

# Collier Soil and Water Conservation District

Gazetteer June 2013

In July 2012, President Obama signed the "Resources and Ecosystem Sustainability, Tourist Opportunities, and Revived Economies of the Gulf Coast States Act of 2012," commonly known as The RESTORE Act. The RESTORE Act:

- Created a Trust Fund to hold 80 percent of any civil and administrative penalties paid to the United States under the Clean Water Act (CWA) by the parties responsible for the Deepwater Horizon/BP Oil Spill;
- Established an intergovernmental Ecosystem Restoration Council to identify restoration and recovery projects eligible for funding;
- Set forth a formula for how the money would be divided between the five Gulf States (Florida, Alabama, Mississippi, Louisiana, and Texas), the Restoration Council, and regional research and monitoring programs, and

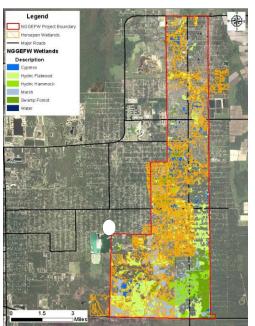
The county made a case to get funding.

#### Project Area

•The project area includes land that currently drains into the Golden Gate Canal which flows to the west and eventually into Naples Bay; and the Miller and Faka Union canals which flow south to the Ten Thousand Islands estuary through the Picayune Strand State Forest.

# North Belle Meade Restoration Area project

The historic flowways of the Northern Golden Gate Estates (NGGE) have been virtually eliminated by the network of roads and drainage canals built to accommodate residential and agricultural developments. The overall impacts on the hydrology and ecology of the region have been phenomenal and remnant flowways, such as Winchester Head and Horsepen Strand, have become isolated patches with limited functionality of wetlands.



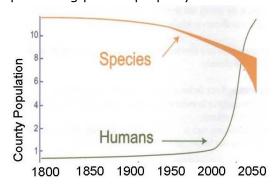
A preliminary layout of a restoration plan known as Horsepen Area Restoration Plan was developed in 2008 by an assessment of the hydrology and vegetation characteristics of a 34 square mile area of NGGE and northern Belle Meade.

Florida Department of Environmental Protection and Collier County recently completed Phase II of a North Belle Meade Restoration Area project. As designed, the project will accept storm water runoff from the surrounding areas to create a "continuous and flowing" ecological service essential to sustain native ecosystems as interconnected natural areas that will filter pollutants from the air, water and soil.

The North Belle Meade Restoration Area project will produce a wetland flowway

improvement plan consisting of various alternatives to connect existing native ecosystems by corridors of wetland flowways without impact to the Base Flood Elevation.

Critical elements of this restoration plan include emphasis on stormwater conveyance and habitat protection, together with maintaining existing and/or restoring historical overland sheetflow and stream patterns, protecting and enhancing water quality in canals, lakes, wetlands and soils, recharging groundwater aquifers, while buffering developed areas from floodwaters and protecting private property.



## What's Important?

Project decisions that are within the constraints of social, environmental and economic impact--while protecting species--will make huge progress.

Represented in the illustration on the left is a presumed decline in biodiversity due to increases in human population.

- The flow from the Golden Gate Canal into the Naples Bay through the Gordon River causes rapid and severe fluctuations in salinity, which continues to cause significant harm to the Bay.
- The Miller and Faka
   Union canals extend into
   the Picayune Strand
   Restoration Project,
   which will be plugging
   these canals south of
   NGGE to restore
   overland sheetflow and
   wetland habitat.
- Presently there is a very limited effective stormwater management/treatment system within NGGE.
- Stormwater runoff is conveyed by inconsistent roadside swales and driveway culverts to the three primary canals.
- The conveyance capacity of the Miller, Faka Union and Golden Gate canals are limited to less than 10-year peak flow rates.
- Localized flooding occurs in many areas as a result of high rainfall events.
- Some of the deepest wetlands within NGGE have remained undeveloped, namely Winchester Head and Horsepen Strand, although their hydrologic functions have been altered.

If there are no RESTORE Act funds, this project will still need to be funded from other sources as a priority!

### Contact Us:

Collier Soil and Water Conservation District 14700 Immokalee RD Naples FL 34120-1468 Phone: (239) 455-4100 FAX:(239) 455-2693 www.collierswcd.org Collier County is working on a North Golden Gate Estates (NGGE) Flowway Restoration Project to address long-standing water resource issues that affect not only the human populations and natural areas of NGGE (approximately 34 square miles), but also those of downstream systems and communities.

The project proposes to install ditch blocks and equalizing culverts in order to reconnect historic flowways in the project area. The project may include water storage and treatment and will allow for improved timing of freshwater discharges into the Golden Gate Main Canal and subsequently into Naples Bay.

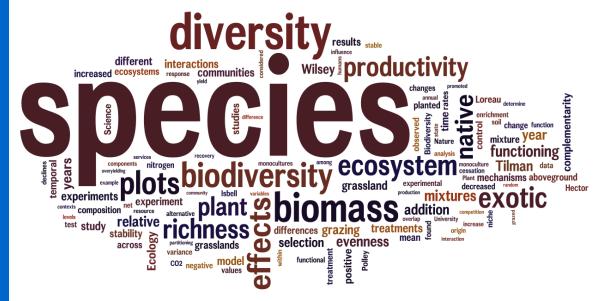
This project will be designed to maximize: benefits to natural systems, including hydrologic and habitat enhancement and connectivity within NGGE; hydrologic benefits to downstream natural systems and water bodies, and flood protection for Big Cypress Basin.

### **Ecosystem functioning**

Ecosystem functioning reflects the collective life activities of plants, animals and microbes, and the effects these activities—feeding, growing, moving, excreting waste, etc.—have on the physical and chemical conditions of their environment. (Note that "functioning" means "showing activity" and does not imply that organisms perform purposeful roles in ecosystem-level processes.)

A functioning ecosystem is one that exhibits biological and chemical activities characteristic for its type. A functioning forest ecosystem, for example, exhibits rates of plant production, carbon storage and nutrient cycling that are characteristic of most forests. If the forest is converted to an agroecosystem, its functioning changes.

Ecologists abstract the essential features of an ecosystem into two compartments, the biotic and the abiotic. The <u>biotic</u> compartment consists of the community of species, which can be divided functionally into plant producers, the consumers that feed on producers and on each other and the decomposers. The <u>abiotic</u> compartment consists of organic and inorganic nutrient pools. Energy and materials move between these two compartments, as well as into and out of the system. Ecosystem processes are quantified by measuring rates of these movements, e.g., plant production, decomposition, nutrient leaching or other measures of material production, transport or loss. Ecosystem functioning, in turn, is quantified by measuring the magnitudes and dynamics of ecosystem processes.



If we act smart we can preserve it all! Support the North Belle Meade Restoration Area project.