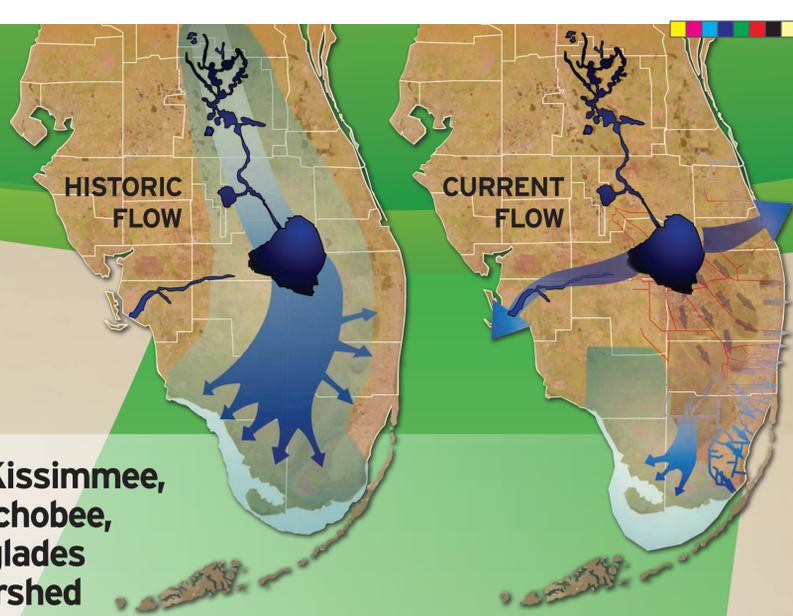


Everything upstream goes downstream!

Connecting the Land, the Sea and the People of Southeast Florida



The Kissimmee, Okeechobee, Everglades Watershed

The southeast coast of Florida is part of the unique Kissimmee, Okeechobee, Everglades (KOE) watershed. It begins at Turkey Lake, then runs south through the Chain of Lakes, feeding directly into Lake Okeechobee. Historically, water flowed slowly from Lake Okeechobee and spread across the Everglades. The flat terrain of the KOE watershed allowed for nutrient uptake by plants, which naturally filtered the water, supporting diverse wildlife. As the water continued its journey south, through the sawgrass plains to the coastal mangroves, it reached the outgoing tide of Florida Bay, and flowed through the bay to the Florida Keys.

With increasing development in south Florida, dikes and canals were built to manage flooding in urban environments and to redirect water to agricultural areas south of Lake Okeechobee, drastically altering the landscape and the natural flow of water through the Everglades. Today, over 40% of the water is artificially diverted to the Gulf of Mexico and the Atlantic Ocean.

What is a Watershed?

A watershed is an area of land where fresh water flows and drains into a common body of water. Most of this water comes from rainfall that is carried as stormwater runoff into streams, canals and rivers. Alternatively, rainfall may seep into the ground, moving through spaces in the soil, sand or rocks as groundwater. The layer of permeable rock, gravel or sand in which this groundwater is stored is called an aquifer. Florida's aquifers hold large amounts of water and supply 90% of Florida with drinking water.

Watersheds are important because they store water and provide habitat for native species. As water flows through a watershed it carries organic matter, providing food and shelter for aquatic life; however, this water may also carry pollutants, which degrade water quality and harm natural resources.



Runoff carrying nutrients and chemicals from the use of fertilizers and pesticides in **FLORIDA'S AGRICULTURAL AND LANDSCAPED AREAS** can stimulate excessive algal growth, limiting the amount of oxygen in the water, causing fish kills and reducing light needed for coral growth.

★ HOW YOU CAN HELP:

- ✔ Use water conservatively and wisely. Overwatering can damage plants and stress water supplies. Less Water = Less Runoff.
- ✔ Use low maintenance plants and grasses that require minimal watering and fertilizer.
- ✔ Apply fertilizers and pesticides sparingly, and according to manufacturer's directions. If applied in excess, or at the wrong time, such as before a rainstorm, they may be transported to ground or surface waters.

Watershed Connections

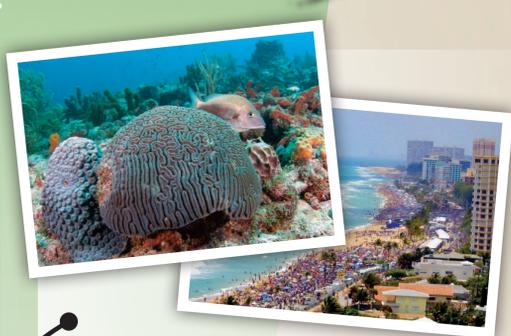
Our actions are directly connected to the health of the environment around us. The following are a few ways in which the watershed links actions on land to coastal resources and guidelines on how to protect your watershed, and minimize impacts to Florida's coral reefs.



URBAN LANDSCAPES contain extensive areas of impervious surfaces, such as paved roads, parking lots and rooftops, that prevent water from seeping into the ground. Instead, rainwater and irrigation overflow are forced into man-made drainage systems, carrying pollutants to the sea.

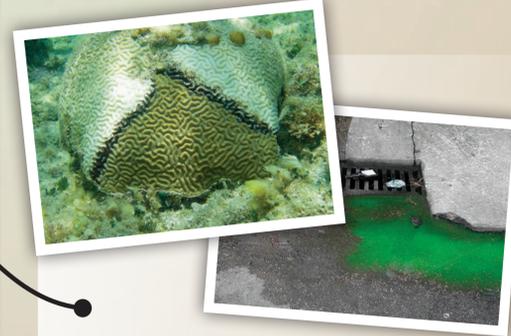
★ HOW YOU CAN HELP:

- ✔ Redirect rain gutter downspouts away from impervious surfaces, such as driveways, to a lawn or a rain barrel for reuse. Visit <http://fyn.ifas.ufl.edu/barrels.htm> for information about rain barrels.
- ✔ Wash your car at a facility that recycles and treats wastewater; or, wash your vehicle on the lawn, so water and soap is filtered by your lawn.



Southeast Florida's Coral Reefs

Along Florida's **SOUTHEAST COAST**, the KOE watershed empties into the nearshore, coastal environment. Extensive coral reefs, home to thousands of species of marine life, occur along this coast. "These reefs protect Florida's coastline from storms and erosion, sustain 61,000 jobs and generate more than \$5.7 billion in sales and income annually. However, these valuable coastal resources are threatened by pollution from land-based sources that can severely degrade water quality, especially in areas of high population density and coastal development."



UNTREATED STORMWATER RUNOFF introduces nutrients, metals, motor oil, bacteria, fertilizers, pesticides, and silt into the marine environment. These pollutants can accumulate in coral tissues slowing growth, increasing stress, and making corals more susceptible to bleaching and disease.

★ HOW YOU CAN HELP:

- ✔ Dispose of hazardous waste, such as gasoline, paint, fluorescent light bulbs, and batteries, according to state and county laws. Improper disposal of hazardous materials contributes to water quality degradation, and can harm aquatic species. Learn where and how to dispose of hazardous wastes at: http://www.dep.state.fl.us/waste/quick_topics/publications/shw/hazardous/CountyContactsforWeb.pdf

Wastewater and trash transported by runoff through **CANALS AND INLETS** to the ocean carry bacteria and viruses detrimental to human and coral health. Trash entering the ocean can entangle and severely wound animals, such as sea turtles, birds, fish and corals.

★ HOW YOU CAN HELP:

- ✔ Remove or replace leaking underground storage and septic tanks to limit the transport of bacteria to water bodies.
- ✔ Pick up and dispose of pet waste in a trash can. Bacteria from pet waste transmitted to waterways can impair water quality.
- ✔ Recycle and properly dispose of trash.
- ✔ Purchase products that have little or no extra packaging, this decreases waste and pollution.



Learn more about watersheds by visiting these websites:
 U.S. ENVIRONMENTAL PROTECTION AGENCY, ADOPT A WATERSHED PROGRAM <http://www.epa.gov/adopt/>
 FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION, FLORIDA'S WATERSHED APPROACH <http://www.dep.state.fl.us/water/watersheds>
 THE CENTER FOR WATERSHED PROTECTION <http://www.cwp.org>

Photo credits: Diane Behringer, Christopher Boykin, Dave Gilliam, Claudine Laabs, Joe Marino, Art Seitz, Katharine Tzadik, UF/IFAS Thomas Wright
 Illustrations by: Michael Graf, Dawn Witherington, U.S. Army Corps of Engineers, Jacksonville District



Funding provided by the Florida Department of Environmental Protection and the National Oceanographic and Atmospheric Administration.