TESTIMONY OF
CAROL BROWNER
ADMINISTRATOR
U. S. ENVIRONMENTAL PROTECTION AGENCY
BEFORE THE
COMMITTEE ON ENVIRONMENT AND PUBLIC WORKS
U. S. SENATE

January 7, 2000

Good afternoon, Mr. Chairman and Members of the Committee. I am Carol M. Browner, Administrator of the U.S. Environmental Protection Agency (EPA). Thank you for your invitation to be here today -- at the very beginning of the new millennium -- to talk about something very close to my heart: the Administration's unprecedented efforts to restore the Everglades ecosystem and EPA's role in ensuring that water quality is fully addressed in the restoration efforts.

As many of you know, I grew up in Miami. My childhood "backyard" was the Everglades. This vast expanse that we today call the "River of Grass" has inspired me since my earliest days. I am proud to be part of this Administration, which has worked so hard -- and continues to work so hard -- to ensure that the heart of the Everglades ecosystem will once again pulse with fresh, clean, abundant water. This Administration's efforts will ensure that the Everglades ecosystem that inspired me as a child will continue to thrive and offer inspiration to my son, to all our children, and to all the generations that follow. And I am happy to be here today to describe EPA's involvement in the Administration's efforts to protect and restore the Everglades ecosystem.

PAST PROGRESS AND CURRENT EFFORTS

The Administration's Comprehensive Everglades Restoration Plan, designed to restore and protect the Everglades ecosystem -- from the Kissimee to the coral reefs -- is one of the nation's best examples of the inextricable link between the health of our environment and the health of our economy. The fresh, clean water that is critical to the survival of the Everglades ecosystem also is essential to the existing and future health and welfare of South Florida -- its 6.5 million residents, its many thousands of businesses, its economically important agricultural industry, and its 14 billion-dollar-a-year tourism industry.

As we enter this new millennium, I'd like to take a moment to reflect on the changes that have come to pass in the Everglades over the past 100 years -- how we arrived at this critical juncture. In 1900, the Everglades ecosystem encompassed roughly 2.6 million acres -- largely untouched by man. In that same year, the population of the area South of Lake Okeechobee stood at just over 26,000 -- most of which was in Key West.

Today the population of South Florida alone stands at more than 6.5 million, and is expected to double by the middle of this century (2050). This explosive growth over the past century has led to significant alteration of the Everglades ecosystem and its watershed. Overall, the State of Florida has lost 46 percent of its wetlands and 50 percent of its historic Everglades ecosystem -- lost to drainage and encroaching urban and agricultural development. And, along with the loss of this expanse of habitat, nesting populations of wading birds have declined by 90%; 68 plant and animal species

have become threatened or endangered with extinction; estuarine productivity in Florida Bay has deteriorated at a catastrophic rate; 5 feet or more of organic soil has been lost in parts of the Everglades Agricultural Area; urban and agricultural runoff has produced extensive water quality degradation throughout the region; and future supplies of water for residents, businesses, and agricultural interests in South Florida are threatened.

During the second half of the last century, the existing Central and Southern Florida Project was built to help meet the needs for flood control and water supply at that time. But the explosive growth since then has far exceeded the capacity of the existing system, and has contributed to the decline in the Everglades ecosystem. The current system, while very efficient at draining excess water, by its design and operation severely limits our capability to store excess water when it becomes available (wet season) so we will have it when it is needed (dry season). Moreover, it is important to remember that the system was designed for flood control and for water supply purposes. Water quality was not a consideration at the time.

Today, with the vision set forth by Vice President Gore in February 1996, this nation has embarked on an ambitious, long-term restoration plan that will bring new hope in this new millennium to the ailing River of Grass. The Comprehensive Everglades Restoration Plan sets forth an extremely challenging agenda to restore the hydrology of the Everglades ecosystem in an effort to balance future development with the preservation of natural areas, and to meet the needs of farmers and urban residents as well as the needs of the natural ecosystem. When fully implemented, the Comprehensive Everglades Restoration Plan components will significantly enhance the ability of the Everglades ecosystem to store excess water so that the projected water

supply needs of the natural systems -- both freshwater and marine -- can be met, as well as the water supply needs of the urban and agricultural components of the Everglades ecosystem.

The Comprehensive Everglades Restoration Plan, which was carefully developed with substantial public involvement over the last several years, was submitted to the Congress by the U.S. Army Corps of Engineers last July. It lays out an ambitious Federal/State joint venture to restore water flows to the Everglades ecosystem while providing flood protection and adequate freshwater supplies to the agricultural industry and to the growing population of South Florida. The Comprehensive Everglades Restoration Plan represents a fundamental change in philosophy.

It is a humble action, recognizing that after the efforts of almost a hundred years to manage this ecosystem, we did not really get it right.

When completed, we believe the Comprehensive Everglades Restoration Plan -- in concert with other proposed and ongoing restoration efforts -- will result in the delivery of fresh water in the right quantity, of the right quality, and with our best estimate of the right timing and distribution to achieve the desired results to the Everglades ecosystem, including downstream coastal communities all the way to the living coral reefs of Florida. I believe that the demonstrated commitment to adaptive management that this program has shown will incorporate future adjustments, as needed.

EPA strongly supports the Comprehensive Everglades Restoration Plan the Administration provided to Congress for authorization. We believe the Comprehensive

Everglades Restoration Plan -- in concert with other proposed and ongoing restoration efforts -- represents the best way to both restore the ecological integrity of the Everglades ecosystem *and* to enhance water quality for future generations in South Florida. EPA recommends authorization of the Comprehensive Everglades Restoration Plan in the Water Resources Development Act (WRDA) 2000, and also recommends that WRDA 2000 contain language that specifically identifies improvement of water quality for ecosystem restoration, protection, and preservation as a Central and Southern Florida Project purpose. The inclusion of this provision in WRDA will ensure that Federal cost sharing is available for the water quality related facilities called for in the Comprehensive Everglades Restoration Plan.

The Administration's plan recognizes that the problems facing the Everglades ecosystem come from many corners -- and so, too, must our solutions. It is predicated on the understanding that, if we are to make progress at all, we must foster public involvement of all South Florida's diverse communities. We must build strong partnerships involving industry, agriculture, Tribes, environmentalists, and work collaboratively at every level of government to ensure the recovery of the Everglades ecosystem. To achieve our most elemental goals is a truly daunting task -- one that requires us to pool our expertise, our dollars and our resources, coordinate our laws, and draw on the energy of the grassroots and the efforts from industry and agriculture.

Our bold and urgent plan expands and accelerates restoration projects in the Everglades ecosystem, and identifies additional research that is needed to ensure that our management decisions and actions are based on sound science. And our efforts are already starting to produce some encouraging results. The completion of the

Administration's important acquisition of the Talisman Sugar Plantation in the Everglades Agricultural Area involves more than 61,000 acres, critical new restoration lands in the heart of the system. In addition, changes in agricultural practices are reportedly responsible for achieving a 54 percent reduction in phosphorus discharged from the Everglades Agricultural Area to the Everglades Water Conservation Areas over the past four years. And 44,000 acres of Stormwater Treatment Areas are either completed, or underway and due to be completed by 2003, which will greatly enhance our abilities to remove additional phosphorus.

REMAINING CHALLENGES AND FUTURE DIRECTIONS

Despite this progress, we still have a long way to go. The Everglades ecosystem may never be what it once was. But we can -- and we must -- continue to make bold strides forward to protect the remaining ecosystem and to restore the critical natural functions and structures of the region and its natural community, which are so vital to preserving the quality of life in South Florida.

The Administration's Comprehensive Everglades Restoration Plan offers a comprehensive approach designed to increase water supplies for the region, and to restore and improve the condition of water quality throughout the Everglades ecosystem -- from the watersheds of Lake Okeechobee to Florida Bay and other coastal areas of South Florida. EPA will remain vigilant throughout the design, construction, and operation phases of the project to ensure that the Comprehensive Everglades Restoration Plan features will fully comply with all Federal, State, and Tribal

water quality standards, as well as all other applicable provisions of the Clean Water Act.

I'd like to mention just a few of the more important activities that EPA is involved in, and how each will help promote water quality and contribute to restoration of the integrity of the Everglades ecosystem.

Stormwater Treatment Areas (STAs) and Water Storage Areas (WSAs)

To improve both water quality and the integrity of the Everglades ecosystem, the Comprehensive Everglades Restoration Plan includes proposals to construct 36,000 acres of wetlands to treat polluted runoff from urban and agricultural areas. These Stormwater Treatment Areas (STAs) will be located throughout South Florida, and will enable us to use the natural filtering capability offered by wetlands ecosystems as a way to treat and improve water quality *and*, at the same time, contribute to the restoration of the health of the Everglades ecosystem.

The Comprehensive Everglades Restoration Plan also calls for construction of 172,000 acres of Water Storage Areas (WSAs), which will be created to capture excess fresh water flows that now are drained rapidly to the Atlantic Ocean and the Gulf of Mexico. This valuable water, which currently is being "lost to tide," will be captured and used to provide much-needed water for restoration of the Everglades ecosystem and to enhance potable water supplies for the people of South Florida. As with the STAs, the WSAs will render major water quality benefits to both inland and coastal waters *and* benefits to the wetland habitat of the Everglades ecosystem. It also will be critical to

ensure the acquisition of the East Coast Buffer Area because of the continued threat of development that can affect the Everglades. And together these measures will greatly enhance the State's ability to reduce its non-point source pollutant loadings consistent with the goals and requirements of the Clean Water Act and the Coastal Zone Management Act, and should contribute to improved implementation of total maximum daily load (TMDL) allocations for impaired watersheds throughout the Everglades ecosystem.

Aquifer Storage and Recovery (ASR) Facilities

Construction of extensive regional Aquifer Storage and Recovery (ASR) facilities is an essential component of the Comprehensive Everglades Restoration Plan. When completed, the ASR facilities are intended to store water during the wet season -- freshwater flows that are currently lost to tide. ASR facilities will store these waters in the upper Floridan Aquifer for recovery in dry seasons and for use both to restore the ecological integrity of the Everglades ecosystem, and, at the same time, to enhance future water supplies for urban and agricultural purposes in South Florida.

EPA supports this approach in concept, but is continuing to work with the other State and Federal partners to demonstrate the efficacy of ASRs. WRDA 1999 authorized two large-scale pilot projects at Lake Okeechobee and Palm Beach County, and EPA is now involved with these pilot efforts in the start-up phase. EPA recognizes that the ASR approach is bold and entails some uncertainties, and is fully committed to ensuring that these facilities will function in ways that are fully protective of South Florida's drinking water supplies and surface water quality. Regardless of the ultimate

feasibility of ASR facilities, the Administration remains committed to finding the same amount of water storage through other means if necessary. Again, I believe that the demonstrated commitment to adaptive management that this program has displayed will incorporate future adjustments, as needed.

Comprehensive Integrated Water Quality Plan

Under the Comprehensive Everglades Restoration Plan, EPA and Florida Department of Environmental Protection (FDEP) will share the lead on behalf of the U.S. Army Corps of Engineers (COE) in developing a Comprehensive Integrated Water Quality Plan. This plan will evaluate water quality standards and criteria from an ecosystem restoration perspective. It will also make recommendations for integrating existing and future water quality restoration targets for South Florida waterbodies into future planning, design, construction, and operation activities in ways that optimize water quality in inland areas, estuaries, and nearshore coastal waters. The plan also will lead to recommendations regarding water quality programs, including setting priorities for developing both water quality standards and pollution load reduction goals.

Florida Keys Water Quality Protection Program

The Comprehensive Integrated Water Quality Plan will be modeled after another EPA initiative in South Florida. EPA has been actively working with the State of Florida in conjunction with the National Oceanic and Atmospheric Administration (NOAA) to develop a water quality protection program for the Florida Keys National Marine

Sanctuary. Located downstream of coastal South Florida, the Sanctuary composes the southernmost portion of the South Florida Ecosystem. The Sanctuary was established to protect the living coral reefs, seagrass communities, mangrove fringed shorelines, and other significant resources of the area from such threats as degrading water quality.

The purpose of the Water Quality Protection Program is to recommend priority corrective actions and compliance schedules addressing point and non-point sources of pollution to restore and maintain the chemical, physical, and biological integrity of the Sanctuary. This includes restoration and maintenance of a balanced, indigenous population of corals, shellfish, fish, and wildlife.

Improving the Wetlands Regulatory Process in Southwest Florida

In recent years, Southwest Florida has experienced the same kind of rapid growth that took place earlier in Southeast Florida. As a result of this fast-paced development, the COE has issued permits to drain and fill 5000 acres of wetlands. And even more requests are expected in the next few years, raising concerns over whether the Corps' review of individual permit requests can adequately address the secondary and cumulative impacts from these many incremental decisions. These events have caused us to think about steps that need to be taken now in Southwest Florida in order to avoid repeating the mistakes made in the last century in Southeast Florida -- mistakes we now are trying to remedy through the Comprehensive Everglades Restoration Plan and other parallel efforts to restore the Everglades ecosystem.

EPA has been actively involved in assisting the COE in preparing a Draft Programmatic Environmental Impact Statement (DPEIS), which is designed to improve the section 404 regulatory decision-making process in Southwest Florida (Lee and Collier Counties). The COE has the lead for this DPEIS, which was released for public comment on July 7, 1999. EPA prepared two components of this DPEIS: a description of historic water quality in the ten watersheds in the study area; and a comparative analysis of future water quality for two of the COE's alternatives. The model output indicated that, in 2020, the two alternatives show an overall degradation of water quality in the two county area, as well as in most of the individual watersheds.

The comment period for the DPEIS has been extended to January 15, 2000. Following the close of the comment period, EPA will work with the COE to improve the document as it relates to water quality and wetlands protection. We expect the Final PEIS to be released in Spring/Summer 2000, and will focus our efforts on developing NEPA tools that will result in improved wetlands and water quality protection in Southwest Florida under the section 404 regulatory program and other applicable Clean Water Act programs.

ISSUES OF SPECIAL NOTE

I'd like to focus the remainder of my comments today on just a few of the most difficult water quality issues we face today: reducing levels of mercury and phosphorus in the Everglades ecosystem and restoring Lake Okeechobee.

Mercury

Mercury levels in fish in the Everglades ecosystem are very high -- so high that State health officials have issued fish consumption advisories warning people either to limit consumption of, or to not eat gamefish from Everglades National Park, Loxahatchee National Wildlife Refuge, Big Cypress National Preserve, and the Miccosukee Tribe of Indians Federal Reservation. In addition, there may be some adverse effects on wildlife. Wading birds, racoons, and alligators have been found to have very high concentrations of mercury -- higher than other areas in the U.S. with known mercury contamination. A workshop held in 1999 concluded that, while there is no clear information regarding effects on the wading bird populations, Everglades wading birds may be suffering sublethal effects in individual birds due to mercury contamination. Clearly, much of the energy and resources we are directing to restoration of the Everglades ecosystem will be compromised if, at the end of the day, the water is fixed but people still cannot eat the fish and the wading bird and other wildlife populations continue to show high concentrations of mercury.

Through our research, and atmospheric modeling, we have learned that atmospheric deposition is the leading source of mercury in the Everglades (more than 98%), and that no single source can account for the levels of mercury we are finding. Moreover, uncertainty remains over how much of the mercury is the result of local air emissions sources, rereleases, and global circulation of mercury. Recently imposed controls on local atmospheric emissions are expected to result in a significant decrease in mercury deposition to the Everglades marsh. But, while we believe that reducing the input of mercury to the Everglades ecosystem is likely to reduce the levels of mercury in

fish over time, it is not clear how long this will take or how much mercury emissions will need to be reduced in order to protect the uses of the Everglades ecosystem. There is also uncertainty regarding the linkages between atmospheric deposition of mercury and risk to the environment and public health.

While much uncertainty remains, we clearly recognize that designated uses in the Everglades ecosystem are not being met, and there is a pressing need to learn more. To address these challenges, EPA is actively engaged in a comprehensive mercury research program, along with United States Geological Survey (USGS), the FDEP and the South Florida Water Management District, as well as NOAA's work in Florida Bay. Thus far, total research funding is approaching $30 million from all public and private sources, with EPA contributing about one-third of the total ($10 million).

EPA also is working with the State of Florida to develop a pilot mercury TMDL for a parcel of the Everglades ecosystem known as Water Conservation Area 3A. This effort is designed to determine the maximum amount of mercury that could enter the Area each day and still enable the waters to meet water quality standards. The pilot will examine how to "link" the results of air and water computer models in a TMDL application, and will attempt to relate local urban atmospheric emissions to mercury levels in Everglades sediments and fish. We expect to have technical reports on this work for internal EPA review soon, and plan to seek input from stakeholder groups and the public by Summer 2000.

Phosphorus

In 1994, Florida's Everglades Forever Act (EFA) created another ambitious ecosystem restoration plan, which EPA fully supports. The EFA set forth an iterative and adaptive approach to actions needed to reduce phosphorus contamination of the Everglades ecosystem. Much progress has been made since then, including the 54 percent reduction in phosphorus discharged from the Everglades Agricultural Area and the ongoing construction of 44,000 acres of Stormwater Treatment Areas that I mentioned earlier. Despite this progress, however, phosphorus is still one of the chief pollutants that threatens aquatic life and restoration of the Everglades ecosystem. There is much more to be done, and we need to move ahead aggressively.

In May 1999, EPA approved stringent new water quality standards for a portion of the Everglades ecosystem, which, for the first time ever under the Clean Water Act, set a specific protective numerical standard for the Everglades for phosphorus. This protective standard -- 10 parts per billion (ppb), adopted by the Miccosukee Tribe of Florida for its Tribal waters -- is supported by the best science available to EPA. Adoption and approval of this standard represents a significant step forward in protecting the health of the Everglades ecosystem on Miccosukee Tribal lands, and sets a benchmark for how much phosphorus the ecosystem can handle before adverse impacts to native aquatic life begin to occur.

Under the EFA, Florida is now actively engaged in developing a water quality standard for phosphorus for other portions of the Everglades ecosystem. The EFA established a deadline of December 31, 2003, for adopting this standard, but Governor Bush has committed to accelerating this process and to adopting a scientifically

defensible standard by no later than December 31, 2002. EPA is providing technical assistance to the State to help meet this ambitious schedule. And, in a related effort to accelerate restoration of the Everglades ecosystem, Governor Bush has asked the South Florida Water Management District to begin incorporating Phase II technology into Phase I of the Everglades restoration. EPA encourages prompt action for both of these efforts, and looks forward to approving a phosphorus standard for the State that will be protective of the entire Everglades ecosystem.

Lake Okeechobee

As the headwaters of the Everglades ecosystem and an important water supply for Southeast Florida, we have a vital interest in the activities that will lead to restoring the water quality of Lake Okeechobee. Water quality in Lake Okeechobee has been degraded by agricultural runoff and by backpumping, and the rate of eutrophication is of major concern because of the impact on both the ecology of the lake and its many other beneficial uses. Over the last 25 years, phosphorus concentrations in the lake have increased 2.5 times, and preliminary evidence indicates that sediments in the lake may be losing their ability to assimilate additional phosphorus loadings. Recent data suggest that the lake may be in a phase of transition from its present eutrophic condition to a higher tropic state.

Since phosphorus is considered the key element that controls the growth of nuisance algae, I am very pleased to report to you that, earlier this week (January 3, 2000), EPA proposed a TMDL for phosphorus for Lake Okeechobee. When it became clear that, under its rulemaking procedures, the State would not be able to meet the

court-ordered deadline for establishing this TMDL, EPA assumed responsibility and has proposed a total annual load of 198 metric tons of phosphorus for Lake Okeechobee, including phosphorus deposited from the air (71 metric tons). This is an important step forward because, a TMDL is the maximum amount of a pollutant that a waterbody can receive and maintain water quality standards, and this TMDL sets the restoration goals for Lake Okeechobee. We estimate the proposed phosphorus loading represents a 68% reduction from the 1997 load, and will take public comment on the proposed TMDL until March 17, 2000.

But the true test will come with the actual implementation of this TMDL. One thing is very clear: successful implementation will require a collaborative process -- one similar to the highly successful collaborative process that has characterized the larger Everglades ecosystem restoration effort. I am pleased to report that, earlier this week, EPA took steps to start a collaborative process that will focus on the implementation of the TMDL for Lake Okeechobee. In the overview of the proposed TMDL, EPA suggested that the Lake Okeechobee Issue Team continue its fine work and form the nucleus of a larger collaborative team that will include representatives of all interested stakeholder groups. This team will be charged with exploring options and developing alternatives for implementing the TMDL to ensure restoration of Lake Okeechobee. We are fully committed to this collaborative process, and intend to be active participants in it. We also recognize that long-term restoration of Lake Okeechobee depends upon a strong Federal commitment to the successful completion of the public works projects called for the in the Comprehensive Everglades Restoration Plan, which are essential to improving and restoring the water quality of the lake.

I would also like to commend the State and the agricultural community for the actions they have taken to begin restoring Lake Okeechobee. Many of the farmers in the watershed have implemented best management practices and have taken other steps to reduce the phosphorus loads entering the lake. And many of the farms on the South side of the levee have ceased backpumping nutrient-enriched water over the levee and into the lake. These actions are to be applauded and encouraged.

Finally, I want to acknowledge Governor Bush's recent announcement that he is supporting new State legislation aimed at restoring Lake Okeechobee. I encourage the State Legislature to act expeditiously on this new legislation, and to follow the blueprint set forth in the Everglades Forever Act by including regulatory programs for phosphorus load reductions, interim and final milestones for action, and whatever tools the State needs to help restore the heart of the Everglades ecosystem: Lake Okeechobee.

CLOSING

As the Administrator of the EPA, my responsibility for the environment and public health spans this country's majestic landscape -- from the Atlantic to the Pacific and from the Great Lakes to the Gulf of Mexico. But I -- like all of us -- have that very special place that serves to remind me what is at stake if we don't prevail in our efforts to protect our natural environment. And for me, that special place is the Everglades on a glorious winter afternoon -- the white mountains of clouds suspended above the gently drifting river of grass and a wood stork making lazy circles against the brilliant

blue sky. The legacy of this fragile ecosystem -- and this image -- depends on the actions we take today.

As we enter this new century, we are on our way. We have the will, we have the commitment, we have the technology to reverse the harmful water management practices of the 20th century. We must not rest until the job is finished -- until all our children and their children and the generations to come have the opportunity to grow up with water that is safe to drink, air that is clean, and -- here in Florida -- with the Everglades once again pulsing with life.

Thank you again for the opportunity to participate in this hearing. We appreciate the leadership and commitment of Chairman Smith and Senator Graham, and look forward to working with the Committee on this important endeavor.

* * *