

SECTION 5
PROBLEMS AND OPPORTUNITIES

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SECTION 5 PROBLEMS, OPPORTUNITIES, AND OBJECTIVES

5.1 PUBLIC CONCERNS

There are a number of public concerns that are addressed within the framework of this study. Residents, land users, State and Federal landholders and land managers, and other stakeholders involved with the Southern Golden Gate Estates (SGGE) Study Area have been given the opportunity to express their views in order to have them considered and incorporated into this Project Implementation Report (PIR).

The Public and Stakeholder concerns dealt with the following:

- Flooding Impacts to the Northern Golden Gate Estates Area;
- Misunderstanding of the SGGE Project Area;
- Private property rights for landowners in the SGGE Project Area;
- Land Usage in the SGGE Project Area after the Restoration Project.
- Agency Responsible for the SGGE Project

The canals going through the SGGE Project Area provide drainage and flood conveyance for the residents of Northern Golden Gate Estates (NGGE), one of the most rapidly developing areas within Collier County. Any project feature that would include a reduction in conveyance within these canals concerns the residents of NGGE. In spite of a very aggressive canal maintenance program, the expansive rates of urban growth and accompanying encroachment into the existing low-lying water storage areas have resulted in occasional flooding in the natural lowlands throughout parts of NGGE.

With a restoration project to the south of Interstate 75 (I-75), the opportunities to develop further flood damage reduction measures for NGGE is limited. This is viewed by some as a loss of potential opportunities to further develop land in NGGE because of the difficulties in increasing the drainage conveyance for the area.

Hydric soils, topographic depressions, and wetland vegetation are distributed throughout NGGE. There is concern that features of some restoration project alternatives for SGGE, such as pump stations, may be operated in a manner that would increase the drainage in NGGE and adversely impact the existing wetlands. The wetlands in NGGE are under pressure for development.

With other environmental projects under consideration in areas adjacent to the Golden Gate Estates area, there was confusion over the boundaries of the Study Area and Project Area for the SGGE Hydrologic Restoration Project.

Additional concerns lie with the SGGE property owners south of I-75 that may be impacted by this project. The protection and management of the environmental resources is being achieved by public acquisition and restoration of the lands outlined within this study. A major portion of the area has already been purchased by the State through a Conservation and Recreation Lands (CARL) Program acquisition. Further acquisition is in progress and current owners want to ensure that they are fairly compensated. Others are concerned with the Government owning such large tracts of undeveloped lands within the county.

This area is currently used extensively for hunting and off-road recreational vehicles. The proposed changes in land use with the restoration project have the potential to significantly impact this recreational use. This is a concern for a portion of the community. In addition, some of the roads through the SGGE Project Area provide travel corridors between NGGE and U.S. Highway 41 (U.S. 41); closure of these roads would impact the individuals using these routes.

The large-scale development of SGGE has played a large role in the draining of pristine forested and emergent wetlands. This has degraded the productivity of the wetlands due to shortened hydroperiods and allowed the introduction of exotics. With this change in the ecosystem, other plants and animals have become established in the area; some environmental organizations are concerned with the loss of habitat of some endangered species.

5.2 PROBLEMS AND OPPORTUNITIES

Problem statements are descriptions of existing undesirable or objectionable conditions. Opportunities are future desirable conditions. They are descriptions of what could or should be.

As suggested in the Pre-drainage Conditions, Existing Conditions and Future Without Project Conditions chapters of this PIR, the canal and road systems within the SGGE Project Area have caused significant environmental problems in the area. The problems and opportunities are listed below and are further described in the following paragraphs.

List of Problems and Opportunities

Problems

- High runoff rate and over drainage of the SGGE Project Area

- No sheet flow across the SGGE Project Area
- Pulses of low salinity discharges to Faka Union Bay
- Loss of wetland communities in the SGGE Project Area
- Invasion by non-native species such as Brazilian pepper

Opportunities

- Increase surface aquifer recharge
- Increase ecological connectivity
- Restore habitat for threatened and endangered species

The canals and roads have intercepted pre-drainage patterns of groundwater flow, surface water sheet flow and sloughs, accelerated run-off rate from the watershed, and therefore over-drained the watershed. The canals have increased the drainage from the area, reducing sheet flow, decreasing wetlands and lowering the water table within the area; this significantly adversely impacts the ecosystem. The total area and quality of wetland vegetation communities have declined, the abundance of fish and wildlife populations and habitat have declined, publicly owned adjacent lands have become drier, the recharge rate of the surficial aquifer has been reduced, and non-native species have become much more abundant.

The 279-mile road network, of which 60 miles are paved, not only affects the groundwater infiltration rate, but it also enhances channelized runoff with the drainage swales, and the roads act as berms, which block natural flow ways. The roads are laid out on a quarter mile grid that provide easy access for the indiscriminate use of all types of vehicles, which can potentially impact wetlands through excessive rutting and disturbance to vegetation. Additional impacts caused by the road network include criminal activities; these roads allow access to a large secluded area, which promotes drug trafficking, poaching (animals and vegetation), vandalism, and the illegal dumping of solid waste. The extensive use of firearms is also an existing reality.

The drier conditions have made the SGGE Project Area more prone to larger and more intense wild fires than under pre-drainage conditions. These fires are accelerating the change in vegetation communities from cypress swamps and wet prairies to flatwoods and hammocks dominated by fire tolerant species such as cabbage palm. These different communities, predicted by modeled water depths, can be seen in Table 5-1.

TABLE 5- 1 SGGE AREA PLANT COMMUNITY ACREAGE CHANGES

Plant Community	Water Depth	Pre-Devel	Existing	Without Project
Mesic Pine Flatwoods Mesic Hammock	<0.2	10,123	55,575	54,594
Hydric Flatwoods Hydric Hammock	0.2 - 0.5	11,001	2,118	3,099
Wet Prairie	0.5 - 1.0	18,750	826	981
Cypress Forest Freshwater Marsh	1.0 - 2.0	16,166	723	620
Open Water >2.0 ft	>2.0	3,254	52	0
		59,294	59,294	59,294

The canal and road system has resulted in the loss of contiguous lands for Florida panther habitat as well as other threatened and endangered species. The SGGE Project Area is located among several publicly owned lands--the Florida Panther National Wildlife Refuge to the northeast, the Fakahatchee Strand State Preserve and the Big Cypress National Preserve to the east, the Belle Meade CARL Project to the west, Everglades National Park to the southeast, and the Ten Thousand Islands National Wildlife Refuge, Cape Romano – Ten Thousand Islands Aquatic Preserve, and Collier-Seminole State Park to the south. The SGGE Project Area lands are critical for ecological connectivity across the region. Restoration of the SGGE Project Area would benefit all of these public lands as well as wildlife species such as the Florida panther that depend on large tracts of land.

The altered hydrology of the SGGE Project Area has also caused problems in the estuaries south of SGGE. The rapid run-off rate from the watershed results in extreme variation of discharge to the Faka Union Estuary. Discharges are much higher than natural during the wet season and during storms. Discharges are much lower than normal during the dry season since over drainage reduces surficial aquifer recharge. This results in an unnaturally large range of fluctuations of salinity in the estuary. This puts stress on the biological components of the estuary and reduces the abundance of many species as well as the biodiversity of the communities. During the low flow dry season, salt water moves up the canal and disrupts the adjacent vegetation communities. In addition, with the interception of the natural/pre-drainage flow ways by the roads and canals, other marshes and bays south of U.S. 41, including Pumpkin, Buttonwood, and Blackwater Bays, are no longer receiving the fresh water input

required to maintain their equilibrium. This has facilitated the northward invasion of salt-tolerant species and changes to wetland communities.

5.3 PLANNING GOALS AND OBJECTIVES

5.3.1 Planning Goal

A Planning Goal is the broad overarching general statement of the purpose of the project. The goal of this project is to restore the predevelopment ecosystem of the area known as Southern Golden Gate Estates and to adjacent publicly owned and managed lands. Restoring the hydrology will restore vegetation communities, wildlife populations, protected species populations, and the downstream estuary conditions to a more natural, less degraded state.

5.3.2 Planning Objectives

Planning objectives are more specific than the Planning Goal. They elaborate and expand on the broad goal of restoring the SGGE Project Area. Planning Objectives come from the problem statements and the planning goal. The objectives are the specific items to be accomplished by the project. They give direction to developing alternatives that will solve the problems of the SGGE Study Area. If the objectives are achieved, then the planning goal will have been achieved.

During the initial planning phase of this study, several planning objectives were formulated in an effort to restore sheet flow, natural flow ways, fish and wildlife resources, and water supply/water quality in the basin.

This section of the PIR contains statements of objectives for Southern Golden Gate Estates. The multi-agency PDT formulated and reach consensus on these objectives. Objectives were developed from the CERP goals and objectives on one hand and the regional and site-specific problems on the other hand. The final list reflects a focused review of the project objectives as they have evolved during the study. The earlier sources of statements of objectives include the 1999 C&SF Comprehensive Review (Yellow Book, CERP), the May 2001 SGGE Project Management Plan, and the minutes of several PDT meetings and workshops. The current statements of objectives (Table 5-2) are very similar to the initial objectives and have changed only slightly throughout the course of the study.

TABLE 5- 2 CORRESPONDENCE BETWEEN OBJECTIVES FOR CERP AND OBJECTIVES FOR THE SOUTHERN GOLDEN GATE ESTATES HYDROLOGIC RESTORATION

CERP Objectives		Increase habitat and functional quality	Increase availability of fresh water	Increase species abundance and diversity	Increase spatial extent	Provide recreational and navigation opportunities
SGGE PIR Objectives						
1	Reestablish natural freshwater flows to estuary	✓				
2	Restore natural hydro patterns, including sheet flow and flow ways	✓				
3	Reestablish natural plant distribution and composition	✓				
4	Increase surface aquifer recharge		✓			
5	Restore habitat for listed species	✓		✓		
6	Increase fish and wildlife resources	✓		✓		
7	Restore ecological connectivity and provide contiguous habitat protection to adjacent public lands			✓	✓	
8	Provide resource based recreational opportunities compatible with the protection of the natural systems					✓
9	Restore natural fire regime	✓				

5.3.3 Planning Constraints

A constraint is basically a restriction that limits the extent of the planning process. Constraints describe things that the study is unable to accomplish and things that the study wants to avoid occurring. While the goal of this restoration project is to restore a more natural hydrologic regime, several planning constraints were considered during plan formulation.

Three constraints are written into the law authorizing the Comprehensive Everglades Restoration Plan, of which the SGGE restoration project is a component. Section 601 of the Water Resources Development Act (WRDA) 2000 (PL 106-541), subparagraph (h)(5), includes a Savings Clause. Section 601(h)(5)(A) of this clause refers to existing sources of water:

(A) NO ELIMINATION OR TRANSFER- Until a new source of water supply of comparable quantity and quality as that available on the date of enactment of this Act is available to replace the water to be lost as a result of implementation of the Plan, the Secretary and the non-Federal sponsor shall not eliminate or transfer existing legal sources of water, including those for:

- (i) an agricultural or urban water supply;*
- (ii) allocation or entitlement to the Seminole Indian Tribe of Florida under section 7 of the Seminole Indian Land Claims Settlement Act of 1987 (25 U.S.C. 1772e);*
- (iii) the Miccosukee Tribe of Indians of Florida;*
- (iv) water supply for Everglades National Park; or*
- (v) water supply for fish and wildlife.*

Section 601 (h)(5)(B) of the Savings Clause states:

(B) MAINTENANCE OF FLOOD PROTECTION- Implementation of the Plan shall not reduce levels of service for flood protection that are:

- (i) in existence on the date of enactment of this Act; and*
- (ii) in accordance with applicable law.*

Section 601(h)(5)(C) on tribal rights states:

(C) NO EFFECT ON TRIBAL COMPACT- Nothing in this section amends, alters, prevents, or otherwise abrogates rights of the Seminole Indian Tribe of Florida under the compact between the Seminole Tribe of Florida, the State, and the South Florida Water Management District,

defining the scope and use of water rights of the Seminole Tribe of Florida, as codified by section 7 of the Seminole Indian Land Claims Settlement Act of 1987 (25 U.S.C. 1772e).

There are questions about whether, or if, the Savings Clause applies to situations like the SGGE project. First, the Programmatic Regulations for the CERP program set up a process to provide six formal guidance memoranda and a pre-CERP baseline by December 2004 to resolve, among other things, Savings Clause questions. This process will require consultation with the public, other agencies, and Tribes, and formal consultation by the Secretary of Interior and the Governor.

Second, it is not clear from the following facts if there was a level of service in accordance with applicable law in existence on the date of enactment of WRDA 2000. The canal system in the SGGE Project Area extends into Northern Golden Gate Estates, and provides drainage to this residential community located north of I-75. Although the canals were privately dug, South Florida Water Management District took over maintenance of the canals in the early 1990s. The “Recommended Level of Service Standard for Stormwater Management” in Collier County’s Growth Management Plan uses the 10-year, 3-day storm for the NGGE area. The Growth Management Plan’s “level of service” relates to how well a stormwater management facility or system addresses water quantity, quality, and groundwater recharge. Based on their consultant’s study, the drainage sub-element of both the Oct. 1997 and the May 2000 Collier County’s Growth Management Plan rated two of the four canal sub-basins in NGGE as “D,” unacceptable, on a scale of A to D, because existing facilities couldn’t handle the 10-year storm adequately. The other two canal sub-basins were rated “C.” The County is also doing a study to determine whether residences throughout the area are elevated enough to meet FEMA flood insurance standards.

Since this Project Implementation Report will be finished before completion of the formal guidance memoranda and the pre-CERP baseline, this PIR compares the effect of the three leading alternatives on flooding to the flooding conditions that existed at the time of enactment. It then considered, if the Savings Clause applied, whether there would affect any of these alternatives.

Finally, laws protecting threatened and endangered species also constrain the project. Several Federally listed threatened and endangered species are known to inhabit the SGGE Study Area. A Federal project must not jeopardize the continued existence of any listed species.