

Testimony of Eric Draper, Executive Director

Audubon of Florida 444 Brickell Avenue, Suite 850, Miami, Florida 33131

Before the Committee on Natural Resources, Subcommittee on Fisheries, Wildlife, Oceans and Insular Affairs

"Florida Everglades Restoration: What Are the Priorities?"

November 3, 2011

Chairman Fleming, Ranking Member Hanabusa and Members of the Subcommittee:

Thank you for the opportunity to testify regarding the priorities for Everglades restoration. I am Eric Draper, Executive Director of Audubon of Florida, the State office of the National Audubon Society. With more than 450 chapters across the country including 44 in Florida, and more than one million members, volunteers and supporters, Audubon has a long history of involvement in protecting and restoring the Everglades.

Audubon is supportive of the Everglades Headwaters National Wildlife Refuge and Conservation Area (Everglades Headwaters NWR and CA) proposal because it advances Audubon's goals for restoration and its mission to conserve and restore natural ecosystems, focusing on birds, other wildlife, and their habitats for the benefit of humanity and the earth's biological diversity. Protecting the Everglades Headwaters can provide important protection for threatened and endangered species, and in order to more successfully fix the lower end of an aquatic ecosystem, problems that originate in its headwaters must be addressed. The desire of most of the major landowners in the Everglades Headwaters to participate in the refuge and conservation area responds to concerns about the future of the source of water that is the wellspring of the Everglades.

Audubon has worked for over a century to protect and restore America's Everglades. Famous for its abundance of bird life, the Everglades has faced many challenges. From the time of the murder of Audubon Warden Guy Bradley by plume hunters as he fought to protect some of the Everglades' wading birds, to the nearly devastating changes from the 20th century attempts to ditch, dike, and drain the watershed for development and agriculture, Audubon and our supporters have led an unprecedented ecological intervention. However, we are not just advocates. Audubon is a major landowner in Florida. Our Corkscrew Swamp Sanctuary attracts more than 100,000 paying visitors each year and is considered

the premium Everglades experience. Nearly 30,000 acres of Lake Okeechobee marshes are leased to Audubon and we own thousands of acres in Rookery Bay, a federally designated estuary.

In addition to the importance of the Everglades for the wildlife which made it famous, this unique ecological treasure also provides the water supply for one of America's largest urban areas. Without a healthy Everglades, one in three Floridians would have to look elsewhere for their drinking water. Florida will be unable to accommodate its projected population and commercial growth without protecting this resource.

Clean and sufficient freshwater also forms a critical component of Florida's tourism economy. The economic losses of business in Florida due to the mere perception of impacts from the Deepwater Horizon oil spill demonstrate the inextricable connection between a healthy environment and economy in Florida. Results of a study conducted in 2010 by Mather Economics on behalf of the Everglades Foundation, *Measuring the Economic Benefits of Everglades Restoration*, demonstrates the potential economic benefits from Everglades restoration:

"Our analysis strongly suggests that restoration of the Everglades as described and planned in CERP will have large economic benefits. Our best estimate is that restoration will generate an increase in economic welfare of approximately \$46.5 billion in net present value terms that could range up to \$123.9 billion. The return on investment, as measured by the benefit-cost ratio, assuming a cost of restoration of \$11.5 billion, is also high and significant, 4.04, which means for every one dollar invested in Everglades restoration \$4.04 dollars are generated. Everglades restoration will also have an incremental impact on employment of about 442,000 additional workers over 50 years. In addition, the Corps of Engineers estimates there will be 22,000 jobs created as a result of the actual restoration projects. Throughout our analysis, we have taken a very conservative approach to estimation. Accordingly our best estimates almost surely understate the return on investment of Everglades restoration."

Audubon uses bird populations as the measure of health of the Everglades and success of restoration efforts. Information about threatened or endangered birds provided by Audubon's field science helps to form the basis of understanding how the natural system works and its water quantity and timing needs. Recently, we have drawn specific focus toward the Northern Everglades as an essential part of the preservation and restoration of the Everglades.

Everglades Headwaters NWR and CA Provides Benefits for Water, Wildlife and Florida's Cattle Ranching Economy:

Ranching

According to the University of Florida's Institute for Food and Agricultural Services Florida has a rich history of cattle ranching and is one of the leading states in cattle production. Florida is a cow-calf state, producing quality calves that are shipped to other states. Florida's annual beef cattle sales and sales of breeding stock easily push annual farm gate sales over a half-billion dollars. Cattle ranches contain much of Florida's remaining native habitat, particularly in central and South Florida. Consequently, cattle ranches have an important role in the future of Florida's wildlife. Nonetheless, both the number of ranches and the amount of land in cattle ranches decrease every year. Many ranchers, especially in the

Lake Okeechobee watershed or Northern Everglades area are very good stewards of land. Ranchers manage for wildlife habitat in part because hunting leases are part of many ranches' financial base. According to the Florida Cattlemen's Association real estate developers are quickly buying up what is left of Florida's pristine ranch land. In an industry with historically low profit margins, it is hard for a rancher to give up cash bonanza for selling their land. Florida once was a farm rich state, but with continued population growth and development, it is becoming a more urbanized region each year. The Florida Cattlemen's Association works to create a greater understanding among Florida citizens of the problems faced by cattle ranchers.

Many ranchers, such as Bud Adams, Latt Maxcy, Cary Lightsy and Charlie Lykes are proud of the way they have managed their land for water and wildlife benefits. This is why Audubon, The Nature Conservancy and other conservation groups have worked over the past decade with Florida's ranchers to develop programs that will keep this important land use part of Florida's landscape. At a recent Dialogue on Conservation Lands there was little difference in viewpoint between ranchers and conservationists.

Wildlife Benefits

Audubon comes to its support of the Everglades Headwaters NWR and CA through a half-century of collaborative efforts with Kissimmee Valley cattle ranchers. Beginning in 1961, Audubon worked to establish cooperative Eagle Sanctuaries on ranchlands north of Lake Okeechobee. By October 1962, 59 ranch properties encompassing 600,000 acres were enrolled in the Audubon voluntary sanctuary network, protecting what at the time was the last bastion of viable Bald Eagle breeding populations in the lower 48 states. By working with ranchers to protect America's great symbol, we learned about their excellent land ethic and stewardship.

National Audubon Society has had full-time staff working in the Kissimmee Valley since 1936. The first staff were game wardens, paid by National Audubon Society and deputized by state and federal governments. They patrolled Lake Okeechobee and the Kissimmee Prairie region, where Audubon's interest was tied to five endemic (found only in Florida) subspecies of prairie birds: Audubon's Crested Caracara (*Caracara cheriway audubonii*), Florida Burrowing Owl (*Althene cunicularia floridana*), Florida Sandhill Crane (*Grus Canadensis pratensis*), Florida's Mottled Duck (*Anas fulvigula fulvigula*) and one of the most endangered birds in the nation, the Florida Grasshopper Sparrow (*Ammodramus savannarum floridanus*). Wardens also protected wading bird nesting colonies in the region and were instrumental in securing protection of Audubon's 7,300 acre Ordway-Whittell Kissimmee Prairie Sanctuary. This original dry prairie private protection strategy facilitated state protection of the adjacent Kissimmee Prairie Preserve State Park. The Audubon Sanctuary was folded into the state preserve, which is now part of and a focal area for the proposed Everglades Headwaters NWR and CA. Florida's dry prairie ecosystem is acre-for-acre, one of the most diverse plant communities in North America. I

Today, the lands targeted for the Everglades Headwaters NWR and CA, along with the Kissimmee Prairie Preserve State Park, make up the remnants of Florida's endemic Dry Prairie ecosystem. The endangered Florida Grasshopper Sparrow exists only in three distinct populations, one of which is centered on land offered as part of the proposal. Similarly, the Florida population of Audubon's Crested Caracara is listed

as threatened under the Endangered Species Act and is isolated from the remainder of the subspecies in the southwestern U.S. and Central America. The Caracara's reliance on the prairie area of the southcentral region of Florida makes conservation in this area critical for its survival.

Because Everglades waters flow downstream from the Kissimmee River through Lake Okeechobee, the Everglades Headwaters refuge will deliver major benefits for the habitat of the endangered Everglade Snail Kite Rostrhamus sociabilis plumbeus. There are only 700 individual Kites left in Florida, and Audubon has made its survival a top priority. The featured article in the November/December 2011 issue of Audubon Magazine is "The Everglades: A Watershed Moment," focused on the plight of the Everglade Snail Kite and how decisions about water management in Lake Okeechobee and its watershed impact the Kite's chance of survival.

Lake Okeechobee and Everglades Hydrology: The Refuge and Conservation Area Could Help Substantially Reduce Harmful Impacts of Over-Drainage:

In the summer of 2004, Florida had four tropical systems cross the Kissimmee Valley (Charley, Francis, Jeanne, Ivan), dumping unexpected amounts of rain. Due to the very efficient drainage system created by the Central and Southern Florida water management system, this water was very quickly shunted down to Lake Okeechobee, causing it rise to 18 feet deep. At this depth, about 75 square miles of plant communities were drowned out and concerns arose for the integrity of the Hoover Dike that encircles the lake and protects communities downstream. In response to this rapid rise in water levels, the U.S. Army Corps of Engineers (Corps) released massive amounts of water to the St. Lucie and Caloosahatchee Estuaries to rapidly lower the lake. These releases killed seagrasses, oysters, and other bottom-dwelling organisms. The lake as well as the downstream St. Lucie and Caloosahatchee Rivers and estuaries took years to recover with a tremendous negative impact on commercial and recreational fisheries.

In 2005, when Hurricane Wilma hit Florida, the lake again rose above 17 feet, and the Hoover Dike was reported in a Corps report as "within hours of failing" due to the hurricane surge. Massive amounts of water were again discharged to tide throughout the spring of 2006. By 2007, South Florida was in a drought, and by the spring of 2007, water supply for farms and cities was severely rationed (45% reduction in water use). These alternating years of drought and storms are a good description of the problems facing the Everglades ecosystem and potential benefits of adding lands to a refuge and conservation area. Florida discharged to tide the equivalent of 6 years of water supply in two years, and then came close to running out of water the year that followed.

This unnatural drainage contributes to excessively high levels during wet periods and excessively low levels during drought. In its natural condition, the Kissimmee Valley would take six to eight months to discharge its wet season loads into Lake Okeechobee. Now this same water drainage takes place within one month, making the lake rise at an unnaturally rapid pace. Conversely, when droughts begin, the six to eight months of base flow that the Kissimmee Valley used to contribute to the lake throughout the dry season no longer replenishes the Lake, allowing the lake drop more rapidly than in the past. Adding to the rapid lowering of the Lake are water supply withdrawals, which can withdraw 20% of the 730 square mile Lake's water in just one season.

The solution is more water storage capacity upstream and downstream of the lake. If by reversing unnecessary drainage and allowing water to pool during wet periods, less water will flash downstream to the Lake. Then as rainfall decreases and the annual winter drought begins, there will be water upstream that can slowly seep into the Lake to help prevent extreme low levels.

Audubon issued a report in 2007ⁱⁱⁱ that predicted substantially more storage would be needed upstream of the Lake than CERP and other plans anticipated. The agencies in turn, revisited their calculations and concurred, raising the total storage capacity goals from 300,000 acre-feet to a range of 900,000-1.3 million acre-feet.^{iv} The ensuing question was, "how to store that much water?"

A partial answer is termed "Dispersed Water Management" (DWM). It works cooperatively with private landowners to store excess water on private lands. World Wildlife Fund conducted a pilot project with eight ranches in the Lake Okeechobee watershed to test what benefits to hydrology, nutrient movement, and other factors could be gained through this type of process. Attractive benefits of this arrangement include relatively low cost, keeping land on the tax roles and producing food and fiber, preserving a cultural way of life, and being administratively agile--projects can be rapidly implemented in almost any location.

The pilot projects proved successful and Florida is scaling DWM up with a 450,000 acre-foot capacity goal. There are many types of DWM possible. One approach allows Payment for Environmental Services, where ranchers are compensated for providing water storage – mostly by simply preventing excess drainage. Other tools are wetland conservation easements and wetland restoration on public lands. Considering that the Everglades Headwaters NWR and CA could be implemented across a total of 150,000 acres of land, these acres could contribute considerable capacity to complement the state's program and meet the water storage goal.

Water Quality Goals

For decades, Lake Okeechobee and its tributaries have experienced excessive phosphorus and nitrogen loads. In response to these problems, in 1987, the Florida Legislature enacted the Surface Water Improvement and Management (SWIM) Act, which required the state's water management districts to develop restoration plans for priority water bodies. In 1989, the South Florida Water Management District (SFWMD) developed a SWIM Plan to control phosphorus loading to Lake Okeechobee. Despite the plan, no substantial phosphorus reductions were achieved during the 1990s. To further act to restore and protect Lake Okeechobee, the Florida Legislature passed the Lake Okeechobee Protection Act (LOPA) (Section 373.4595, Florida Statutes [F.S.]) in 2000 to establish the Lake Okeechobee Protection Plan (LOPP). In 2007, after continuing problems, the legislature amended the LOPA in Chapter 373.4595, F.S., and enacted the Northern Everglades and Estuaries Protection Program (Northern Everglades EPP). The Northern Everglades EPP expanded Lake Okeechobee restoration efforts to include the Caloosahatchee and St. Lucie River watersheds and substantially increased water storage and treatment goals upstream of the Lake.

NEEPP mandates that a total maximum daily load (TMDL) of 140 metric tons (mt) of total phosphorus (TP) per year flowing to the lake be met by January 1, 2015. This TMDL was adopted by the Florida Department of Environmental Protection (FDEP) in 2001 and was established in accordance with Section

403.067, F.S. Northern Everglades EPP promotes a comprehensive and interconnected watershed approach to protection of the Lake Okeechobee, Caloosahatchee River, and St. Lucie River watersheds. State agencies, including the Florida Department of Agriculture and Consumer Services, work cooperatively to address these interconnected issues to rehabilitate the lake and enhance the ecosystem services that it provides while maintaining its contributions to the regional water supply and flood control.

Audubon holds that continued phosphorus loading and the rapid movement of surface water toward Lake Okeechobee is an extremely urgent issue for South Florida. The phosphorus already accumulated within lake sediments is enough to keep the lake phosphorus enriched for decades^{vii} without further additions. Similarly, the phosphorus previously applied by humans to the watershed, termed "legacy load," appears enough to continue annual loads in the 500 mt range for 20-50 years without further additions. Viii Unfortunately, annual additions continue, meaning that without change, in 50 years the legacy load could be twice as great as present.

Both agriculture and urban areas contribute significantly to the on-going imports. Most notably, the largest land use category listed in the LOPP update (improved pasture at 676,991 acres) showed a 15% increase in phosphorus loading, apparently due to dumping human sludge. Urban land uses, while only 12 percent of the watershed, account for 29 percent of the total net phosphorus import. Therefore, both Everglades Headwaters NWR and CA goals of reducing additional urban development in the Northern Everglades and returning some acreage of improved pasture to natural conditions will help with the water quality challenges.

Storing water north of the lake is also the first step in slowing flows toward the lake to allow for increased water quality treatment. Conservation easements also provide an opportunity to reduce fertilizer use or sludge dumping. The National Research Council of the National Academy of Sciences' Committee on Independent Scientific Review of Everglades Restoration Progress (CISRERP) noted in its 2010 biennial report that "an aggressive combination of agricultural and urban BMPs, payment to landowners for ecosystem services beyond basic agricultural BMPs, regional and subregional treatment systems, and intensive chemical treatment of surface-water flows to the lake will be required to improve the water quality enough to meet the established TMDL." The Everglades Headwater NWR and CA can play a critical role in this multi-faceted effort.

Working Together with Willing Sellers

Audubon's support for the Everglades Headwaters proposal also stems from the knowledge that this is a willing seller only program with 100,000 acres targeted for conservation easements, and 50,000 acres targeted for full acquisition. We have worked closely with and listened carefully to the needs and concerns of ranchers in the region. There are tenuous economic prospects for many of these large properties. Ranchers who have worked their land for generations recognize that the opportunity to sell permanent conservation easements through programs such as the Everglades Headwaters NWR and CA can allow their way of life to continue, and those who wish to sell their properties for conservation recognize that this is vital to preventing ranches from ending up on the auction block and becoming the sites for future subdivisions.

The Everglades Headwaters proposal got its start in cooperative discussions with ranchers who were genuinely concerned that the marginal economics of ranching would soon put many ranches on the auction block. Enlisting ranchers as partners and compensating them for important environmental services keeps them in business, retains land on the tax rolls, and achieves restoration benefits at far less cost than traditional public works projects. Audubon also took note of the support from the nearby Avon Park Air Force Range, who recognized the importance of maintaining these lands in natural conditions to provide a buffer for their activities. The easements and selective land purchases that will result from the Everglades Headwaters proposal will be key building blocks in reaching those goals.

The U.S. Fish and Wildlife Service has represented that access to the lands enrolled in the Everglades Headwaters NWR and CA will be through partnership with the Florida Fish and Wildlife Conservation Commission and that designation as a state Wildlife Management Area will be sought to allow additional hunting and fishing opportunities for the public. Audubon encourages this approach. As a landowner, we recognize the importance of allowing compatible public access to natural areas for enjoyment and education. For example, on our Corkscrew Swamp Sanctuary property in Naples, we provide a boardwalk for wildlife viewing and swamp buggy rides for visitors. Recently, although we did not agree with all of the specific details of the National Park Service's decisions regarding access in the Big Cypress National Preserve and Addition Lands management plans, we supported the compromise reached to balance access with protecting the resource while allowing traditional uses to continue. In that example, the Big Cypress National Preserve would not have been established without the cooperation of the proponents for recreational use of the property.

All of the facts outlined above demonstrate that the Everglades Headwaters NWR and CA provides a true win-win-win solution to economic, wildlife habitat, water quality and quantity challenges in a public private partnership framework.

The Comprehensive Everglades Restoration Plan (CERP):

As part of the Water Resources Development Act (WRDA) of 2000, the Comprehensive Everglades Restoration Plan (CERP) - the most ambitious ecosystem restoration project undertaken in the Worldwas passed by a bipartisan vote with only one dissenting vote, and signed into law. Funding for this plan was set up to share the costs 50/50 between the State of Florida and federal government and was expected to take 30-50 years to complete.

One of the hallmarks of CERP was that it would be a science-driven plan. Therefore, adaptive management was used in restoration to allow new scientific information and learning to be incorporated into decisions, in order to improve restoration success. Section 2039 of WRDA 2007 codified this requirement that adaptive management be used when implementing large scale ecosystem restoration projects.

In addition to the updated Northern Everglades storage needs outline above, one such piece of new information involves the amount of water that flowed through the entire historic Everglades in its natural condition. While CERP originally planned for 1.7 million acre/feet of water per year, new scientific consensus demonstrates the need for 2.1 million acre/feet of water per year. The proposed

Everglades Headwaters NWR and CA can help store some of this additional water that is needed in an efficient way, working with willing sellers and ranchers looking to maintain their traditional ways of life. Another lesson learned through adaptive management is that taking advantage of natural, low-tech opportunities to store and clean water is often a much more cost-effective way to proceed with Everglades Restoration.

Everglades Restoration Progress

Unprecedented progress has been made toward implementing CERP in recent years and we are at the critical point where all projects authorized by Congress are under construction.

- In early 2010, construction began on the Picayune Strand restoration project, which will restore 55,000 acres removing roads and filling in canals built to facilitate a failed subdivision to restore the natural hydrology on these lands without impacting neighboring landowners. Two of four phases of this project are under construction. The first phase will be complete in 2012 with all phases slated for completion in 2016.
- In October 2010, construction on the Site 1 Impoundment project began which will improve
 water quality and provide storage needed to mitigate for Florida's cycle of drought and flooding
 risks.
- In October 2011, the Indian River Lagoon project broke ground. In the past several years, after multiple large rain events, sizeable quantities of freshwater from Lake Okeechobee have been released into the Indian River Lagoon and St. Lucie Estuary. These water releases have altered salinity levels and introduced contaminants into both the Lagoon and Estuary. This project will provide storage and water quality treatment to protect these natural resources that are a critical economic engine for Florida's treasure coast. Additional natural storage north of Lake Okeechobee that will be achieved with the Everglades Headwaters NWR and CA will also provide benefits for this region, which is home to more than 4,300 plant and wildlife species that have suffered from water pollution and changes in the delicate balance of fresh and salt water that is necessary for their survival.

Although CERP provided for a 50/50 cost share, the State of Florida advanced construction funds to achieve additional restoration progress while awaiting Congressional authorization and funding. This is in addition to more than one billion dollars spent by the State of Florida on water quality improvements.

- The State began construction on the C-111 Spreader Canal Part 1 CERP project in 2010 and this
 project is scheduled for completion before the end of the calendar year. The C-111 SC project
 will restore flows to Taylor Slough in Florida Bay.
- The Biscayne Bay Coastal Wetlands Deering Estate CERP project is also under construction using funds advanced by the State of Florida and will be completed in early 2012.

In addition to the CERP projects above, great advances have occurred in other Everglades restoration projects.

Originally authorized in 1989, the Tamiami Trail bridge component of the Modified Water
Deliveries Project is under construction and set to be completed in 2013. The construction is a
visible indicator to the citizens of South Florida that restoration is underway and creating badly
needed construction jobs in South Florida.

- Critical projects authorized in 1996 are under construction.
- Kissimmee River Restoration, authorized in 1992, is nearing its final construction phase and continues to be one of the World's best examples of successful ecosystem restoration.

In addition to this unprecedented progress in ecosystem restoration, this past week the Army Corps of Engineers and the South Florida Water Management District announced the start of the Central Everglades planning process, which will incorporate updated science and maximize use of publicly owned lands to focus the next phase of Everglades Restoration on the Central and Southern Everglades, all while advancing the timeline for restoration planning to 18 months. This program will allow ecological benefits to be realized faster. After a steady stream of project groundbreakings during the past two years, the next two years are set to provide a flow of project ribbon cuttings and projects being operated to benefit Florida's environment and economy.

Conclusion- The Everglades Headwaters NWR and CA Complements CERP and Makes Restoration More Successful:

The investments already made in Everglades restoration will be enhanced by the Everglades Headwaters NWR and CA.

The first effort to focus on the Northern Everglades was Kissimmee River Restoration, authorized by Congress almost 20 years ago in 1992. The Everglades Headwaters NWR and CA proposal helps the Kissimmee River Restoration project succeed by assuring that land surrounding the restored river will be maintained in conservation and provide water storage and cleansing opportunities rather than being sold for development.

Since the understanding of the storage needs North of Lake Okeechobee has increased since CERP was first planned, new solutions have been sought for this storage. Lands made part of the Everglades Headwaters NWR and CA will provide some of this storage by remaining in their natural conditions rather than being drained for development or agricultural production. Holding water in this natural way will also reduce the phosphorus pollution entering Lake Okeechobee and the Everglades. Improving water quality north of Lake Okeechobee as well as south of Lake Okeechobee in the Everglades Agricultural Area is necessary to prevent ecosystem degradation. Since it is clear that existing programs alone will be unable to meet water quality goals, the proposal will provide needed water quality improvements while providing concurrent habitat and recreational benefits and preserving a traditional way of life and economic base of ranching.

Because of the multiple benefits the Everglades Headwater NWR and CA can provide, we support the proposal and look forward to working with the interested landowners, recreational users and the U.S. Fish and Wildlife Service to achieve our common goals that can benefit all Floridians

Florida is an extraordinary place. A land full of unique and special places. The Everglades is a region, really 1/5 of our landscape that is -to use the words of Marjorie Stoneman Douglas- unlike any other. The impact of the dredge and plow on this wonderful system cannot be completely undone. The federal

government spent the funds to drain, ditch and dike the system. As much as is possible must be done to repair the damage. Our water, wildlife and way of life depend on it.

¹ Mather Economics. 2010. Measuring the Economic Benefits of Everglades Restoration:

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ix Id. At iv.