understanding the watershed. There is no indication as to what grey color signifies.

P 1-14 last par. It might be helpful to explain that before there was a permanent inlet there was an estuary with non permanent inlets opening and closing at different locations. Otherwise you get accused of spending a billion dollars to create a totally artificial salinity gradient where there was no salinity. It could be better and more accurately phrased to note that high freshwater heads in the watershed and long lasting dry season flows to the river in conjunction with an unstable inlet, created a more riverine situation.

P 1-16 par 2 last sentence: same issue as above. The location of the salinity envelope in the river has moved because of reduced freshwater flow and Inlet dredging. It is not accurate to say that man turned a river into and estuary and Congress is now being asked to make that estuary function.

Suggested wording: replace with: "Restoration efforts focused upon in this study are directed to restoring a healthy salinity envelope consistent with present watershed flow patterns and inlet location.

P 6-23 Muck. Par 2 Removal of muck in deep dead zones will NOT expose substrate suitable for oysters and SAV. Removing to the level where resuspension does not occur will leave a muck substrate inappropriate for oysters or SAVs. Depths will be too great for both these target species.

The new muck proposal will require a large disposal area which is as close as possible to the estuary and has access for pumping. There is a citrus grove just west of I95 on the C23 canal which might be an ideal site. It is owned by Consolidated Citrus which has expressed an interest in divesting their local citrus holdings.

P 7-4 2nd par. The diversion canal is no longer described as a separate feature. It appears to have been made part of the C44 complex. This causes problems for providing appropriate scheduling that would allow for further documentation of benefits.

Suggest: Break out C23/C44 Diversion Canal as a separate component.

P 7-4 4th par. Further explanation as to what “design/build” is an whether the PIR is based on a design/build alternative in terms of timing and other factors is essential. It may be hidden elsewhere in the report, but if so, it is difficult to find. If this location was chosen because of the design/build advantages, then those advantages must be clearly outlined. If design/build is an optional alternative that has not yet been explored sufficiently to explain it, then it should not be mentioned at all. Next par: VE must also be explained. A #30 million dollar saving should not be claimed unless it can be documented.

Suggest: Explain design/build and VE or don’t mention them.

P 7-4 to P 7-7 7.1.1.1 The C23/C44 diversion canal is no longer listed as a separate component. It is mentioned on P 7-7 as an apparent component of the C44 complex. It is included in maps of the C44 complex. SPWMD indicates that it has not been included in the design build contract.
Suggest: Include C23/C44 diversion canal as a separate component from the C44 complex.

P 7-17 Muck. The PIR needs to clarify whether muck remediation will target the 4 locations depicted here or, whether the target is shallower muck deposits where clean bottom can be biologically reclaimed. If the four deep areas are the target, then it should be explained how 2650 acres of substrate will be reclaimed. This says that muck remediation strategy will be refined prior to the final PIR. This IS the final PIR. The pilot study has been completed. The pumping of slurry to Allapattah is no longer a viable alternative. The pilot demonstrated that it would not produce the claimed benefits and could harm natural vegetation restoration in Natural Areas. Suggest: remove the slurry spreading alternative for muck disposal. Put in a "place holder" that can face the straight faced test.

P 7-20 Southern Diversion. The southern diversion includes diversion of significant amounts of C24 discharge as well as reductions in C23 discharges (see Konyha and Haunert). This is important since the demonstrated benefit is at C23. Claiming C24 diversions to C44 as a "benefit" has not been demonstrated. As written, this suggests that 53,000 acre feet per year will be diverted from C23. That's not accurate. C24 average annual flows will be decreased over the '95 base. C44 flows will be significantly increased over the '95 base, especially if flows are not routed to Lake Okeechobee because of concerns about nutrient loads. While this may be acceptable, the results should be accurately outlined rather than claiming credit for illusory benefits. Suggest rewriting:

"Approximately 53,000 acre feet per year of excess flow that would otherwise be discharges at C23 and C24 are directed through the southern diversion component. Under current operational rules 31000 af per year may go to Lake Okeechobee via S-308, and 22,000 acre-feet per year would go to SLE via S-80. Until it is demonstrated that nutrient targets for Lake Okeechobee can be met, all diversion flows will be released at S80. In order to achieve NSM flows at C23 (Bessey Creek) and reduce discharges at C24, the excess flow will be diverted southward ..."

P 7-21 par 2 add:

"While it is not possible to approach NSM flows at C24 or C44 discharge points, there will be a reduction in flows at C24 from the 95 base. C44 discharges will be significantly increased from the 95 base (+38,229AF Konyha and Haunert, table 3 plus 31,000 Lake O) until diversions to Lake Okeechobee are possible.

P 7-26 par. 2 The statement that the cost of citrus "has reached peak values of $10,000" has no supporting evidence. Citrus near urban areas has gone up in cost. Citrus away from urban areas is suffering from global competition and canker fears.

7.3.3 The additional contingency of 25% on land costs is justified by "the uncertainty in the number of relocations". This is not true. The number of relocations is minimal. Sites were chosen to minimize homesites. The Feasibility Study showed highly inaccurate numbers (100s) for relocation for various sites. This has evidently not been revisited, though it would be fairly simple to examine aerial photos for dwellings. If a high contingency on land cost is necessary, it should not be based on relocation costs.

7-31 The cost of real estate in the PIR is 156% of the real estate costs in the Feasibility plan completed in 2002. There appears to be no justification. This results in estimating costs for citrus of $14,000/acre. If that is the "estimate", that is what the Water Management District will pay. While allowing for some contingency in land prices, this is ridiculously high. The Feasibility Study already had a built in contingency of 35% for land acquisition in 2002. The new figures are 156% of that. Prices have NOT gone up in two years. Before escalating the 2002 land price estimates, the Corps should check with Property Appraisers in Martin and St. Lucie County. They will have records and an analysis for all citrus sales in the two county area and are anxious to help cooperate to help CERP.

7-37 7.7.6 This comes across as a Corps endorsement of the public/private partnership. That is highly inappropriate at this time. Should the District come up with a plan or process or method to assure that:

- the land for the site will be in public ownership
- design will meet Corps standards
- all CERP goals and requirements will be met
- the process will be legal
- the process will public and transparent
- project completion will be cheaper and faster
It is inappropriate for the PIR to list all possible benefits of public/private
partnerships as if they were assured, while listing none of the challenges that must be
met. This is a dramatic departure for the Corps and it is inappropriate to endorse such a
concept unless there is some process in place to show that it can provide the "possible"
benefits.

Suggest:
One possible approach would be to leave this section out completely. The SFWMD has been
asked repeatedly for information on how safeguards for public/private partnerships will be
achieved. Henry Dean has said that no work at all has yet been done to address these
issues but the District will consider them next year. Endorsement of the concept should
follow a demonstration that practical safeguards have been developed.
Another alternative would be to add language as follows:
Line 8 "Public private partnerships may provide ... period of construction. Safeguards should
be in place prior to contracting to assure that: land needed for project sites will remain
in public ownership; project designs will meet Corps standards; all CERP goals and
requirements will be met; benefits of lower cost and early completion will be met."

7-41 7.9.7 and Table 7-7 The implementation schedule no longer has a separate project
for the C23/C44 canal connection. It appears to have become part of the consolidated C44
complex. Yet David Unsell and other District staffers have stated that this canal
component WILL NOT be part of the contract they are working on for the C44 complex. This
leaves the C23/C44 Diversion an orphan without costs estimates and without a schedule. In
the Feasibility Plan it was a separate component which was scheduled AFTER reservoir
construction. Now it is a top priority with the C44 reservoir./ That is inappropriate.

Suggest: Provide separate costs and implementation schedule (with adequate lead time for
adaptive management) for the C23/44 Diversion Canal.

G-11 The Real Estate section continues to show 215 separate ownerships in the Allapattah
Natural Area and excessive ownerships and relocation costs for other land acquisitions.
Land acquisitions were chosen with careful attention to Property Appraiser's maps to avoid
multiple small ownership and relocation. This was pointed out in detail in comments on the
feasibility study. Nothing has been done about it.

G-27 Costs of land appears to have "appreciated" 156% since 2002 without any
justification. A 25% contingency has been added even where land acquisition is complete
and the costs are known (22,000 acres of Allapattah)
The bold print explanation at the bottom of the chart ranges from unclear at best and
simply wrong at worst. It would appear that the 25% contingency and the 105 contingency
should not apply to lands already purchased.

G-27 With the double contingency on top of the 2002 figure which also had a 35%
contingency, land prices for citrus are estimated to be $14,000+ per acre. This is too
high.

G-31 This reservoir is the same site and the same acreage included in the 2002 Feasibility
Study. Tota1 real estate costs have gone from $39 million to $60 million without any
justification.
The pattern is found in comparing all real estate estimates that are comparable.

J-25 The C44 complex estimates do not include discussion of the Diversion Canal. That's
appropriate. It does need it's own section since it is not in the same location or
configuration as it was in the Feasibility Report.

K-8 While it is probably not possible at this late date to include the specifics of
assurances for the timing and distribution benefits which accrue to Lake Okeechobee from
C44 Reservoir storage, this important benefit cannot be ignored.
The C44 storage reservoir will be the first of a series of reservoirs and ASR wells which
will offload storage from Lake Okeechobee to surrounding regions. In each region watershed
runoff will be stored in the reservoir in lieu of going to Lake Okeechobee. Irrigation
needs in each region will first be met from the regional reservoir rather than from Lake
Okeechobee.
This arrangement is a key factor in making possible a Lake operations schedule which can
sustain healthy Lake littoral areas and minimize destructive discharges to the estuary.
IF excessive new water demands are placed on the Lake and/or the operations schedule is
not adjusted to assure the planned benefits to the Lake and the estuary, then planned benefits from the C44 reservoir and later storage will not be realized.

Suggest:
Add: "It is recognized that construction of the C44 reservoir will provide environmental benefits to Lake Okeechobee and to the St. Lucie Estuary by reducing the amount of water that must be stored in Lake Okeechobee to meet existing demands. Additional water supply permits dependent on Lake Okeechobee storage shall not be issued if they would negate or reduce these benefits."

K-32 last par. It is NOT true that agricultural and urban users in the study area rely primarily on canal discharges*. Almost no urban water users are dependent on canals, even indirectly for aquifer recharge. Utilities do not use surface water. Wellfields are almost all east of canal weirs and discharge points. The Upper East Coast Water Supply plan states that future demand will be met by Ro treatment of the Floridan Aquifer.

K-33 5.4 The determination that legal users were not adversely affected was based on modeling existing uses. How the modeling was done and what it was based on needs to be included in this section. The determination was made on actual use. If water use permits rather than usage were used for comparison, the answer would be different. Because some controversy exists with those who want permanent guarantees of their permitted use, it is critically important to clarify what the information base on this subject is.

K-57 7.2.1.9.6 The third sentence is not accurate. Analysis showed that diversion to reduce C23 discharges was good. Diversion from C24 to the upper reaches of the North Fork was good. There is NO analysis showing that diversion from C24 to C44 is positive. There is no diversion to the southern end of the St. Lucie. That diversion is to C44.

Suggest:
Change sentence to say: "Results of the analysis indicate that flows into the SLR through the C23 canal should be redirected to the greatest extent possible. This includes diversion to the North Fork or south to C44. To a lesser extent discharges from C24 should be diverted to the North Fork."

K-58 par 2 The reef off the St. Lucie Inlet is also damaged by discharges from the canal system. As written this suggests that the only impacted reef is off Ft. Pierce.

Suggest:
Add after 2nd sentence: "Likewise, reductions in flow from C23, C24 and C44 is likely to reduce negative impacts on the reef system just outside the St. Lucie Inlet."

K-64 Removal of muck from the deep holes targeted for dredging will leave behind a more highly consolidated muck bottom at greater depths. It will NOT expose appropriate substrate at appropriate depths for oysters or sea grasses.

M-2 The Diversion Canal from C23 to C44 needs to be included as a component.

M-4 C44 Basin The third sentence is in the wrong place. "The features (C44 Basin features) also provide diversion from the C23/C24 Basins for spatial redistribution of inflows to the North Fork of the St. Lucie River." This is simply not true. C44 features don't divert ANY water to the North Fork. Delete the sentence.

TYPOS
1-2 First par. Line 5 - sentence incomplete
1-15 par 2 fifth sentence "Inflows are..." sentence is garbled
1-19 par 3 Remove the comma in line 5
7-26 par 2 line 2 flutuating
K-10 2.4.2 line 8 "the existing of 2050 future"
K-32 5.3 line 8 "is then and delivered..."
K-32 last par. Line 6 "The project's effects sources of water..."
K-43 next to last par line 6 Is it really necessary to call it "the grandest plan"?

K-54 par 4 line 1 "perimeter as appropriate of the C44..."

K-55 par 3 C25 drains to the Indian River Lagoon NOT to the SLE

M-16 Ken Konyha's name is spelled wrong

Go to http://www.cerpzone.org/ to review all feedback.