

Florida's Special Places: Troubling Signs for Florida's Springs



Florida Springs in Trouble.

Florida is home to more than 700 freshwater springs in the central and northern part of the state. These hydro-geologic features discharge over 19 billion gallons per day from the Floridan aquifer, sustaining entire river ecosystems such as the Suwanee, St. Johns and Hillsborough Rivers.

These natural systems are important biologically, and at the same time they provide drinking water and recreation for millions of Floridians and visitors each year. Their recreational value alone is valued at more than \$300 million/year for local communities.

As a natural resource, these systems provide water for the environment, support a unique biota, serve as wintering grounds for manatees, and serve as important stopover areas for migrating birds.

Declines in Spring Flows and Water Quality

Each spring has its own character based on its local hydro-geology. Yet with just a few exceptions, our springs are suffering serious declines in water quantity and quality.

Quantity: Springs typically occur where the shallow limestone layer above the aquifer is dissolved allowing pressurized ground water to escape. Accordingly, the rate of flow from a spring is influenced by the height of the local water table. Fluctuations in the height of the water table cause fluctuations in spring flow.

Over the past 100 years rainfall trends have remained relatively consistent. And yet springs like Silver Springs are experiencing

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all-time low flows, down 50% over historic measurements.¹ Although exacerbated by an extended drought, these low flows are part of a steady downward trend which does not reflect normal fluctuations.

Quality: The rate of nutrient increase in Florida springs is equally alarming. Runoff from urban areas, spray fields, agricultural fertilizers and septic systems all contribute nitrates to Florida springs at rates 10 to 100 times above historic levels.² Increased nitrate levels spawn algal blooms, abundant cattail growth and a shift in plant community composition resulting in decreased biodiversity. In plain terms, springs (and the rivers they give rise to) turn from crystal clear and lush to green and algae-choked.

Losing Ground

The state's rate of investment in springs protection has slowed. Dye trace studies have revealed that large geographic areas (called springsheds) drain to springs, carrying pollutants into the groundwater. Accordingly, in these springsheds, pollution reduction is even more critical.

Land acquisition programs like Florida Forever have protected 27,000 acres of springs and springsheds; however Florida Forever has not received meaningful funding in two years. Agricultural Best Management Practices (BMPs) have been developed within recharge basins to protect water quality, but these are voluntary, making compliance unverifiable. The momentum developed by the 1997 springs task force and eight individual springs working groups was squandered when funding for all but one working group was eliminated by the Florida Legislature in 2011.

Concerned citizens and organizations have stepped in to attempt to salvage these groups' good work until funding is reinstated.

1. Silver River Ecosystem Study (2012). Retrieved August 13, 2012, from <http://floridaspringsinstitute.org/pages/silver-springs-restoration-project>

2. Strategic Assessment of Florida's Environment (SAFE)(2012). Retrieved August 13, 2012, from <http://www.pepps.fsu.edu/safe/environ/wqn9.html>

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The Need for Leadership

Extraordinary progress has been made toward understanding the geology, hydrology and biology of springs. At the same time, the hastening decline of these ecosystems has become increasingly apparent. Florida's springs need state leadership on key issues to address these declines and refocus on preventing future degradation of springs. .

Rethinking Florida's Water Policy

Audubon is calling on its members and allied conservation organizations to advocate for changes to water policy that will truly prevent harm to Florida's water resources. This call to action runs against the current of recent changes to Florida's water laws.

Over the past few years, flying under the false flag of tax and regulatory reform, our laws have been rolled back. Changes include limiting citizen notice and participation in permitting decisions, cutting back on agency science, loss of water resource experts through budget cuts and proposals to sell off water management lands that help recharge aquifers and protect floodplains.

Audubon proposes five changes that will greatly improve management of Florida's water resources:

1. **Restore Citizen Participation** – Major water use permitting decisions should be more open to the public. Applicants must meet a standard of proving that their withdrawals will not harm the natural system.
2. **Science and Resource Management** – Water Management Districts should again budget funds to study aquifers and other water resources. Good science, not applicants' demands, should drive every water resource decision. Applicants should mitigate for impacts and improve the water source in exchange for a permit to withdraw water.
3. **Funding** - The Legislature and Governor Rick Scott should reverse the ruinous policy of cutting water management budgets. Budgets should be restored to allow for good science and land and water resource management.
4. **Mandatory Conservation** – Water management districts must be given the power to require water users to conserve water as a condition of permits. Utilities and many local governments and agriculture have long resisted this approach. Water is a public resource and every permit should show serious commitment to conserve it.



Constant temperatures in springs protect manatees from seasonal cold weather.

5. **Natural Storage** – Smart water storage makes use of Florida's environment to replenish aquifers and keep water in swamps and floodplains. Much of Florida is now over drained as a result of poorly planned flood control practices. Water management districts should be funded and required to work with private landowners and public land managers to plug ditches and allow water to seep back into the ground and wetlands where it will help augment water supplies.

How You Can Help

- **Support Legislation:** Let your decision makers know that you care about the springs. Ask candidates what they intend to do to protect Florida's water resources. Support funding for land acquisition programs and land management for our State Parks and Water Management Districts.
- **Engagement:** Join a non-profit in your area that advocates for springs and water. Local Audubon chapters will often speak up for springs, rivers, and lakes. Visit fl.audubon.org to find an Audubon Chapter near you.
- **Practice water-wise gardening:** Begin to replace large areas of water- and nutrient-thirsty turf grass with Florida native plants that have evolved to withstand Florida's weather cycles and poor soils. This eliminates the need to water and fertilize.
- **Septic Tanks:** Get your system checked every 5 years.
- **Conserve energy:** Power generation is the largest user of water. Similarly transporting and treating water consumes large amount of energy. Through energy conservation we can decrease the need to build new power plants reducing additional water needs by millions of gallons.

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Prepared by:
Audubon Florida
308 North Monroe St.
Tallahassee, FL 32301

Contact: Jacqui Sulek, jsulek@audubon.org, 850.251.1297

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