

**STATEMENT OF  
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TO THE  
SUBCOMMITTEE ON FISHERIES, WILDLIFE,  
OCEANS, AND INSULAR AFFAIRS  
REGARDING EVERGLADES RESTORATION AND PRIORITIES**

November 3, 2011

Mr. Chairman: My name is William P. Horn and I am appearing today on my own behalf; my comments are purely my own and I do not purport to speak for or represent any organizations or committees. I appreciate the invitation to testify on Everglades restoration, restoration priorities, and proposals to create a new Everglades Headwaters National Wildlife Refuge (NWR). Based on long experience with Everglades issues, I am persuaded that more commitment to water storage and water quality treatment, south of Lake Okeechobee, and elimination of physical barriers to natural water flows within the Everglades, are much higher priorities for Everglades restoration than diversion of finite resources, dollars and personnel, to a new refuge unit north of the Lake. Moreover, the State of Florida has already enacted programs directed at conservation, including water quality improvement, of the Lake Okeechobee headwaters region. There is no indication that a federally directed conservation effort (i.e., a new refuge) will be superior to the State-directed conservation program. Lastly, as the federal presence in the greater Everglades eco-system is concentrated south of the Lake (i.e., Loxahatchee NWR; Florida Panther NWR, Ten Thousand Islands NWR, Biscayne Bay National Park, Big Cypress National Preserve, and Everglades National Park), it makes sense to maintain the federal focus there and let the State take the lead role north of Okeechobee.

These conclusions and recommendations arise from long term professional and personal interest in Everglades issues. As Assistant Secretary of the Interior for Fish, Wildlife, and Parks in President Reagan's second term, I was actively engaged in a number of south Florida conservation matters. These included (a) negotiations involving Everglades National Park (ENP), the Army Corps of Engineers (ACE), the South Florida Water Management District (SFWMD), Florida Department of Environmental Protection, and the Governor which led to Congressional approval of the Modified Water Deliveries (Mod Waters) project in 1989 (designed to provide more natural water flows across the Tamiami Trail highway into the Shark River Slough within ENP); (b) work with ENP, SFWMD, and agricultural interests on water management in Canals L-31, C-111 and the "Frog Pond" to provide better water flows into Taylor Slough in ENP; (c) conception and negotiation of the Arizona-Everglades land exchange, approved by Congress in 1988, in which 85,000 acres were added to the Big Cypress National Preserve, 7500 acres added to complete the Florida Panther NWR, and nearly 20,000 acres acquired to create from scratch the Ten Thousand Islands NWR (without any land acquisition expenditures); and (d) negotiation of the Aerojet-SFWMD exchange, approved by Congress in 1987, which enabled SFWMD to acquire lands along the C-111 Canal (now part of an Everglades restoration project nearing completion) as well as additional federal land acquisition for the Key Deer NWR in the lower Florida Keys. More recently I served for four years (2007-2010), in a voluntary capacity, on the National Academy of Sciences (NAS) Committee on the Independent Scientific Review of Everglades Restoration Progress (CISRERP) and contributed to the Committee's Biennial

Reports published in 2008 and 2010 (“NAS Reports,” “Biennial Report,” “Report”). Lastly, regarding the National Wildlife Refuge System, I was Chairman of the Congressionally-established National Wildlife Refuge System Centennial Commission in 2002-2003 and played an active role in conception and enactment of 1997 Refuge System Improvement Act. These experiences inform this statement.

### **Everglades Background**

Conservation of the Lake Okeechobee headwaters is a valuable and worthy objective. The waters that flow into the Lake from the north mostly flow out on the south to nourish and sustain the Everglades. The ‘Glades stretched historically from the Lake south to Florida Bay. In between was the River of Grass – a slow moving “river” that was miles wide and often only inches deep creating a unique subtropical ecosystem of sawgrass plains, tree islands, and sloughs supporting a profusion of fish and wildlife. Where these waters emptied into Florida Bay via the Shark River and Taylor Sloughs (now within Everglades National Park (ENP)), a rich estuarine habitat was established supporting an incredible fishery, more wading and fish eating birds, and species such as the American crocodile.

Between the late 1800’s and the 1960’s, this water system was damned, diked, diverted, drained and polluted. This effort – supported and funded at all levels of government – helped create modern south Florida but with predictable adverse environmental effects. To offset these effects, and attempt to save and restore a dying ecosystem, Congress in 2000 approved the Comprehensive Everglades Restoration Program (CERP). Building on previously authorized restoration projects such as Mod Waters, CERP is an enormous, costly effort to restore the remaining Everglades to a reasonable measure of health. Befitting such a massive program, it is based on a partnership with the State of Florida and responsibilities, and costs, are shared.

### **“Get the Water Right”**

The fundamental objective of CERP is to “get the water right” -- to substantially reestablish natural water flows between Okeechobee and Florida Bay. This entails providing sufficient water quantities, sufficient water quality, and moving the water through the system at the right time. The right quantities are needed so the Everglades are not dried out or starved of needed water. It is plainly evident that substantial reductions of historic water flows over the last 50 years are precipitating ecological changes in the ‘Glades that may not be reversible if corrective action does not occur soon. Similarly, sending water of insufficient quality through the ‘Glades also causes adverse changes, that if not reversed soon, may also be irreversible. A visit to the Loxahatchee NWR or portions of the State’s Water Conservation Area (WCA) 2 reveals that poor quality water with excessive nutrients, primarily phosphorus, changes the natural Everglades habitat into a cattail monoculture.

Historically, over 1.7 million acre/feet of surface water each year flowed into what is now ENP. Today less than 0.9 million acre/feet flow into the Park. Decades of diminished flows have taken their toll on bird populations and fisheries and caused damaging hypersaline conditions in Florida Bay. CERP seeks to increase present flows to get significantly closer to the historic 1.7 million acre/feet level.

Lake Okeechobee (along with rainfall) was the primary source of water feeding the ‘Glades. The NAS 2008 Biennial CISRERP report referred to the Lake as the “heart” of the Everglades because it pumped the life giving water into the system. Today, however, the Lake is beset with problems that prevent it from fulfilling its historic role – it suffers from serious “heart disease.” Water can no longer be held or stored in the Lake in sufficient quantities because of levee safety issues, flooding of the littoral zones on the western side, inundation of endangered species habitat, flood control requirements, and the risks of excessive water discharges to the St. Lucie River to the east and Caloosahatchee River to the west in the event that a tropical storm or hurricane dumps torrential rains in Okeechobee when it’s already full.

To overcome these severe limitations, CERP recognized the need to develop substantial water storage capacity outside of the Lake so that enough water would be available to emulate historic flows into the ‘Glades. Two forms of storage were envisioned – Stormwater Treatment Areas (STA’s) and Aquifer Storage and Recovery (ASR’s). The former are artificially constructed reservoirs in which water is stored and treated to remove phosphorous; the latter remain untested and of questionable utility. Presently there are six STA’s covering 45,000 acres storing thousands of acre feet of treated water available to be released to flow south. However, construction and operation of STA’s is expensive. Land must be bought, the reservoirs built, pumps installed, and money available to pay for operations and maintenance. Notwithstanding these costs the 2010 NAS report concluded “increasing water storage (and associated water treatment) is a *major near-term priority*” (emphasis added). 2010 Biennial Report at 10. The Report went on to note that even though the agencies are planning another 35,000 acres of STA’s, these will not provide enough “water storage to support planned [restoration] projects in the remnant Everglades eco-system.” *Id.* at 11; 174. The bottom line is that absent substantial near term increases in out-of-Okeechobee water storage capacity, in the form of new STA’s, Everglades restoration cannot occur.

The story is much the same regarding water *quality*. Under the federal Clean Water Act, related State law, and CERP, water delivered into the Everglades is to have no more than 10 parts per billion (ppb) of phosphorus (a nutrient). Water with higher phosphorus levels changes the ecosystem with adverse environmental effects. Problematically, the Lake Okeechobee system is laden with phosphorus – the results of decades of agricultural activities around the Lake. On the north side, cattle operations were the primary contributors. On the south, farming (primarily sugar cane) in the Everglades Agricultural Area (EAA) added tons of phosphorus to the system. When CERP was authorized, it was believed that a variety of actions could provide sufficient quantities of clean water (i.e., < 10 ppb phosphorus) in a decade or less.

The reality is quite different: “Due to legacy phosphorus storage in the Lake Okeechobee watershed, the lake itself, and the Everglades Agricultural Area, current phosphorus loadings into the system could persist for decades.” 2010 Report at 11. Because of the persistence of legacy phosphorus, the NAS Committee came to two conclusions: (1) “Attaining water quality goals throughout the system is likely to be very costly and take several decades of continued commitment to a systemwide, integrated planning and design effort that simultaneously addresses source controls, storage, and treatment over a range of timescales”, *Id.* at 11-12; and (2) “the current acreage of stormwater treatment areas (STA’s), as managed, is not sufficient to

treat existing water flows and phosphorus loads into the Everglades Protection Area [south of Lake Okeechobee].” *Id.* at 12. The costs of necessary additional STA’s – covering over 54,000 acres – was estimated at \$1.1 billion to construct, \$27 million to operate each year, and another \$1.1 billion to refurbish every 20 to 25 years. *Id.*

Until there is additional storage and water treatment capability south of the Lake, Everglades resource managers – Federal and State – face extremely difficult choices: (i) withhold water that does not satisfy the 10 ppb standard and continue to dry up the Everglades with potential irreversible impacts or (ii) send water south with higher phosphorus content risking other irreversible ecological changes. Given the immensity and critical nature of the water quantity and water quality problems, I am persuaded that hundreds of millions of dollars that would be spent buying land for an Everglades Headwaters NWR are better off being redirected to addressing immediately the crying, pressing need for more STA’s. Only with more STA’s on line can managers begin to “get the water right” in the Everglades before irreversible damage is done.

### **Mod Waters**

STA’s are not the only Everglades restoration projects of higher priority than a new refuge. Congress authorized the Mod Waters project in 1989 to help restore water flows in the Shark River Slough within ENP. Fundamentally the project is to breach, in part, the “dam” created by the Tamiami Trail, U.S. 41 (built across the ‘Glades before WW II) to facilitate greater water flows into portions of ENP that have been water-starved for decades. For a variety of reasons that project was stalled for over 20 years and construction began in 2009 only after Congress exempted the project from the National Environmental Policy Act and related litigation. During the intervening years the costs escalated and the project now under construction (a one mile bridge on the Tamiami Trail under which water can flow unimpeded) is a shadow of what was originally contemplated. As the NAS 2010 Committee report observed “the benefits of the 1-mile bridge represent only a *fraction* of those envisioned in earlier Mod Waters plans” (emphasis added). *Id.* at 7. The National Park Service is presently examining a second phase for Mod Waters that would facilitate passage of more water so that the originally envisioned level of restoration benefits can be realized. I would urge Congress to expand the already authorized (and under construction) Mod Waters project, consistent with the original 1989 vision, before it authorized a new refuge north of Okeechobee or appropriated funding for land acquisition there.

### **Florida Conservation Programs**

Turning attention directly to the Okeechobee headwaters, the Subcommittee should be aware of comprehensive conservation efforts there by the State of Florida. After the 10 ppb phosphorus standard was agreed to, Florida enacted to the Everglades Forever Act in 1994 to implement that standard including actions north of Okeechobee to improve water quality. In 2000, recognizing the special problems afflicting the Lake, the State enacted the Lake Okeechobee Protection Act. It is specifically designed to restrict phosphorus inflows into the Lake from its northern headwaters. A TMDL (total maximum daily load) for phosphorus was set, approved by the federal EPA, and a variety of other actions initiated to deal with the legacy

phosphorus problem. In 2007, the State acted again to establish the Northern Everglades and Estuaries Protection Program to deal further with conservation issues north of the Lake including water quality.

The proposed Headwaters refuge overlays the very areas covered by these State programs. That raises issues worthy of scrutiny: what additional benefits, if any, are provided by the establishment of new federal refuge unit in this area already the focus of State conservation programs? Are the incremental benefits that might arise from the refuge worth the expenditure of hundreds of millions of dollars for federal land acquisition? And as spelled out earlier in this statement, are those hundreds of millions better spent on STA's, expanded Mod Waters, or other CERP projects, or on a new refuge?

### **Conclusion**

Even though I can see benefits arising from a Headwaters NWR, I am not persuaded those incremental benefits are worth the multi-hundred million dollar price tag given the present State role and programs north of the Lake and the more pressing Everglades restoration needs to the south. In a world of unlimited budgets, I could be a supporter of a Headwaters unit (if it contained hard statutory guarantees for traditional uses such as fishing and hunting) but that is not the world we live in today.

Thank you.