

## **Northwest Florida Water Management District**

The Northwest Florida Water Management District (NFWFMD) stretches from the St. Marks River basin in Jefferson County to the Perdido River in Escambia County. The district encompasses all of 15 counties as well as the portion of Jefferson County within the St. Marks River basin. Within its 11,305 square miles of land are parts of five major drainage basins: the Perdido-Escambia, the Blackwater-Yellow, the Choctawhatchee, the Apalachicola-Chipola, and the Ochlockonee-St. Marks. When areas of water are combined with land areas, the square miles within the district total 13,264. Tallahassee, the state capital, with an estimated 1990 population of 124,773, is the largest city. All of the other major urbanized areas—Pensacola, Destin, Ft. Walton Beach, Panama City—are on the coast. Small towns dot the interior of the region where most of the land is in agriculture or forestry. Within Northwest Florida are several large government land holdings including Eglin Air Force Base, the Apalachicola National Forest, the Blackwater River State Forest, and the St. Marks National Wildlife Refuge.

Northwest Florida has more rivers and streams than any other region in the state. Seven major rivers (Escambia, Blackwater, Yellow, Choctawhatchee, Chipola, Apalachicola, Ochlockonee) cross the district on their way to the coast. By volume of flow Northwest Florida has three of the five largest rivers in the state: the Apalachicola, Choctawhatchee, and Escambia. The Apalachicola, the largest river in the state, derives its flow from the extensive basins of the Flint and the Chattahoochee in Georgia, which converge at Lake Seminole, an impoundment created by the Jim Woodruff Dam.

Northwest Florida Water Management District is participating in a multiyear comprehensive study of the Apalachicola-Chattahoochee-Flint river system with the states of Alabama and Georgia and the U.S. Army Corps of Engineers. This study includes a freshwater needs assessment of the Apalachicola River and Bay to identify minimum flows of freshwater needed to sustain the current productivity of the river and bay. In 1997 the legislatures of Florida, Georgia, and Alabama adopted the Apalachicola-Chattahoochee-Flint River Basin Compact creating the Apalachicola-Chattahoochee-Flint River Basin Commission. The U.S. Congress ratified the compact in November 1997 and President Clinton signed the compact into law on November 20, 1997.

Most of the region's rivers are in their natural state and have few man-made structures that alter their floodplains and channels or control their flow rates. Rainfall, runoff, and groundwater discharge into the streams determine variations in flow. In the western portion of the region the rivers are generally highly colored with little sediment and few nutrients. Those in the eastern portion of the district are generally alluvial and nutrient rich.

Flooding can and does occur along major rivers, although damages are not usually widespread because of relatively sparse development and public ownership within floodplains. Caryville on the Choctawhatchee River, however, has experienced several disastrous floods during this century. Blountstown and a few other communities on the Apalachicola River flooded during the summer of

1994 from tropical storms Alberto and Beryl. Local flooding also occurs in some urban areas as a result of inadequate stormwater drainage.

Although surface water is plentiful, the Floridan and sand and gravel aquifers supply about 77 percent of the potable water needs in the region. For the most part the Floridan yields water of excellent quality that requires little or no treatment. In Escambia, Santa Rosa, and parts of Okaloosa counties, however, water from the Floridan is saline, and potable supplies are obtained from the sand and gravel aquifer overlying the Floridan. Only Bay County (Panama City metropolitan area) and Quincy (Gadsden County) use surface water for public supply. In Bay County, Deer Point Lake, a reservoir created in 1961, supplies about 19 million gallons of potable water per day. The city of Quincy depends on Quincy Creek for its potable water supply.

Both surface-water and groundwater quality are generally good in Northwest Florida, although localized problems do exist. Several rivers originate in Alabama and Georgia making them vulnerable to water quality degradation caused by actions in those states. The sand and gravel aquifer, like other surficial aquifers, is very susceptible to contamination. Investigations have found instances of groundwater contamination in southern Escambia County. In Jackson County, domestic wells in the Floridan aquifer were found to be contaminated with the agricultural pesticide ethylene dibromide (EDB). Several public water supply wells in Leon and Escambia counties were shut down because of contamination with dry-cleaning solvent. Continuing large withdrawals of groundwater in coastal areas have the potential to degrade groundwater quality by inducing saltwater intrusion. Abandoned wells pose an additional groundwater contamination threat. Between 1990 and 1995, over 4,700 abandoned wells were identified and plugged in the district.

Wellhead protection is an area of increasing concern and activity in the district, especially in the westernmost portions such as Escambia and Santa Rosa counties, which rely on the sand and gravel aquifer. Other places where wellhead protection is critical include recharge areas where the Floridan aquifer is at or near the surface such as in Leon, Wakulla, Jefferson, Jackson, Holmes, and Washington counties.

Pollution of bays, rivers, and lakes from stormwater runoff is a serious problem in the region and throughout Florida. For example, Lake Jackson in Leon County, once a pristine lake famous for its trophy-size largemouth bass, has been adversely affected since the early 1970s by stormwater runoff. The Pensacola Bay system has also been affected by stormwater runoff as well as by point-source pollution. By the late 1960s and early 1970s the system experienced decreased fish landings, fish kills, and severe reductions in seagrass beds. The water management district is working with local governments to monitor stormwater and to develop stormwater management plans.

Before human alteration, most of Northwest Florida was open pine woods on rolling hills and flat lands. In the valley bottoms and along creeks were hardwood forests. Since 1984, the district has acquired approximately 150,000 acres through Save Our Rivers and Preservation 2000 for preservation and, in many cases, for restoration to more natural conditions. Included are river floodplains,

headwater wetlands, coastal marshes, first-magnitude springs, and bottomland hardwood and associated upland forests. Within the region are eight first-magnitude springs, most of which are popular recreation spots. Wakulla Springs, the most notable, has an annual average discharge of 250 million gallons per day. More than 85 percent of the floodplains along the Choctawhatchee and Escambia rivers have been acquired by the district.

Although an adequate supply of water is, for the most part, available for existing and future demands throughout most of the region, the district's governing board has designated two Water Resource Caution Areas: the coastal portion of Santa Rosa, Okaloosa, and Walton counties and the Upper Telogia Creek drainage basin in Gadsden County. By 1980, Floridan aquifer water levels in the Ft. Walton Beach area in southern Okaloosa County had declined as much as 100 feet below sea level. Large amounts of water are withdrawn from the upper Telogia Creek basin for irrigation.

Water management activities in Northwest Florida are limited by the current taxing structure. All of the state's five water management districts have the authority to levy ad valorem (property) taxes. Four of the five districts are allowed by the Florida Constitution to levy up to one mill. NFWMD is limited to 1/20th (.05) of a mill, which is 5 cents for every \$1,000 of taxable property value. Most of the district's funding comes from cooperative projects, grants, and legislatively funded programs such as Save Our Rivers and Preservation 2000.

