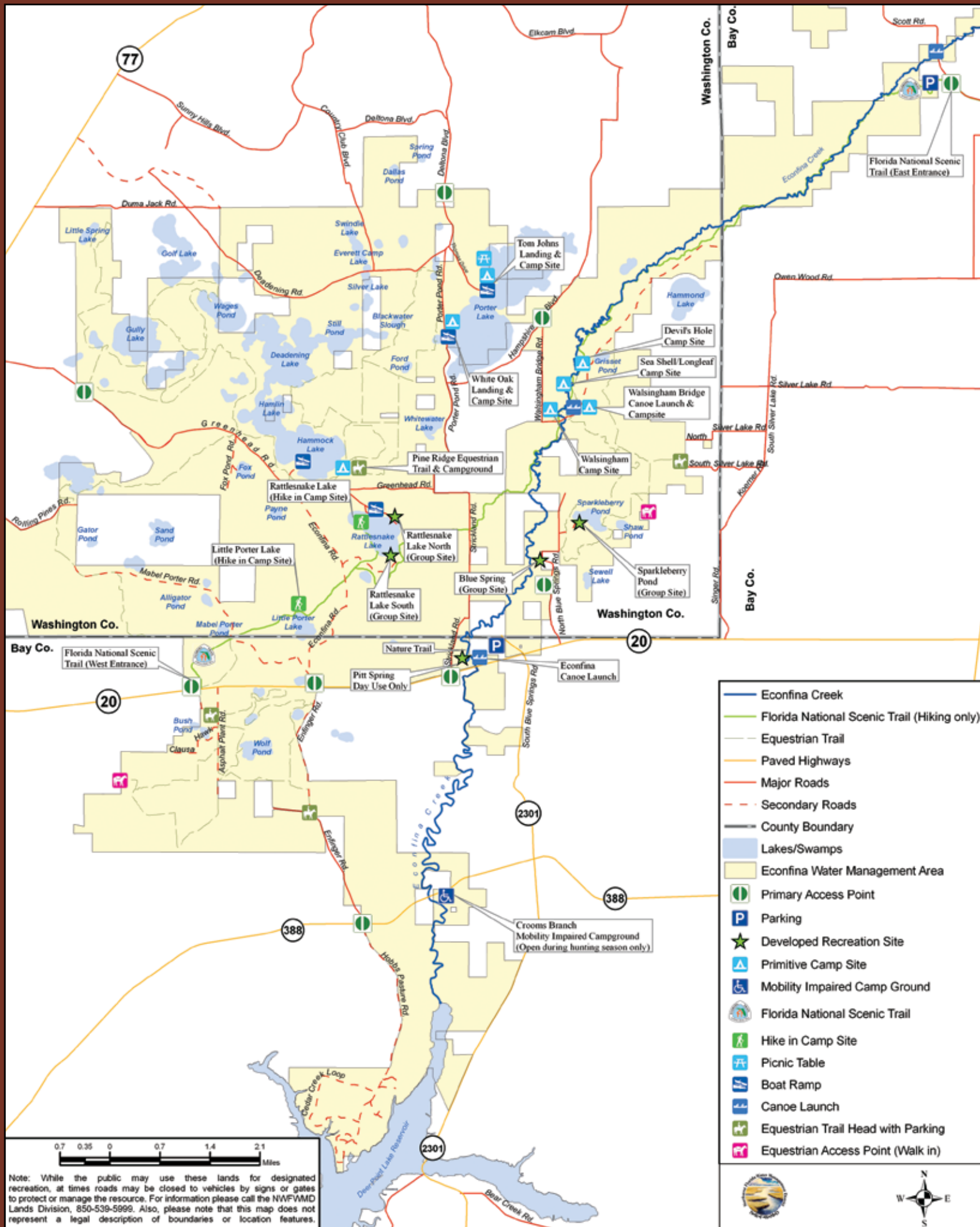


# Econfina Creek

*Looking at the Big Picture*





## Econfina Creek Water Management Area Recreation Map





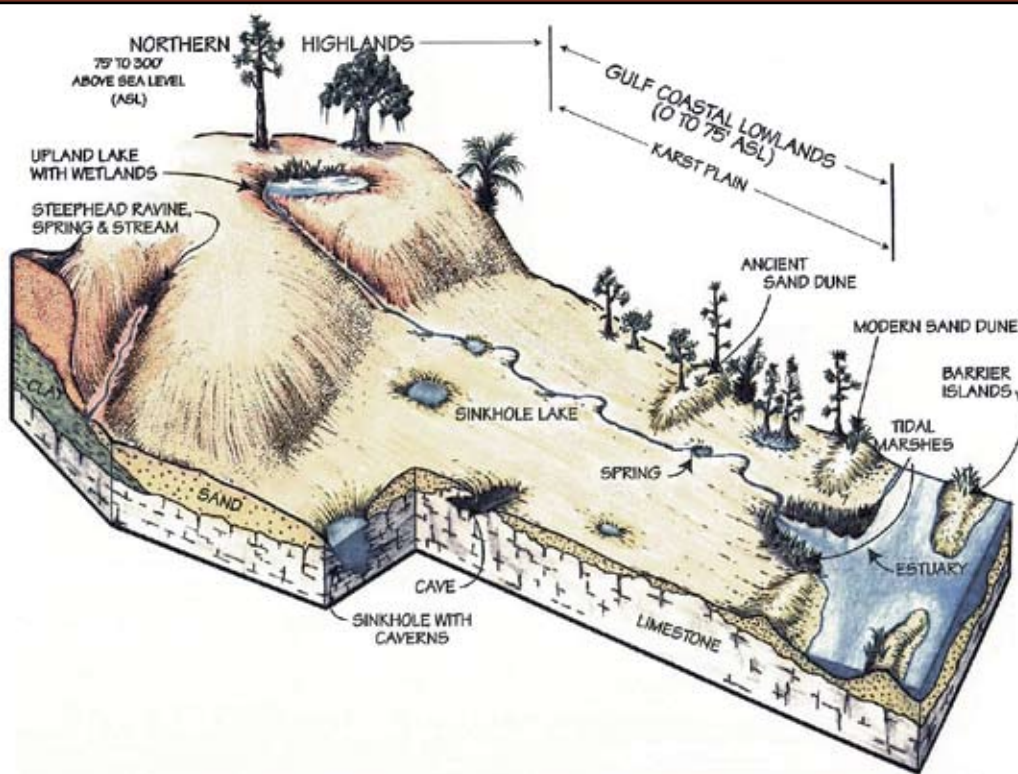
*This upper creek waterfall is a treat for hikers and canoeists who enter from Scott Road.*

©James Valentine

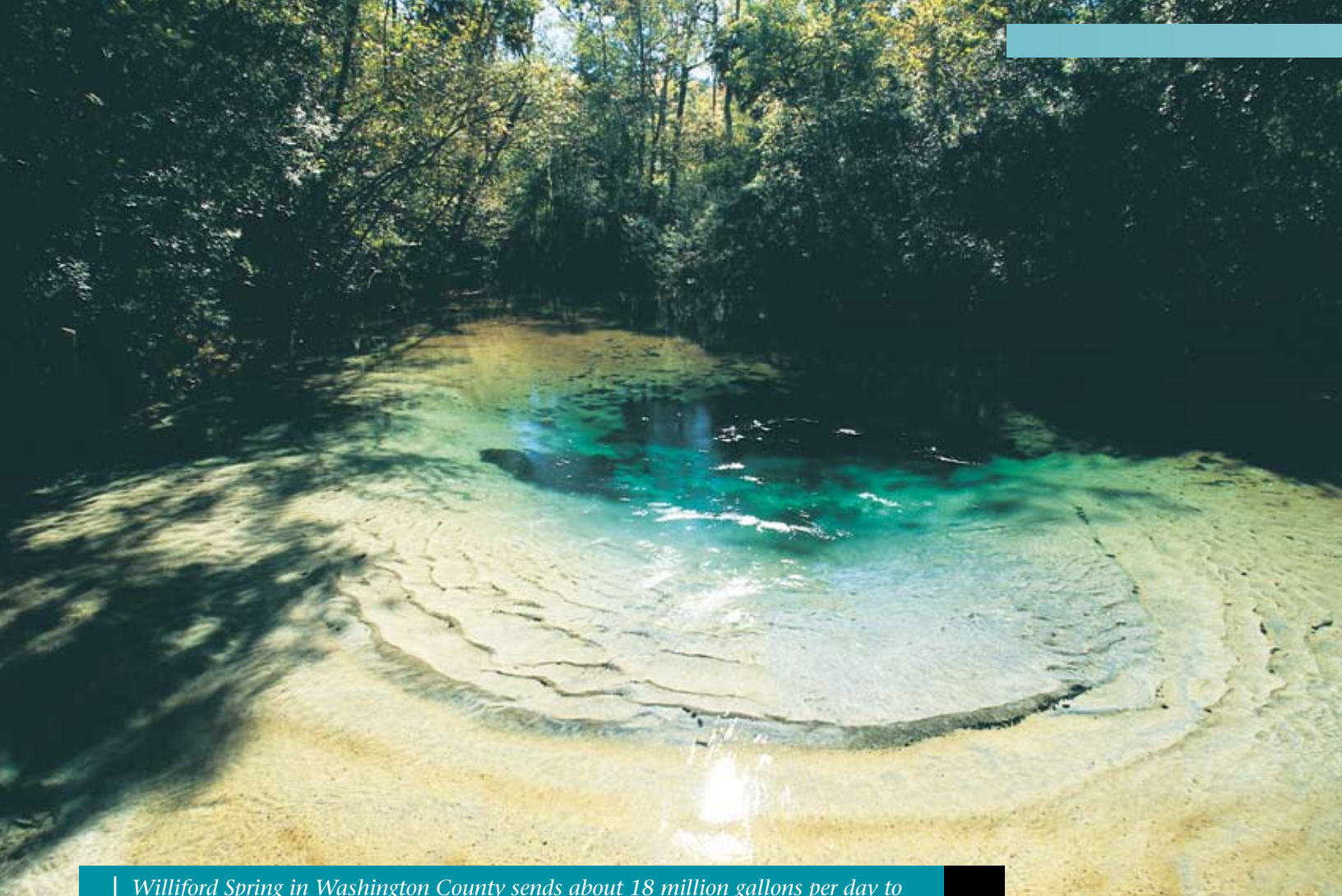
## Fluid Splendor

Econfina Creek flows steep and narrow beneath forest canopies through Jackson, Washington and Bay counties, its corridor largely preserved and managed by the Northwest Florida Water Management District. The steepest gradient of any designated canoe trail in Florida, it winds through narrow chutes and passes cascading waterfalls. As the creek approaches State Road 20, it slices into the ancient limestone of the Floridan Aquifer and gathers abundant flows from numerous springs. The lower reach slows to a meander where the Gainer Springs Group enters from numerous vents, one of northwest Florida's five first magnitude springs.

*Illustration courtesy of Florida Geological Survey*







*Williford Spring in Washington County sends about 18 million gallons per day to Econfin Creek. The District is restoring this treasure of hydrology and archaeology where Paleo-Indians hunted mastodons and the first permanent settlers homesteaded.*

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## Guarding Silent Treasures

Springs are portals or windows to the aquifer where ground water becomes surface water. This vital flow preserves and maintains the natural beauty and resource of this unique ecosystem. The District has identified 11 springs or spring groups comprised of 39 individual vents, most of them within a mile of State Road 20.

The Gainer Springs Group (including springs locally known as McCormick and Emerald) is the most significant, measuring a first magnitude flow of 114 million gallons a day (mgd). First magnitude springs are defined as discharging over 64.6 mgd.

Econfin Creek's ground water contribution zone is large and includes a significant portion of District-owned lands in the nearby Sand Hill Lakes area. Under moderate flow, ground water makes up 82

percent of the creek's discharge to the Deer Point Lake Reservoir. Four springs or spring groups along Econfin Creek are classified as second magnitude (6.5 to 64 mgd). They are Glowing, Williford, Sylvan and Devils Hole springs.

Six springs or spring groups are classified as third magnitude (64,000 gallons a day to 6.5 mgd). They include the Blue and Strickland spring groups and the popular Pitt Spring.

Measurements indicate that water here may spend a relatively short time underground, which means that springs are vulnerable to daily activities on the land surface. By acquiring surrounding ground water recharge lands and protecting and restoring lakes and springs, significant flows may be sustained and priceless water resources conserved.



*Swimming at Pitt Spring.*



## Improving Water Quality, Conserving Lands

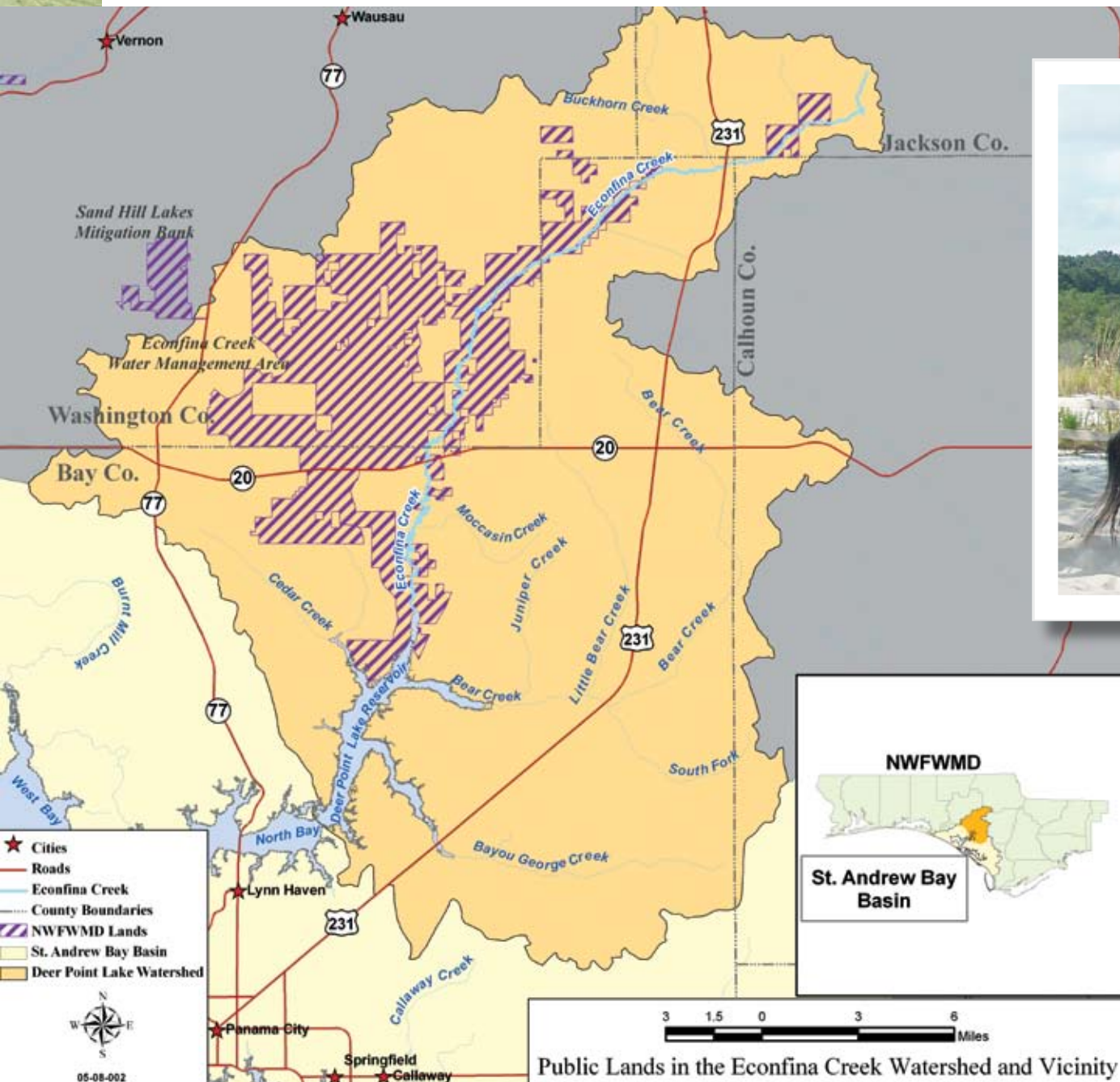
In 1987 the Florida Legislature passed the Surface Water Improvement and Management (SWIM) Act to reduce pollution and to protect and restore surface waters. Protecting surface waters and their watersheds also helps conserve water supply, natural beauty, recreation, wildlife and economic resources.

The District has purchased more than 41,000 acres to create the Econfina Creek Water Management Area, and is working to restore habitats and protect water resources, natural systems and listed species. The District plans to improve the Econfina Springs complex, which includes

Pitt, Sylvan and Williford springs. The District is also continuing habitat restoration in the Econfina recharge area and has stabilized and controlled erosion to numerous Sand Hill Lakes, some linked directly to the aquifer.

The creek flows into Deer Point Lake Reservoir, which supplies Bay County's drinking water. Water discharged from the Deer Point Lake Reservoir also provides freshwater flows to North Bay, which is critical for maintaining the bay's natural estuarine character. Econfina Creek is a significant water resource and contains a wealth of biological diversity.

The Econfina Creek Water Management Area (WMA), located entirely within the St. Andrew Bay watershed, is included in a St. Andrew Bay SWIM plan developed by the District in cooperation with the Florida Department of Environmental Protection (FDEP), the Bay Environmental Study Team (BEST), the St. Joseph Bay Committee and other government and community organizations. The SWIM plan calls for stormwater treatment, habitat conservation and restoration and other water resource protection activities.







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*White Oak Landing on Porter Lake is one of many boat landings the District maintains in the Sand Hill Lakes, a recharge area for Econfina Creek springs.*



*Equestrians worked closely with the District to designate some 45 miles of trails in the WMA. Here they ride Pine Ridge Equestrian Trail past Hammock Lake. They can park at Pine Ridge Campground (off Greenhead Road) and also ride along Rolling Pines Connector, across State Road 20 to Wolf Pond Horse Trail. Additionally, Sparkleberry Trail is accessible from the Silver Lake residential area with parking available at the trailhead. To protect water resources, equestrians must stay on designated trails or be subject to a fine.*



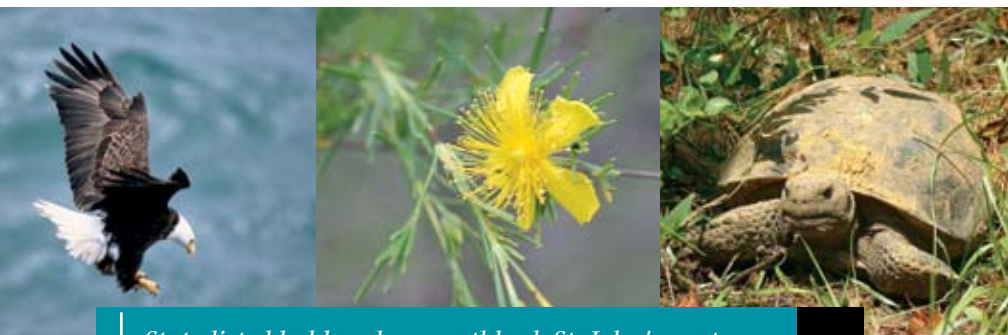
*Rattlesnake Lake, Blue Spring and Sparkleberry Pond offer group camping (call 850-539-5999).*

## Providing Recreation

The District makes all of its lands available to the public for resource-based recreation, except on conservation easements. A variety of activities are offered, with one stipulation: that visitors not impact, destroy, threaten or harm natural habitat and water resources. This is especially important in the Econfina Creek WMA to ensure a clean drinking

water supply. The Florida Fish and Wildlife Conservation Commission enforces fishing and hunting rules and regulations and the District has contracts with local law enforcement entities to implement natural resource protection rules, and to ensure that visitors have a safe and enjoyable recreational experience on the property.





*State-listed bald eagle, smoothbark St. John's wort and gopher tortoise live in the basin.*

## Guarding Habitats and Listed Species

In the Econfinia Creek WMA, the District protects sensitive habitats and many plant and animal species listed as globally imperiled, threatened or endangered. Such habitats and ecosystems include steephead ravines, sandhill lake shorelines and restored longleaf pine-wiregrass communities. Here, among listed flora, the gopher tortoise digs burrows that host the Eastern diamond-back rattlesnake, Florida pine snake, indigo snake (threatened), Florida gopher frog (a species of special concern) and many others.

Steepheads are home to specialized plants and animals because of their unique steep slope topography and microclimate, which is maintained by seepage springs. These steepheads maintain the habitat at a constant temperature, usually 10 to 15 degrees cooler than the surrounding uplands. Unlike erosion gullies, which erode from the top down, steepheads are formed from the bottom up as groundwater seeps through porous sand and leaks from an exposed slope, carrying sand with it. As the sand above collapses and is carried away, the stream tunnels into the surrounding sandhill uplands, continually eroding

and creating a lush, green valley up to 100 feet deep. Steepheads are found in ancient shorelines that stretch from Eglin Air Force Base to Lake Talquin.

Bay County botanists found 76 lakes, sinkholes and depressions in the Sand Hill Lakes area that provide habitat for the state-listed smoothbark St. John's wort. These investigations doubled the known sites for this rare plant. Property owners who clear shorelines can destroy entire communities.



*Walter R. Gainer, 1836-1920, heir of homesteader William Gainer, was captured by Union troops, and after the Civil War grew cotton and held political office. Descendants still hold annual reunions on Econfinia Creek.*  
Florida Archives  
Photo

## Preserving Cultural Resources

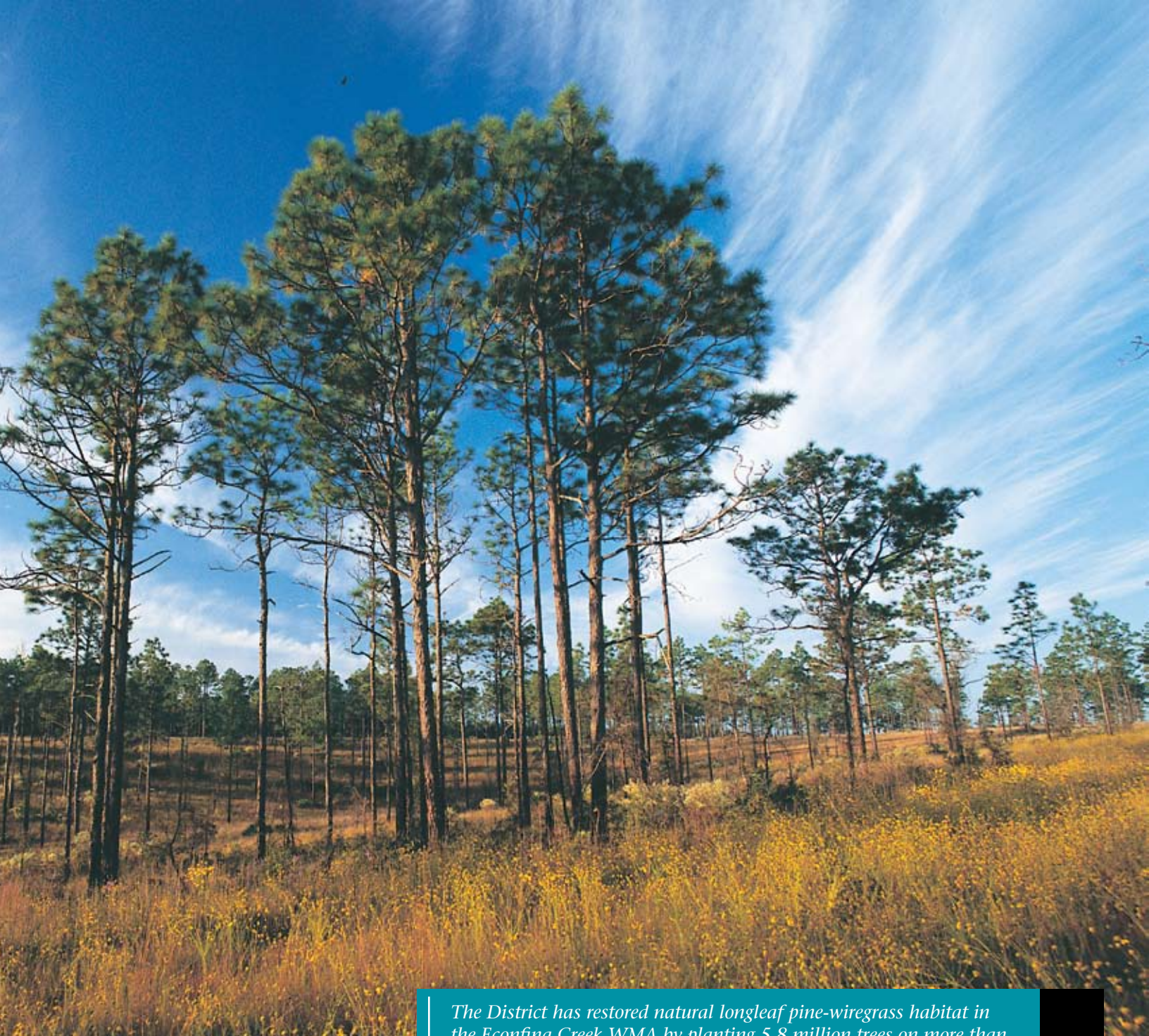
Before undertaking restoration activities, the District conducted a cultural and historical resources survey. Archaeologists found 121 previously unrecorded sites, most of them prehistoric. They found several arrowheads dating to the Paleo-Indians, circa 7000 B.C., and three historic cemeteries, including a slave cemetery.

The District also owns the last homestead site of the William and Jane Watts Gainer family. Gainer first trekked through the area with Andrew Jackson's forces in 1818 and later returned to the cool clear creek to stay. He was a land surveyor famous for his diaries of daily life.

Cover photo ©James Valentine, Smoothbark St. John's wort ©Shirley Denton, other photos by Tyler Macmillan, Stuart Wolcott and Faith Eidse. Text by Faith Eidse. Design by Graphic Edge. Editorial assistance by Duncan Cairns, Paul Thorpe, Bill Cleckley, Tyler Macmillan, Georgann Penson and Lucinda Scott. Maps by Ferdouse Sultana. Produced by NFWFMD, 81 Water Management Dr., Havana, FL 32333-4712. Printed at about \$.44 each through the SWIM program. Public Information Bulletin 2007-1.







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*The District has restored natural longleaf pine-wiregrass habitat in the Econfinia Creek WMA by planting 5.8 million trees on more than 8,000 acres. It has also planted 800 acres in wiregrass.*

## Restoring Resources

The District has protected sensitive shorelines and designated and improved boat landings at many Sand Hill Lakes located in the Econfinia Creek WMA, including Rattlesnake Lake. By closing old logging roads and terracing and seeding eroded slopes, the District has reduced stormwater runoff and sediment buildup in these lakes.

District staff managed a Section

319 Nonpoint Source Management Program grant from the United States Environmental Protection Agency to restore erosion sites, rehabilitate impacted riparian habitats and protect lakes and their habitats from future impacts. These actions, in turn, complement long-term land management strategies, including longleaf pine-wiregrass forest restoration, public education and recreation.

The District also constructed a swale at Fox Pond and restored native vegetation. At Hammock Lake, the District built a berm, constructed fencing and added a sedimentation basin. Erosion controls were added at two sites on Hamlin Lake, as well, and gully erosion was mitigated at the Rattlesnake Lake steephead ravine. Also, an eroded power line access road at Payne Pond was stabilized and restored.



# Treasure Your Springs

## *While enjoying the springs and creek area...*

- **Enter carefully; use established trails, boardwalks and canoe launch ramps.** Don't tear up soil and ground cover by climbing banks and fences or leaping in. Don't disturb the spring buffer or submerged plants. Don't send sand into spring vents. Reckless behavior endangers you and the natural communities and precious geological features around you.
- **Observe nature with calm, quiet respect.** Cool, persistent ground water flows attract such living things as minnows, snails and fish in the spring; bright butterflies, yellow warblers or scarlet tanagers flitting among glossy magnolias and blooming mountain laurel; pine snakes blending with branches or osprey cries piercing the air.
- **Dispose of trash properly.** Recycle cans and bottles, pick up cigarette butts, discard trash in bins. If there are no bins, take trash along when you leave.
- **Be careful with your boat.** Don't disturb, gouge or trample shorelines, creeks, spring bottoms and vents.
- **Some springs and springsheds are privately owned.** Respect private property and do not trespass.
- **Keep vehicles away from springs and surrounding buffers.** Park in designated areas and don't disturb vegetation or create erosion that can damage springs.
- **Linger and bond with this place.** These waters belong to us and our children, though they existed long before we arrived.

## *As a neighbor or landowner...*

- **Landscape disturbances, erosion areas** and other human activities in

the springshed can adversely impact springs even if they seem far removed. Some springs have become degraded and smothered by unintended pollution.

- **Remember, what goes on the ground may leach into the ground water or run off into surface waters.** Recycle motor oil, fix engine leaks, clean up pet wastes, sweep paved areas, wash cars on turf.

- **For a springs friendly yard,** remember that fertilizers and pesticides can easily become pollutants. Use less water, fertilizer and pesticide by maintaining or planting native species in spots they prefer. Site moisture lovers in low spots and shade or well-drained plants in shady or high spots. Remove nuisance invasives or exotics.

- **Maintain moisture by composting kitchen scraps and mulching plant beds.** Also, reduce turf area and increase flowering or berried natives that attract butterflies and birds. This also reduces pests.

- **If you must have a manicured lawn, mow with sharp blades** and trim only 1/3 off leaf blade. Use a mulcher mower to decrease the need to irrigate in dry periods.

- **Maintain at least a 10-foot natural, unfertilized buffer around water bodies or sinkholes.** Optimally, such a buffer would be much larger, such as 40 or 50 feet.

- **Conserve water, indoors and out.** Fix faucet leaks, use aerators, select low-volume appliances, install low flow showerheads, take shorter showers. Outdoors, direct downspouts away from pavement and into gardens, or harvest roof water in rain barrels for later irrigation. Water only when needed; this will encourage deep rooting and drought tolerance. Apply only ¾ inch per watering. Use a shallow can or cup to measure applications.

- **If you must fertilize,** use dry fertilizer with slow release nitrogen and follow application directions. Most Florida soils need no phosphorus; if soil tests

show otherwise, fertilize with 4% or less phosphorus.

- **Service septic systems;** maintain or relocate drainfields if system fails. Consider switching to an aerobic system, which more efficiently removes nutrients and pathogens. Optimally, hook up to a central wastewater collection system.

For more spring protection ideas: [www.floridasprings.org/protection/ideas/](http://www.floridasprings.org/protection/ideas/) or [www.FloridaYards.org](http://www.FloridaYards.org). For District reports: [www.nwfwmd.state.fl.us](http://www.nwfwmd.state.fl.us).



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Above: Blue Spring.

Far left: Kayakers on Econfin Creek.

Left: Student at Pitt Spring.

