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Restoring the Everglades

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Known for its copious amounts of biodiversity, the Florida Everglades is home to the American alligator, Florida panther, and thousands of wading birds. The Everglades were given the name “River of Grass” by Marjory Stoneman Douglas, a famous author and ally of protecting this diverse ecosystem. While many think of this wetland habitat as protected, the Everglades National Park only includes one fifth of the original ecosystem, and areas outside the park have been ditched and drained for agriculture and development (Davis & Ogden 1994). With the backing of the National Audubon Society, different restoration plans have been approved and are in effect to protect the future of this unique ecosystem.

April Gromnicki is the Assistant Director of Government Relations in Audubon’s National Office in Washington, DC. The mission of the National Audubon Society is to conserve and restore natural ecosystems for the benefit of humanity and the biological diversity of the earth. The Audubon Society became an advocate of protecting the Everglades in 1901, when they hired wardens to protect birds from plume hunters. Today, the role of the Audubon Society in Everglades protection is to sponsor research, put

pressure on congress by lobbying and to engage citizen's in current environmental issues. Gromnicki leads Audubon's advocacy efforts for ecosystem restoration in the Everglades and also coastal Louisiana.

The Everglades are located in southern Florida and are part of a much larger watershed called the Kissimmee-Okeechobee-Everglades drainage basin (Light & Dineen 1994). This runs from near Orlando down to the most southern tip of Florida. The Everglades are so important because they are a unique ecosystem to the world. Most other large wetlands receive water from rivers that overflow their banks. In contrast, the Everglades receive water primarily in the form of rainfall. While at times the Everglades can look like a river of grass because of all the marshland, it also consists of wetland tree islands, cypress forests, mangrove swamps, coastal saline flats, prairies, and forests (Lodge 2005). The terrain is mostly flat, with differences in elevation measured in inches. This allows for more flooding during the wet seasons which encouraged developers to drain and control the water to ensure safe living conditions for residents.

Unfortunately the Everglades are highly endangered. Where once hundreds of wading birds could be seen flying overhead, 90% are now gone from the Everglades. Sixty-eight species are endangered, and invasive species like the Burmese Python are finding niches in the habitats alligators usually reside in. Florida Bay was once known for its beautiful, clear waters as an estuary filled with sea grass beds and shrimp. Now, it is too cloudy to see the bottom, and the shrimping industry has collapsed. This is due to enhanced nutrient loading in the freshwater from agricultural practices that has formed frequent algal blooms and the loss of sea grass (Livingston 2006).

Much of the diverse wildlife is in danger, due to the way the water has been controlled throughout its history. The inaccessibility of the “watery wilderness” stopped exploration until the 1880’s when drainage in Lake Okeechobee excited the prospects of settlements (Lodge 2005). Water structures were part of the early population movements designed to settle the southern Florida peninsula (Light & Dineen 1994). Therefore, as the natural hydrologic cycle began to be altered, more people could live in the south. The Central and Southern Florida Project for Flood Control and Other Purposes (C&SF project), authorized by Congress in 1948, was used to manually control the water naturally moving into the Everglades (Lodge 2005). Levees were built to protect areas from flooding, a large area was designated as the Everglades Agricultural Area (EAA), and other areas were designated as Water Conservation Areas (WCAs) to selectively partition and stop the natural flow of water (Lodge 2005). The WCAs were set up to carefully store and release water to compensate for flood and drought conditions. Over the years, the Everglades have been ditched and diked to form approximately 2,000 miles of canals. Hundreds of water control structures have straightened over 21 miles of the Kissimmee River. These structures have effectively drained southern Florida’s wetlands. South Florida receives approximately 60 inches of rain a year which is pumped off to prevent flooding of urban and agricultural areas (Gromnicki 2001). This water is wasted by shooting it out the west and the east of Florida, virtually starving the south. Water flowing to the southern Everglades has been reduced by 70% (Livingston 2006). Unbelievably, one trillion gallons of water is wasted annually through drainage projects. This amount would satisfy 15 million people for an entire year.

This rich, diverse area was once sought after as open land to conquer and develop. However, development and agriculture has been increasingly negative to the Everglades; ruining the hydrologic cycle and sending pollutants downstream. For example, mercury produced by sulfate-reducing bacteria under anoxic conditions, has recently been found in high concentrations in the Everglades system (Livingston 2006). This is due to the difference in seasonal water conditions creating a dryer environment. Mercury has been found bioaccumulating in many species, and was the cause of death of the last two female panthers inhabiting the Everglades National Park (Lodge 2005).

Restoring the Everglades can also be looked at as a long term economic benefit for the state of Florida. Environmental Protection Agency Administrator Carol Browner said it best with her statement, "In southern Florida, the environment is the economy." Wildlife viewing, like bird watching, beats out watching tennis matches as a pastime. In America alone, \$32 billion is spent on viewing wildlife.

Fortunately, many do see the benefits of protecting this area. The Governor's Committee for Sustaining Southern Florida, a collaboration of government, business and conservationists, unanimously decided the Everglades needed to be restored. This committee was an essential driver for moving the Comprehensive Everglades Restoration Plan (CERP) through congress. CERP was passed in 2000 as a framework to restore and protect the region, while improving the distribution of water over the Everglades (Gromnicki 2001). CERP was developed by inspecting the hypothetical performance of 21 parts of the Southern Florida ecosystem (Lodge 2005). Computer models were used to set up different scenarios for routing water based on various alternatives. After choosing the most effective, the plan was set, and CERP has 8 billion dollars worth of

funding to use over the next thirty years. So far, CERP has been successful in some projects like filling canals and blowing up water retaining structures.

The process for restoration is promising; appropriations, feasibility planning, land acquisition, and authorization are already in tact. Now the only thing left is implementation and construction of the plans. While the Everglades will never be restored to their pre-development days, restoration will benefit all species and should be a high priority. The Picayune Strand is a promising example. In the early 1960's it was purchased by a developer to create America's largest subdivision. A massive system of canals and roads were built. Fortunately, this area was flooded often and the developer went bankrupt. Now, where there were once roads and canals, birds and water have returned to restore the original ecosystem. Ecosystem responses take years, and it's challenging to keep the public interested in this natural area. However, with adequate funding and pressure on the government, this can be a successful restoration. Saving this distinctive ecosystem can be an example on restoring wilderness for years to come.

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Additional Websites

<http://www.evergladesplan.org/>

<http://www.audubonofflorida.org/>

<http://www.nps.gov/ever>

<http://www.evergladesplan.org/> (CERP site)