

# Watershed Management

## *A Comprehensive Approach to Managing Water Resources in the Southwest Florida Water Management District*

### What Is a Watershed?

The term “watershed” is central to any discussion of watershed management, but the word is often misunderstood. A watershed is an area of land that water flows across as it moves toward a common body of water, such as a stream, lake or coast. This definition is based on a concept with which everyone is familiar: “Water runs downhill.” Although Florida’s changes in elevation are often subtle, they do affect water flow and determine watershed boundaries. Water within a specific watershed will move from higher land to the lowest point within the area. Watersheds may be as small as a portion of a yard draining into a mud puddle or as large as the Mississippi River Basin, which drains 1.2 million square miles.

We all live in a watershed. Watersheds are where we live, work and play. A watershed includes not only natural elements like ponds, soils, vegetation and animals, but also things associated with people like houses, businesses, roads and farms. What you and others do on the land impacts the quality of water and other natural resources.

#### ***Find Your Watershed***

See the Environmental Protection Agency’s web site “*Surf Your Watershed*” at [www.epa.gov/surf/](http://www.epa.gov/surf/).



## What Is a Watershed Management Approach?

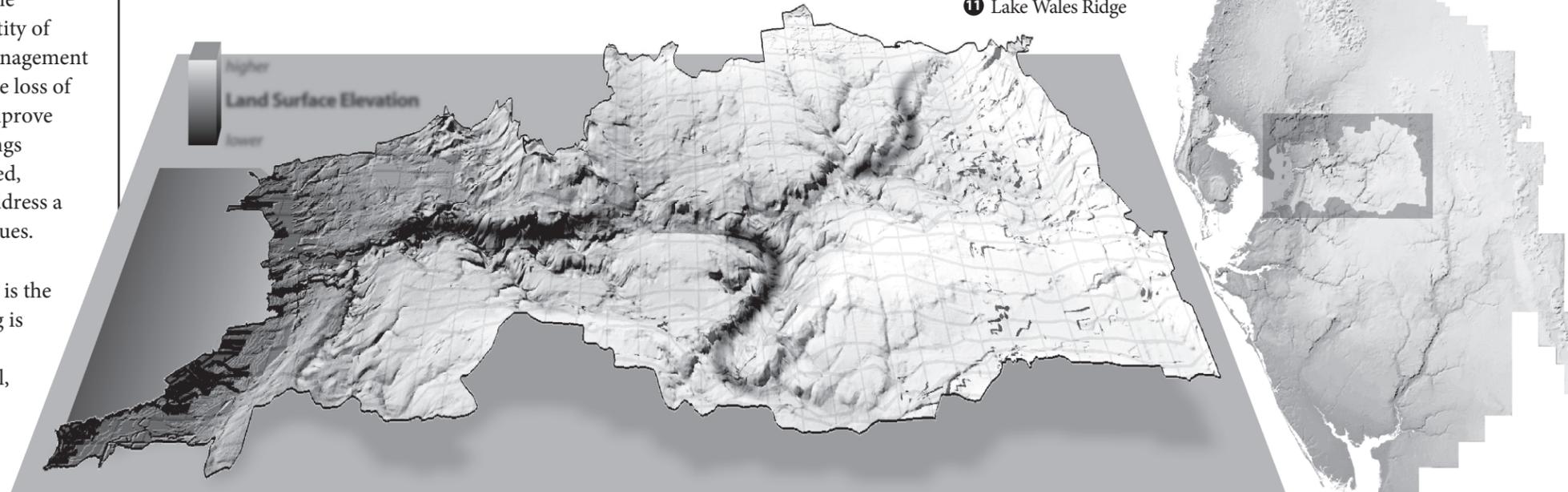
A watershed management approach is one that considers the watershed as a whole, rather than separate parts of the watershed in isolation. Managing the water and other natural resources is an effective and efficient way to sustain the local economy and environmental health. Scientists and leaders now recognize the best way to protect the vital natural resources is to understand and manage them on a watershed basis.

Almost every activity on the land has the potential to affect the quality and quantity of water in our waterways. Watershed management helps reduce flood damage, decrease the loss of green space, reduce soil erosion and improve water quality. Watershed planning brings together the people within the watershed, regardless of political boundaries, to address a wide array of resource management issues.

At the heart of watershed management is the underlying philosophy that “everything is connected to everything else.” Like the links of a chain or the spokes of a wheel, watershed components are interconnected and mutually supporting. The health of upstream components directly determines the health and function of areas downstream. Our actions affect our neighbors as well as neighboring communities.

# Typical Watershed

A watershed is an area of land that water flows across as it moves toward a common body of water, such as a stream, lake or coast.



### Major Watersheds

- 1 Withlacoochee River
- 2 Springs Coast
- 3 Tampa Bay/Anclote River
- 4 Hillsborough River
- 5 Alafia River
- 6 Little Manatee River
- 7 Manatee River
- 8 Southern Coastal
- 9 Myakka River
- 10 Peace River
- 11 Lake Wales Ridge

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## Comprehensive Watershed Management Initiative

In 1994, as part of its watershed management approach, the District established the Comprehensive Watershed Management (CWM, pronounced “sea-whim”) initiative. Under this initiative, the District developed CWM teams for each of the 11 primary watersheds within its jurisdiction: Withlacoochee River, Springs Coast, Tampa Bay/Anclote River, Hillsborough River, Alafia River, Little Manatee River, Manatee River, Southern Coastal, Myakka River, Peace River and Lake Wales Ridge.

The CWM teams determined the issues regarding watershed health, established goals for protection and enhancement, and then developed strategies to achieve those goals. The teams included representatives from local governments, interested organizations and citizens, and District staff. These teams submitted their findings to the District in CWM plans.

## Watershed Management Program

Based on the CWM plans, the District has developed a Watershed Management Program (WMP).

This program identifies ways to effectively coordinate and implement CWM strategies. The WMP has five elements:

### 1. Topographic Information

Determining the surface features and understanding the boundaries of each watershed is essential to developing the elements of the WMP. Digital topographic maps, aerial photographs and ground survey controls are generated during this process. This information provides the foundation for the other elements of the WMP.

## Watersheds in West-Central Florida

The Southwest Florida Water Management District, also referred to as the District, encompasses 10,000 square miles within 16 counties in west-central Florida. This includes 13 major rivers, 1,800 lakes that are 10 or more acres in size, 3 major estuaries, 1.1 million acres of wetlands, 3 aquifers and numerous smaller rivers, creeks and streams. Within the boundaries of the District, there are approximately 250 recognized watersheds that have been consolidated into 11 primary watersheds.

## The District’s Approach to Watershed Management

The District takes a watershed approach to managing water and water-related resources within its boundaries. By doing so, the District can evaluate all the characteristics of each watershed to reflect the real, interconnected nature of Florida’s water resources. This increases the District’s ability to clearly identify, prioritize and address issues related to the area’s water resources.

Successful watershed management needs the involvement and cooperation of all stakeholders within a watershed. A stakeholder is anyone who has a share or interest in any or all issues related to our watersheds. Examples of stakeholders include the District, local governments, residents, industries and agricultural organizations. By including many interest groups, local watershed partnerships tap the varied perspectives of different partners, increase credibility, reduce duplication of effort and maximize results from limited funds.

## 2. Watershed Evaluation

The District uses the topographic information to complete a watershed evaluation. During this process, the District determines each watershed's water storage and water transportation features, including boundaries and the direction of water flow. The District will conduct additional analysis on water quantity and quality as needed. This information is stored in the District's geographic information system database for access by residents, local governments, District staff and other government agencies.

## 3. Watershed Management Plan

Based on the information gathered from the watershed evaluation, the District will develop a watershed management plan. The plan will determine the capacity of a watershed to provide adequate water for people and the environment, flood protection and good water quality. This information can be used to grade how well needs are being met within the watershed.

## 4. Implementation of Best Management Practices (BMPs)

If the information from the watershed management plan indicates that the current level of service (see Figure 1) for a watershed is below the target assigned by local governments, the District will develop BMPs for improvement. The BMPs can be structural or nonstructural and may address multiple watershed issues. Structural approaches may include development and maintenance of water management facilities. Nonstructural approaches may include land acquisition, permitting, regulation and education. Once the most cost-effective and beneficial BMPs are selected, they are then initiated or constructed and monitored for continued success.

## 5. Maintenance of Watershed Information

New growth and altering the land or water resources can cause watershed features to change. The District regularly updates information gathered during all phases of the WMP in order to gauge the effectiveness of implemented strategies.

## Coordination and Funding

To effectively implement the Watershed Management Program (WMP), local governments and the District must combine resources, work together and freely exchange watershed data. The District will create coordination documents for each county government (and city government as requested) to address coordination and enhance cooperation. Local governments' capital improvement plans and the District's cooperative funding program will provide funding for local elements of the WMP. The costs of these elements are determined as the program progresses. Since the WMP may change based on growth and shifting priorities, decision-makers will have opportunities throughout the program to determine when and where funds are needed.

Figure 1

### LEVEL OF SERVICE Does Your Watershed Get an "A"?

Various characteristics of a watershed are graded on a scale from "A" to "F." This grading system, referred to as "level of service," is part of a comprehensive plan process by local governments that ensures there is adequate capacity to support growth and development in the area.

For example, an area designated with a flood protection grade of "A" has flooding, but during severe storm events, buildings would not sustain flood damage and all streets would remain passable.

However, an area with a flood protection "F" ranking is subject to hazardous flooding. Buildings, including emergency shelters, would experience flood damage; and roads, including evacuation and emergency roads, would be impassable during a severe storm event.

To find out more about your watershed's flood protection level of service, please contact your local government administrator. The level of service information is generally contained within the community's comprehensive plan.

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