

Report to the Subcommittee on Interior and Related Agencies, Committee on Appropriations, U.S. Senate

March 2001

SOUTH FLORIDA ECOSYSTEM RESTORATION

Substantial Progress Made in Developing a Strategic Plan, but Actions Still Needed





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United States General Accounting Office Washington, DC 20548

March 27, 2001

The Honorable Conrad Burns Chairman The Honorable Robert C. Byrd Ranking Member Subcommittee on Interior and Related Agencies Committee on Appropriations United States Senate

The South Florida Ecosystem Restoration Initiative is a complex, longterm effort to restore the South Florida ecosystem—including the Everglades—that involves federal, state, local, and tribal entities, as well as public and private interests. In response to growing signs of the ecosystem's deterioration, federal agencies established the South Florida Ecosystem Restoration Task Force in 1993 to coordinate ongoing federal activities. The Water Resources Development Act of 1996 formalized the Task Force; designated the Secretary of the Interior as its Chair; and expanded its membership to include state, local, and tribal representatives. The Task Force is charged with coordinating and facilitating the overall restoration effort. Restoring the ecosystem, which covers 18,000 square miles, or about 11.5 million acres, could take up to 50 years and will require the continuous effort and commitment of all the agencies involved.

In April 1999, we reported that the Task Force had not developed an overall strategic plan to guide the restoration.¹ Because of the scope, complexity, and large number of stakeholders involved in the restoration effort, we believed that it was important that the Task Force clearly articulate—in writing—specific, measurable goals for the restoration and a strategy for achieving the goals. To ensure that the South Florida ecosystem is restored in a timely and efficient manner, we recommended that the Task Force develop a strategic plan that (1) identified the resources needed to achieve the restoration, (2) assigned accountability for accomplishing actions, (3) outlined how the restoration would occur,

¹See South Florida Ecosystem Restoration: An Overall Strategic Plan and a Decision-Making Process Are Needed to Keep the Effort on Track (GAO/RCED-99-121, Apr. 22, 1999).

and (4) linked the strategic goals established by the Task Force to outcome-oriented annual goals.

Having a strategic plan that contained these elements would provide a focus and direction for the restoration effort, help the agencies involved in the restoration to set priorities, and establish benchmarks for measuring the Task Force's progress in restoring the ecosystem. A strategic plan would also allow the Task Force to clearly communicate to the Congress and other participants in the restoration effort what it is trying to achieve, the time frames for achieving the expected results, and the level of funding that will be needed. In addition, the importance of having such a plan is increased by the turnover in Task Force representation that will occur over the time it will take to restore the ecosystem and the need for new or replacement Task Force members to quickly understand what is needed to complete the restoration.

In this context, the House and Senate Committees on Appropriations directed the Secretary of the Interior, as the Chair of the Task Force, to develop a strategic plan as we recommended by July 31, 2000, and update it every 2 years. The Task Force submitted the plan on schedule. Subsequently, the Subcommittee on Interior and Related Agencies, Senate Committee on Appropriations, requested that we review the plan and determine if it contains the four elements that we recommended. (Note: Originally, we recommended that the Task Force link its strategic goals to outcome-oriented annual goals. Given the long-term, complex nature of the restoration effort and the biennial reporting requirements placed upon the Task Force, we now believe that it would be appropriate for these short-term, outcome-oriented performance targets or goals to cover a period longer than 1 year. Accordingly, we replaced the term "annual" with "interim" throughout this report. The Task Force could develop interim, outcome-oriented goals that coincide with its 2-year reporting cycle.)

Results in Brief

The Task Force has made substantial progress in developing a strategic plan that can guide the ecosystem's restoration. The Task Force's plan identifies the resources needed and the agencies accountable for specific actions—the first two elements of the strategic plan that we recommended. The Task Force's plan also partially addresses the third element—outlining how the restoration will occur—by (1) describing specific objectives for accomplishing two of the restoration's strategic goals, "get the water right" and restore, preserve, and protect natural habitats and species and (2) including a list of end results that it expects to achieve.

However, the Task Force's plan does not yet include some of the key attributes that are needed to address the third element—outlining how the restoration will occur. The plan does not (1) discuss how the Task Force will achieve its third strategic goal of fostering the compatibility of the built and natural systems, (2) describe the relationship of the end results that the Task Force expects to achieve and the restoration's strategic goals, or (3) consistently include quantifiable or numerical starting points or targets when describing the end results or future conditions that the Task Force expects to achieve. In addition, the plan does not address the fourth element—linking the strategic goals of the restoration to interim outcome-oriented goals. Revising the strategic plan to include this additional information when the Task Force updates the plan in 2002 would fulfill the House and Senate Committees on Appropriations' requirement to develop the strategic plan we recommended. It would also provide a clearer picture of the results that the Task Force plans to achieve and the time frames for achieving them and would improve the Task Force's ability to assess and report on its progress in restoring the ecosystem.

We provided the Department of the Interior a draft of this report for review and comment. The Department agreed that the plan does not contain all of our recommended elements and that additional revisions and refinements are needed before the plan would fulfill the requirement placed upon the Secretary of the Interior, as Chair of the Task Force, by the House and Senate Committees on Appropriations. The Department indicated that additional information and refinements would be included in the plan's 2002 update. The Department also provided technical comments, which we incorporated as appropriate.

Background

The South Florida ecosystem extends from the Chain of Lakes south of Orlando to the reefs southwest of the Florida Keys. This vast region, which is home to more than 6 million Americans, a huge tourism industry, and a large agricultural economy, also encompasses one of the world's unique environmental resources—the Everglades. Before human intervention, freshwater moved south from Lake Okeechobee to Florida Bay in a broad, slow-moving sheet. The quantity and timing of the water's flow depended on rainfall patterns and on slow releases of stored water. Even during dry seasons, water stored throughout the vast areas of the Everglades supplied water to wetlands and coastal bays and estuaries. For centuries, the Everglades provided habitat for many species of wading birds and other native wildlife, including the American alligator, which depended on the water flow patterns that existed before human intervention.

Following major droughts from the early 1930s through the mid-1940s and drenching hurricanes in 1947, the Congress authorized the Central and Southern Florida Project in 1948. The project, an extensive system of over 1,700 miles of canals and levees and 16 major pump stations, prevents flooding and saltwater intrusion into the state's aquifer while providing drainage and water for the residents of South Florida. However, as shown in figure 1, the engineering changes from the Central and Southern Florida Project, coupled with agricultural and industrial activities and urbanization, have reduced the Everglades to about half its original size and have had a detrimental effect on wildlife habitats and water quality. The loss of habitat has caused sharp declines in native plant and animal populations, placing many native species at risk.



Figure 1: The Everglades—Historic and Present

Source: GAO's adaptation of an illustration by the South Florida Water Management District.

To address the ecosystem's deterioration, the South Florida Ecosystem Restoration Task Force was established by a federal interagency agreement to promote and facilitate the development of consistent policies, strategies, and plans for addressing the environmental concerns of the South Florida ecosystem. The Task Force consisted of assistant secretaries from the Departments of Agriculture, the Army, Commerce, and the Interior; an assistant attorney general from the Department of Justice; and an assistant administrator from the Environmental Protection Agency. The Water Resources Development Act of 1996 formalized the Task Force; expanded its membership to include state, local, and tribal representatives;² and charged it with coordinating and facilitating the efforts to restore the ecosystem. To accomplish the ecosystem's restoration, the Task Force established the following three goals:

- *Get the Water Right.* Restoring more hydrologic functions to the ecosystem while providing adequate water supplies and flood control will involve enlarging the ecosystem's freshwater supply and improving how water is delivered to natural areas. The goal is to deliver the right amount of water, of the right quality, to the right places, at the right times.
- *Restore, Preserve, and Protect Natural Habitats and Species.* Restoring lost and altered habitats and recovering the endangered or threatened species native to the ecosystem will involve acquiring lands and reconnecting natural habitats that have become disconnected through growth and development.
- *Foster Compatibility of the Built and Natural Systems.* Achieving the longterm sustainability of the ecosystem will not be possible if decisions about the built environment are not consistent with the ecosystem's health. Land use decisions must be compatible with the ecosystem's restoration while supporting of the needs for water supply, flood control, and recreation. The goal will also require developing public understanding and support of ecosystem restoration issues.

The Task Force has published several documents and developed strategies and plans to address specific restoration issues since its establishment in 1993. However, at the time of our review in 1999, it had not developed an overall strategic plan to guide the restoration effort and accomplish its goals. We recommended that the Task Force develop a strategic plan that

²The South Florida Ecosystem Restoration Task Force consists of 14 representatives from federal, state, and local agencies and tribal governments participating in the restoration effort.

	would clearly lay out how the restoration would occur and contained quantifiable goals and performance measures that could be used to track the restoration's progress. On July 31, 2000, the Task Force issued its strategic plan entitled <i>Coordinating Success: Strategy for Restoration of</i> <i>the South Florida Ecosystem</i> .
The Task Force Has Identified the Resources Needed and the Accountable Agencies	The July 2000 plan submitted by the Task Force fully addresses two of the four recommended elements. The plan identifies the resources needed and identifies the agencies accountable for accomplishing specific actions. In addition, because the Task Force included discussions of several important aspects of outlining how the restoration will occur, we believe the plan partially addresses the third element. (The section after this one discusses why the plan does not fully address the third element.)
	In identifying the resources needed to achieve the restoration and assigning accountability for accomplishing specific actions, the plan states that it will cost an estimated \$14.8 billion to restore the South Florida ecosystem ³ and describes major programs and plans that will contribute to the restoration. The plan also includes an appendix that provides additional information on the cost estimate, the categories of costs, and how the estimate was developed. The appendix contains information on the estimated cost of each goal and shows how the costs will be shared between the federal and state governments. Information on the ongoing and future programs and activities that are associated with the goals, the agencies accountable for implementing those programs and activities, the total cost of each program and activity, and the amount appropriated for or allocated to those programs through fiscal year 2000 is also presented in the appendix.
	The plan also provides information on the over 260 projects that the Task Force believes will contribute to achieving the ecosystem's restoration. The plan contains a project summary table that clearly identifies which of the goals and subgoals each project is associated with and provides information on each project's total costs, the lead agencies accountable for implementing each project, the start and end date of each project, and the amount that has been appropriated for each project to date. For

³At Congress's request, the Department of the Interior, which chairs the Task Force, estimated in March 2000 that achieving all three of restoration goals would cost \$14.8 billion. The Department will revise this cost estimate every 2 years.

example, the plan's table shows that the Modified Water Deliveries Project is associated with subgoal 1.A.3, Removing Barriers to Sheetflow, which is one of the subgoals of Goal 1-Get the Water Right. The table identifies the National Park Service as the accountable agency for the project, which is intended to reestablish natural hydrologic conditions in Everglades National Park, and shows that the project started in 1990 and is expected to be completed in 2003. The project summary table also shows that the total cost of the project is \$135,363,000 and that \$62,037,000 has already been appropriated. In addition, the plan includes detailed data sheets that provide a description of each project and detailed budget information. By showing where the projects fit into the overall restoration effort, the plan provides information that, if utilized by the participating agencies, will be very valuable in assisting the agencies involved in the restoration in establishing priorities and justifying and obtaining the authorization and funding necessary to implement the planned projects. The Task Force could also use this information to develop interim outcome performance targets-a key element not yet included in this plan-that could provide the Task Force with a greater ability to gauge the progress being made in restoring the ecosystem.

The Task Force's plan also includes discussions of several important aspects of how the restoration will occur-the third element. The Task Force added subgoals and specific objectives for accomplishing two of the restoration's three strategic goals. For example, the plan divides the restoration's strategic goal of delivering the right amount of water, of the right quality, to the right places, at the right times (Get the Water Right) into two subgoals. Under the first subgoal—Get the Hydrology Right (water quantity, timing, and distribution), the plan describes three objectives designed to recapture and store water that is currently discharged to the Atlantic Ocean or Gulf of Mexico and redirect it to match, as closely as possible, natural hydrological patterns. The plan also describes two objectives under the second subgoal—Get the Water Quality Right—that are aimed at reducing the level of phosphorus entering the Everglades and other protected areas and ensuring that impaired water bodies in the ecosystem will meet federal, state, and tribal water quality standards. Similar details have been provided for the restoration's second goal-Restore, Preserve, and Protect Natural Habitats and Species.

The Task Force also included a list of end results (outcomes) that are representative of what it expects to eventually achieve by carrying out the activities described in the plan. In addition, the Task Force included a description of desired future conditions when describing each of its goals to further explain what each goal means. The Task Force also included a

	discussion of the other factors, such as obtaining adequate and reliable funding and the willingness of landowners to sell or lease their lands, that could affect its ability to achieve the restoration's goals. In describing these aspects in its plan, the Task Force has begun to develop a blueprint, or framework, for restoring the ecosystem that it can use to guide the restoration as well as communicating the size, scope, and importance of the effort to the Congress, other decisionmakers, and the public.
The Task Force Has Not Fully Described How the Restoration Will Occur Nor Linked Strategic Goals to Outcome-Oriented Interim Goals	Although the Task Force has included discussions of several important aspects of the third element of outlining how the restoration will occur, additional work is needed before the plan will provide a clear picture of how the restoration will occur. The current plan also does not link the strategic goals of the restoration to outcome-oriented interim goals, an element that is essential to tracking and measuring the Task Force's progress in restoring the ecosystem. The Task Force's strategic plan does not contain several key attributes that are necessary to clearly outline how the restoration will occur. The plan does not discuss or describe the approaches and strategies that will be used to achieve one of its long-term strategic goals—the compatibility of the built and natural systems. The Task Force recognizes that unless decisions made about the built environment are consistent with the ecosystem's health, the long-term sustainability of the ecosystem cannot be achieved, and the billions of dollars spent to restore the ecosystem could be wasted. Given the significance of the link between the built and natural environments, it is important that the Task Force define and integrate this aspect of the restoration into its plan. With a clear picture, or blueprint, of how the entire restoration will occur, the Task Force and participating agencies will be better able to establish appropriate priorities and milestones for accomplishing the entire effort and will improve their ability to accomplish the restoration in a timely and efficient manner. Having a clear outline of the restoration could also help the Task Force to ensure that the participating agencies do not duplicate
	or counter each other's efforts. In addition, because of the inevitable turnover in the Task Force's representation that will occur over the time it will take to restore the ecosystem, having a clear outline of how the restoration will occur could make the transition of new and replacement members easier by helping them to more quickly understand what is needed to successfully complete the restoration effort.

The plan also does not describe the relationship between the end results, or outcomes, that the Task Force has indicated that it expects to achieve and its long-term strategic goals. We recognize that the Task Force will continue to refine its plan because not all of the data needed to restore the South Florida ecosystem are available now and uncertainties exist about how the ecosystem will respond to the projects undertaken by agencies participating in the restoration. However, showing how the strategic goals, objectives, and projects contained in the plan will achieve or contribute to achieving the end results expected by the Task Force will provide the Congress and other participants with a better understanding and appreciation of the Task Force's direction and what its participants are accomplishing with the funding being provided. Such assurances could help the participating agencies justify their requests for funding and help address one of the challenges that the Task Force discusses in its planobtaining adequate and reliable funding from the federal and state governments.

In addition, the plan submitted by the Task Force in July 2000 does not consistently include a quantifiable or numerical starting point (baseline) or target when describing the end results and future conditions that the Task Force expects to achieve. For example, the Task Force includes the following-"the spatial extent of wetlands and other natural systems will be sufficient to support the historic functions of the greater Everglades ecosystem"—as a "desired future condition" under goal 2—Restore, Preserve, and Protect Natural Habitat and Species. But the plan does not discuss how many acres of wetlands and other natural systems now exist (baseline) or the number of acres that will be needed to support the historic functions of the greater Everglades ecosystem (target). Without the inclusion of baselines and targets that will allow the Task Force to accurately measure the results or outcomes that it is achieving, the Congress, the Task Force, and other stakeholders will be not able to accurately compare the expected progress in restoring the ecosystem with the actual progress made.

Furthermore, the Task Force's plan is missing the fourth element that we recommended—linking the strategic goals of the restoration to outcomeoriented interim goals. Many of the end results and future conditions expected by the Task Force may take up to 50 years to realize. For example, one of the end results that the Task Force expects to achieve is improving the status for 14 federally listed threatened or endangered species, and no decline in status for those additional species listed by the state, by 2020. However, the plan does not discuss any plans for assessing the Task Force's progress in achieving this result during the 20-year period. Setting interim time frames and performance measures will provide focus and a sense of direction and help the Task Force gauge its progress in achieving the end results or outcomes that it expects. In addition, establishing interim benchmarks for performance would enable the Task Force to identify problems early and work with the accountable agencies to make needed adjustments if progress is not satisfactory, thus minimizing the impact on the restoration effort. Conversely, establishing and measuring interim benchmarks could show that the Task Force had underestimated the expected results and that the expected end results, or outcomes, could be accomplished more quickly. Such information would provide the basis for adjusting the restoration's time lines, revising the Task Force's priorities, or increasing the Task Force's expected outcomes.

The Task Force has efforts under way to develop the additional information that we believe needs to be added to the plan. For example, the Task Force has established a subcommittee to complete the development of the restoration's third strategic goal—Foster Compatibility of the Built and Natural Systems. The subcommittee is already working with advisors who include many state and local technical experts to refine and complete the development of this goal. The Task Force also has other efforts under way, such as the development of a land acquisition plan for the restoration effort and working with the Multi-species/Ecosystem Recovery Implementation Team to develop a strategy to implement a plan for protecting and recovering threatened and endangered species located in South Florida.⁴ According to Interior's Director of Everglades Restoration, information developed from these efforts is expected to be included in the July 2002 update of the plan.

Conclusions

The initial strategic plan developed by the Task Force is a good start. However, because the plan does not contain all the elements that we recommended, it does not fulfill the requirement placed on the Secretary of the Interior, as the Task Force Chair, by the House and Senate Committees on Appropriations. We recognize that the plan is a "work in progress" and that the Task Force will continue to refine and improve its

⁴The Multi-species/Ecosystem Recovery Implementation Team was established in November 1999 to develop an implementation strategy for the *Multi-Species Recovery Plan*, an assessment completed by the U.S. Fish and Wildlife Service in May 1999 that identifies the actions needed to recover federally listed species located in South Florida. This team consists of 36 members representing federal, state, and local government agencies; the Seminole and Miccosukee tribes; academia; industry; and the private sector.

	strategic plan as it learns more about the ecosystem and how the ecosystem is responding to the Task Force's efforts. Revising the plan when it is updated in 2002 to include all the elements would fulfill the Committees' requirement and provide the Task Force with a basis for better assessing the progress of the restoration and determining what refinements are needed. It will also help smooth the transitions that will occur as the restoration progresses and Task Force members are replaced because new and replacement members could more quickly gain an understanding of what is needed to restore the ecosystem.
Agency Comments and Our Evaluation	We provided the Department of the Interior with a draft of our report for review and comment. The Department shares our view that the Task Force has made substantial progress in developing a strategic plan and believes that the plan is a solid foundation that the Task Force can build on. The Department also agreed that the plan submitted in July 2000 does not yet include all the recommended elements and that further refinements and revisions are necessary before the plan will fulfill the requirement placed upon the Secretary of the Interior, as Chair of the Task Force, by the House and Senate Committees on Appropriations. The Department acknowledged that additional work needs to be done to complete the restoration's third strategic goal—Foster Compatibility of the Built and Natural Systems—and pointed out that a subcommittee established by the Task Force is presently working with advisors who include state and local government technical experts to develop subgoals and measurable objectives for this goal. The Department also agreed that the plan can be improved by refining and expanding the interim time frames and performance measures. The Department indicated that the Task Force expects to revise the plan to include additional information and refinements when it is updated in July 2002. The Department's comments are presented in their entirety in appendix I. The Department also provided technical comments, which we incorporated as appropriate.
Scope and Methodology	To determine if the strategic plan developed by the South Florida Ecosystem Restoration Task Force included all the elements that we recommended in our April 1999 report, we obtained and reviewed the strategic plan submitted to the Congress on July 31, 2000. We compared the plan's elements and attributes with the elements that we recommended to determine the plan's completeness. In addition, because we used the criteria in <i>Agencies' Strategic Plans Under GPRA: Key</i> <i>Questions to Facilitate Congressional Review</i> (GAO/GGD-10.1.16, May 1997) and OMB's Circular A-11 in our 1999 review to develop (1) our finding that existing Task Force documents did not contain all of the

elements of a strategic plan and (2) our recommendation to the Task Force to develop a strategic plan, we also used these documents to assess whether the Task Force's plan contained all the necessary elements and would be sufficient to guide the restoration effort. We also reviewed other Task Force documents, such as the *South Florida Ecosystem Restoration Program's Fiscal Year 2001 Cross-Cut Budget*, which provides detailed budget information for the federal and state agencies involved in the restoration, and the 1999 biennial report entitled *Maintaining the Momentum*, which summarizes the progress that the Task Force made in the preceding 2 years to restore the South Florida ecosystem.

We also met with and discussed the development of the strategic plan with the Executive Director of the South Florida Ecosystem Restoration Task Force and representatives from the Task Force and the Department of the Interior who were involved in developing the strategic plan. In addition, we met with scientists and representatives of agencies involved in the restoration who attended the Greater Everglades Ecosystem Restoration Science Conference held in December 2000. The conference's objectives were to define specific restoration goals, determine the best approaches to meet these goals, and provide benchmarks for measuring the success of restoration efforts. We also met with the Director of the Chesapeake Bay Program Office⁵ and discussed the efforts, experiences, and lessons learned by that program in developing and using environmental indicators and outcome measures to determine the success of efforts to restore the Chesapeake Bay.

We conducted our review from October 2000 through February 2001 in accordance with generally accepted government auditing standards.

We are sending copies of this report to the Honorable Gale A. Norton, Secretary of the Interior; Michael Davis, Director of Everglades Restoration, Department of the Interior; and other interested parties. We will also make copies available to others upon request.

⁵The Chesapeake Bay Program is a regional partnership of federal, state, and local governments that has been leading the restoration of the Chesapeake Bay since 1983. In 1991, the program began to develop a set of environmental indicators/outcome measures to support goal setting and to serve as targets and endpoints for the restoration effort.

If you or your staff have any questions, please call me at (202) 512-3841. Key contributors to this report were Chet Janik and Sherry McDonald.

T. Hui

Barry T. Hill Director, Natural Resources and Environment

Appendix I: Comments From the Department of the Interior



2 Barry T. Hill by anyone, anywhere, in the world. We also believe that the level of detail is commensurate with it being the first Strategic Plan to describe the early stages in a complex, long-lived and ever-evolving restoration process involving multiple levels of governmental and tribal entities and interests. During a meeting on February 22, 2001, and subsequent discussions, we provided your staff a few technical recommendations and comments for their consideration. We are hopeful that you will incorporate these comments into your report to help its readers to appreciate more fully the complex nature of the South Florida ecosystem restoration initiative. By continuing to work together, we will be in a better position to assess and monitor the progress of this restoration effort and to determine what refinements are necessary to ensure its success. If you have any questions or would like to meet with the Department's representative to discuss our comments, please contact Mr. Michael Davis, the Department's Director of Everglades Restoration, at 202/277-6655. Sincerely, Joseph E. Doddridge Assistant to the Assistant Secretary for Fish and Wildlife and Parks

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