

# **Committee on Resources**

## **Subcommittee on National Parks and Public Lands**

---

### **Witness Testimony**

---

#### **Testimony**

**by**

**Dr. Ronald D. Jones, Ph.D.**

**Director and Professor**

**Southeast Environmental Research Center**

**and**

**Department of Biological Sciences**

**Florida International University**

**University Park**

**Miami, Florida 33199**

I am a full Professor of Biology and the Director of the Southeast Environmental Research Center at Florida International University. In addition I am currently on an IPA from the State of Florida as a Senior Scientist to the United States Army Corps of Engineers, Jacksonville District. I have a Ph.D. in microbiology from Oregon State University and have spent the last 14 years working in the Florida Everglades.

My education, experience and research work qualify me as a water quality expert, including water quality in wetland systems, with special emphasis on oligotrophic (low nutrient) systems such as the Florida Everglades. In addition I am an expert in general Everglades ecology and Everglades water related issues in general. I have been qualified in federal and state court and testified as an expert in these areas and related matters.

I have served as a federal government expert (Departments of Justice and Interior) on Everglades water quality and other water related issues since 1988 and have testified before the United States Congress on these issues. In addition I also provide expert assistance to the State of Florida, the South Florida Water Management District, the United States Army Corps of Engineers and the Miccosukee Tribe of Indians of Florida on Everglades ecology and water related issues.

#### **Introduction**

It is my professional opinion that the implementation of the Modified Water Delivery Project (MWD) along with the completion of the C-111/Taylor Slough modifications currently under construction are the most important and critical components of Everglades restoration. Without MWD, not only does the northeast

Shark River Slough in Everglades National Park (ENP), continue to unnaturally dry out, but the Everglades to the north of ENP in Water Conservation Area 3A (WCA-3A) are being unnaturally flooded, thus destroying wildlife (including endangered and threatened species), tree islands and other critical habitat. Water that historically flowed through Shark River Slough is now being shunted unnaturally to the estuaries to the north causing imbalances that adversely affect water quality and the ecology of these systems. Lake Okeechobee is kept at elevated levels for prolonged periods of time, which adversely affects the remaining littoral zone, which is vital to its ecology and health. The natural system, which includes the freshwater Everglades, Lake Okeechobee, Florida Bay, the coastal estuaries and the nearshore waters of the Southwest Florida Shelf, is suffering severe damage because of the failure to implement the Modified Water Delivery Project. The longer we wait to implement MWD, the less the likelihood is that we can preserve and protect the Everglades and its associated ecosystems. Delay is the biggest threat to the Everglades.

## **Specific Points**

Working from south to north the following five water quality and ecology issues are of specific concern:

### **1. Elevated salinities in Florida Bay.**

In 1989 Florida Bay experienced salinities as high as 70 parts per thousand (ppt), which are over twice the salinity of seawater. It is the belief of most scientists and my opinion that these unnaturally elevated salinities triggered a massive seagrass die-off in Florida Bay from which it has not yet recovered. In addition to exceedingly high central Bay salinities, traditionally freshwater to low salinity areas such as Taylor River also experienced salinities that would not be expected under natural conditions. For over one year Taylor River had salinities continuously in excess of 30 ppt and as high as 45 ppt (28% higher than full strength seawater). These conditions resulted in massive negative impacts in the northeast portion of Florida Bay along with extensive persistent algal blooms in the central and western portions of the Bay. The delays in implementing MWD has been in large part responsible for the inability of managers to control salinities in Florida Bay and moderate the effects of development within the watershed that decrease freshwater flows to the Bay.

### **2. Hydroperiod restoration of the Northeast Shark River Slough.**

When Everglades National Park was established, the northern boundary (US Highway 41) did not include the historic major water flow way, Shark River Slough. Water delivery structures were constructed that delivered water to areas to the west that only included a small portion of the historic Shark River Slough. This resulted in unnatural flooding of short hydro period areas and drying out of large portions of the Northeast Shark River Slough not included in ENP. The Everglades National Park Protection and Expansion Act of 1989 included the purchase of this area with the intent of rehydrating and restoration of this area. Although the initial rehydration of this area had dramatic positive effects on this area, both in reducing the flooding in the areas west of the Shark River Slough and the establishment of peat forming communities in the Northeast Shark River Slough, ecological restoration has essentially been halted due to the failure to implement MWD.

### **3. Water quality issues associated with the 8.5 Square Mile Area.**

In 1990 I was requested by Everglades National Park and the United States Army Corps of Engineers to evaluate the potential impacts of the 8.5 Square Mile Area and the flood mitigation project for water quality impacts to ENP. After extensive research into the design, sources of water being returned to ENP, along

with evaluation of the phosphorus retention capabilities of the soils and biological communities within the project buffer strip, I concluded that there would not be a water quality impact to the Park with the implementation of the Corps' plan for the 8.5 SMA. Although a similar evaluation of the current plan to buyout the 8.5 SMA has not been conducted, it is my professional opinion that serious water quality impacts could result from the implementation of this option that were not possible under the Congressionally authorized MWD Project. This needs to be carefully evaluated as nutrient pollution and eutrophication is the major long-term irreversible threat to ENP and the Everglades in general.

#### **4. Destructive flooding of Water Conservation Area 3A.**

Because water cannot be moved south through ENP until the completion of MWD, long-term and persistent flooding of Water Conservation Area 3A has occurred. This flooding has resulted in massive changes in the marsh vegetation patterns, tree island destruction and negative impacts on the wildlife, including endangered and threatened species. In addition WCA-3A contains critical habitat that is being destroyed and will continue to be destroyed or degraded until MWD is completed. Of particular importance is the fact that although the marsh vegetation patterns will reestablish themselves given a reasonable period of time, the tropical hardwood hammocks (tree islands) will not be restored in a reasonable time period without a massive replanting effort and in many cases reestablishment of soil surface elevations. Therefore, it is extremely important that further destruction be avoided. Although these tree islands represent a relatively small portion of the habitat, their presence is critical in determining the presence of many bird, reptile and mammal species found in the Everglades. Although we all acknowledge the importance of Everglades National Park, there is no excuse for ignoring the equal importance of the Water Conservation Areas. This is especially critical since implementation of MWD is of equal importance to the preservation and restoration of the entire Everglades system including ENP.

#### **5. Water levels in Lake Okeechobee and freshwater releases to the coastal estuaries.**

Although not as directly linked to MWD, the inability to move water along its natural north to south path results in elevated levels of water in Lake Okeechobee and the release of excessive amounts of water to the coastal estuaries. This has resulted in negative impacts to the littoral zone of the Lake. The unnatural release of water to the coastal estuaries has resulted in massive fish and shellfish kills, algal blooms and sedimentation. All conditions that are unacceptable and need to be stopped immediately. These freshwater releases have problems associated with both quantity and timing in addition to water quality.

#### **Conclusions and Recommendation**

In conclusion, continued delays in the implementation of the Modified Water Delivery Project will result in continued and potentially irreversible damage to the entire Everglades system including Everglades National Park. This delay has profound implications directly affecting the plans for restoration of the Florida Everglades and the associated ecosystems. Congress should do anything and everything within its power to ensure that the Modified Water Delivery Project is implemented and completed without any further delay.