

Water Resource Protection

STATEMENT OF ISSUE

An evaluation of the objectives and policies of the GMP for their effect on managing water resource protection throughout the County by promoting mechanisms to protect the County's estuarine and wetland systems.

ISSUE BACKGROUND

Subsection 163.3177 (5)(d), Florida Statutes requires all local governments within the State of Florida to have, as part of their respective Local Government Comprehensive Plans, an Element, dealing with "the conservation, use, and protection of natural resources in the area, including air, water, water recharge areas, wetlands, water wells, estuarine marshes, soils, beaches, shores, flood plains, rivers, bays, lakes, harbors, forests, fisheries and wildlife, marine habitat, minerals, and other natural and environmental resources."

The statute further relates the functions of the Conservation and Coastal Elements so that, in effect, local governments in designated coastal areas, such as Collier County, are required to prepare a Conservation and Coastal Management Element, which fulfills the requirements for both Elements. Accordingly, Collier County's Conservation and Coastal Management Element is divided into thirteen (13) separate goal areas. These may be summarized as follows:

1. Protection of natural resources;
2. Protection of surface and estuarine water resources;
3. Protection of groundwater resources;
4. Protection of freshwater resources;
5. Protection of mineral and soil resources;
6. Protection of native vegetation and wildlife habitat;
7. Protection of fisheries and wildlife;
8. Maintenance of existing air quality;
9. Management of hazardous materials and hazardous wastes;
10. Protection of coastal resources;
11. Protection of historic resources;
12. Hurricane evacuation and sheltering; and
13. Avoiding duplication of regulations.

Collier County is a large land area of approximately 2000 square miles in southwest Florida. The topography is extremely flat ranging from a high elevation of approximately forty (40) feet above sea level in the unincorporated community of Immokalee in the northeastern portion of the County to the back of a low coastal dune system at approximately four (4) feet at the coastline along the western and southern portions of the County. The typical ground slope is approximately one (1) foot per mile in the western half of the County and less than that in the eastern half of the County. Additionally the area receives an average rainfall of about 53 inches with 37 inches during the wet season (June through October). Due to the lack of relief, abundant rainfall, highly permeable soils, and proximity to sea level the ground water table is very close to the ground surface. The flat topography results in large areas of sheetflow across natural ground,

but canals, road construction, agricultural operations, and urban development have greatly altered this sheetflow in the western portion of the County.

Collier County, due to the Immokalee Ridge in the northeast, is basically its own drainage watershed. The shallow topography, with the Immokalee Ridge located in the northeastern portion of the County near the Lee County and Hendry County boundaries, creates a series of drainage basins with very little exchange of stormwater crossing County lines. Additionally, in some locations agricultural and development activities have constructed earthen berms along their property lines that correspond to the County lines that further define the drainage basin boundaries. The eastern half of the County is predominantly federally owned wetlands that receives sheet flow as a part of the Everglades system, but this remains in the eastern half of the County and continues the flow in a southwesterly direction.

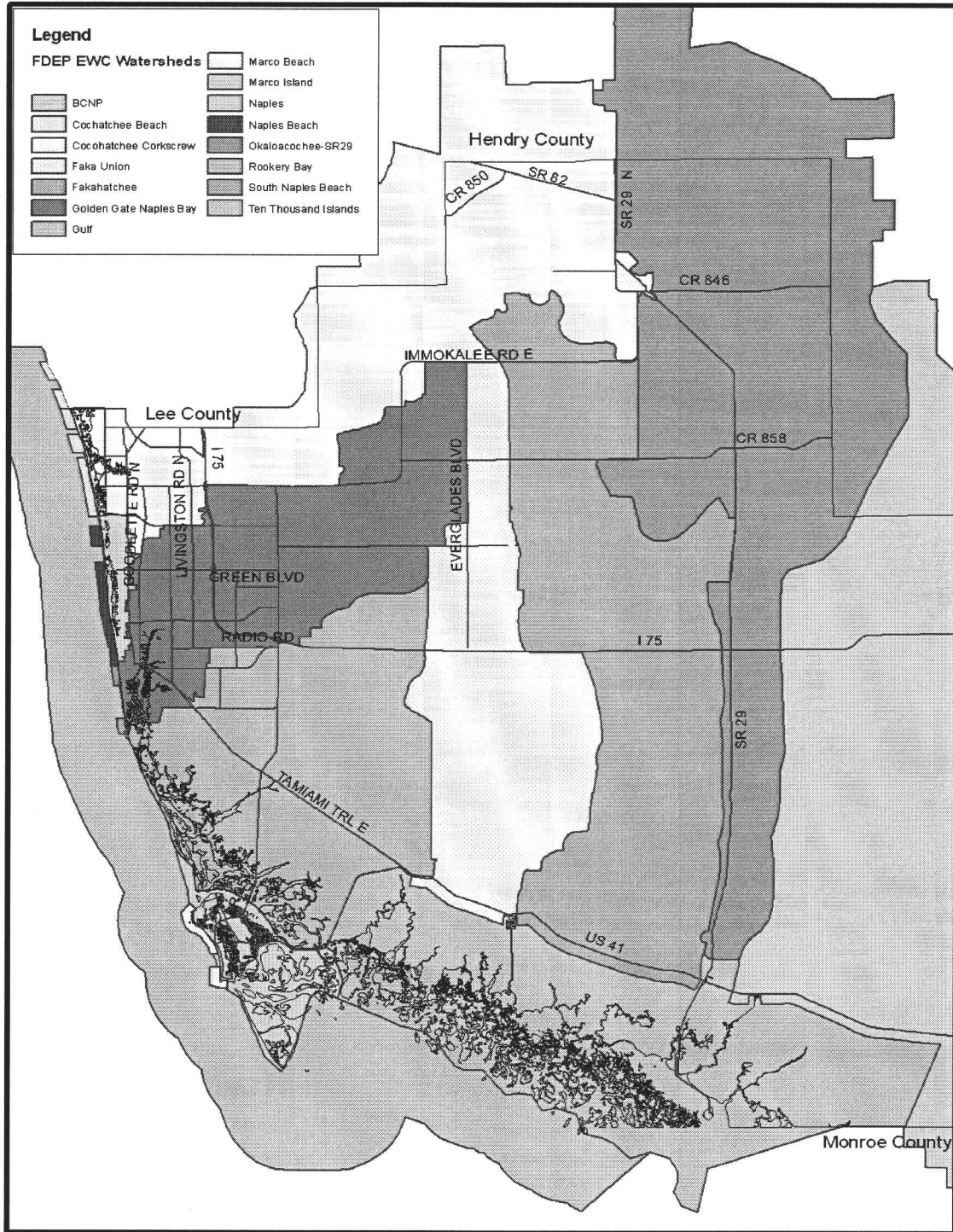
Due to the low gradient terrain and wetland hydrologic features, construction of canals along section lines and roads, drainage is not uniform and implementation of a uniform level of service for flood conveyance in all areas of Collier County is not feasible. The County generally considers a 25-year 3-day rainfall event as the design storm for area west of Collier Blvd. (CR-951) and a 10-year 1-day rainfall event as the design storm for the Golden Gate Estates areas east of Collier Boulevard (CR 951).

Because the soils are so porous the canals drain preserves and shallow aquifers as well as residential developments. The shallow aquifers are utilized by suburban and rural residents for potable water. Additionally the large fresh water discharges, contributed from the development of the county, during the wet season have been found detrimental to the estuaries. For these reasons there have been many adjustable water level controls installed in the canal systems to improve functionality.

The development of Watershed Management Plans and interim regulations is specified in the Conservation and Coastal Management Element (CCME) Objective 2.1 of the Collier County Growth Management Plan, as adopted by the Board of County Commissioners on 1-25-07 (Ordinance 2007-16). The Florida Department of Community Affairs reviewed all amendments to the CCME, including the addition of these "interim standards" and on 5-2-07 issued their Notice of Intent to find the CCME amendments "in compliance" with Florida Statutes. After the 21-day challenge period ended without a challenge being filed, the amendments to the CCME became effective on 5-24-07.

The interim standards require a new development and re-development projects shall meet 150% of the water quality volumetric requirements of Section 5.2.1(a) of the Basis of Review for Environmental Resource Permit Applications (February 2006) and the retention and detention requirements, and the allowable offsite discharge rates required by Drainage Sub-element Policy 6.2 and 6.3, respectively. The 150% water quality volumetric requirement also applies to the County's minimum requirement of one (1) inch under Ordinance 90-10, as amended; thus increasing the County's minimum requirement to one and one-half (1.5) inches.

WMP Watersheds - FDEP Everglades West Coast Watersheds



Data Source: Basins / Watershed - FDEP
 Created By GIS CDES / Environmental Services
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0 3 6 12 Miles



Collier County

Loss of storage or conveyance volume resulting from direct impacts to wetlands shall be compensated for by providing an equal amount of storage or conveyance capacity on site and within or adjacent to the impacted wetland.

Floodplain storage compensation shall be evaluated for developments within the designated flood zones “A”, “AE”, and “VE” as depicted on the Flood Insurance Rate Maps published by the Federal Emergency Management Agency with an effective date of November 17, 2005. Floodplain storage compensation shall also be evaluated for areas known to be periodically inundated by intense rainfall or sheetflow conditions.

Comprehensive Plan Implementation

The Collier County Growth Management Plan addresses the need to complete the prioritization and begin the process of preparing Watershed Management Plans, which is to contain appropriate mechanisms to protect the County’s estuarine and wetland systems. The process consist of (1) an evaluation of areas for which Watershed Management Plans are not necessary based on current or past watershed management planning efforts, (2) an assessment of available data and information that can be used in the development of Watershed Management Plans, and (3) budget authorization to begin preparation of the first Watershed Management Plan. A funding schedule is established to ensure that all Watershed Management Plans will be completed by 2010. In selecting the order of Plan completion, the County shall give priority to watersheds where the development growth potential is greatest and will impact the greatest amount of wetland and listed species habitats. The schedule and priorities shall also be coordinated with the Federal and State agency plans that address Total Maximum Daily Loads (TMDLs). Until the Watershed Management Plans are completed, The County shall apply the interim standards for development.

Below are the public comments received related to Water Resource Protection:

WATER RESOURCE PROTECTION

- *County should re-evaluate monitoring and maintenance procedures for nutrient loads/pollution/water quality. **Objective 1 of the Drainage Sub-Element.***
- *Improve public participation outreach and involvement for watershed management planning. **Observational.***
- *The County needs better outreach and education with user-friendly terminology and use illustrations. **Observational.***
- *The County Watershed Management Planning needs to be holistic – more than just water. **Observational.***
- *With a future unpredictable climate we cannot depend on previous historical levels of water. **Observational.***
- *Develop new tools to predict future water availability. **Policy 1.3 of Potable Water Sub-Element.***
- *GMP elements need to consider the effects they have on each other and; Available water supply; Waste Management (Landfills); and Drainage. **Observational.***
- *If and when sea levels rise, what has the BCB done to keep water in the Eastern Collier area fresh and apart from encroaching seas? **Observational – Major Issue - Climate Change.***
- *The County has let the residents down by acquiescing in the FIRM. **Observational.***

- *The County has failed to provide guidance to the people who will need a LOMA. **Programmatic.***
- *The County has failed to limit growth based on available resources. **Objective 2 (Financial Feasibility) Capital Improvement Element.***
- *The County has failed to consider the cumulative effect of deep aquifer withdrawal. **Observational.***
- *The County has failed to develop a County-wide Storm Water Plan. **Objective 2.1 Conservation and Coastal Management Element.***
- *Canals not cleaned (algae and weeds cover canal along Frangipani Ave.) Algae sheet sunk (causing future problems for fish and drainage). **Programmatic.***
- *C 7 connector has better flow due to culverts being installed. **Observational.***
- *FEMA elevations too large a burden during severe recession. **Observational.***
- *Need more efficient water management of rural areas east of CR951 to prevent flooding and being rezoned to flood area. **Observational.***
- *The new Flood Insurance is unacceptable. **Observational.***
- *The County should protest FIRM. **Observational.***
- *If flooding is a problem, don't allow additional buildings and asphalt (which can impact their neighbors). **Observational.***
- *Ditches and swales are not being cleaned and cleared; and driveways do not have proper culverts. **Programmatic.***
- *Standing water only 3 times ('95, '06 and '08) the same time the county took readings. **Observational.***
- *County Government has failed to implement the Watershed Management Plan into which all other Construction and Coastal Elements, Goals and Objectives were to be involved. **Observational - Objective 2.1 Conservation and Coastal Management Element.***
- *Disappointed with County's failure to put the '89 GMOP LDC into place in a timely manner. **Observational.***
- *County has failed to address sustainability and quality of life for all resources. **Observational.***
- *The '89 GMP required that all aspects will be evaluated, watershed by watershed, where is that guidance? **Observational - Objective 2.1 Conservation and Coastal Management Element.***
- *All development in the urban zones and outside should be considered and evaluated after each watershed and its characteristics were developed. **Objective 2.1 Conservation and Coastal Management Element.***
- *Failed to put into place a Watershed Management Plan. **Objective 2.1 Conservation and Coastal Management Element.***
- *Dropping water table in GG Estates, GG Estates water resources are being used by City and other areas without benefit to GG Estates. **Observational.***

- *Re-use water – can it be turned into a drinking water source? Potential waste of re-use water is a concern (If there is no demand, why pay for treatment?) **Policy 1.1 Potable Water Sub-Element.***
- *County has no Flood Plain Management Plan. **Policy 6.3 Drainage Sub-Element.***
- *No coordination with Big Cypress Basin; SFWMD; FEMA and DEP (ex: - Picayune Strand Restoration project was completed without consideration of the effect of the RLSA on the flood plain). **Observational.***
- *Where are the Comprehensive Watershed Management Plan and the Comprehensive Water Resource Management Plan? **Policy 1.5 Drainage Sub-Element.***
- *When are the efforts going to be: Funded; Delivered; and Scheduled. **Observational.***
- *Where is monitoring and maintenance of water resource? **Potable Water and Drainage Sub-Elements.***
- *Watershed/Water Resource Management needs to be holistic. **Observational.***
- *Environment/Development/Conservation/Recharge/Recycle/Reuse/Alternative Water Resources **Observational.***
- *The County needs to establish a Stormwater Utility fee to address needed improvements and to address EPA's implementation of the NNC (Numeric Nutrient Criteria). **Observational & Policy 1.5 Drainage Sub-Element.***