St. Johns RIVERKEEPER is a 501 (c) 3, nonprofit advocacy organization. Our mission is to be an independent voice that defends, advocates, and activates others to protect and restore the St. Johns River. Responses to this survey will be made public to our members and supporters.

St. Johns RIVERKEEPER Candidate Survey
November 2018

Responses to this survey will be posted on our website at www.stjohnsriverkeeper.org and shared with over 20,000 members, followers and supporters throughout the state of Florida.

Threats to the River's Health

The health of the St. Johns River is threatened by many activities and problems, including:

- Pollution from excessive nutrients that cause toxic algal blooms, including fertilizers, stormwater runoff, municipal wastewater, septic tanks, sewage sludge (aka biosolids), industrial discharges, and agriculture;
- Fecal bacteria pollution from failing septic tanks, leaking sewage pipes, sanitary sewer overflows (SSO's), and animal waste;
- Over-pumping from the aquifer and reduced spring flows;
- Sedimentation from construction-site runoff that degrades water quality and the health of creeks and tributaries;
- Sea level rise that increases saltwater intrusion, water levels, and storm surge, and projects like dredging that will exacerbate these problems without mitigation;
- Loss of wetlands, springsheds, aquifer recharge areas, and other environmentally-sensitive lands due to rapid growth and development and lack of funding appropriated for acquisition;
- Elimination or weakening of environmental rules and regulations and lack of enforcement by state agencies for wastewater discharge and other permit violations.

1. ***What do you consider to be the biggest threats to the health of the St. Johns River and its watershed and, if elected, what will you do to address these problems?***

   My top 4 threats are nutrient inputs, loss of wetlands, the lack of enforcement of environmental regulations and sea level rise. The threats have increased in recent years because local, state, and federal governmental agencies have failed to recognize the threats and to respond with planning and project implementation. The positive aspect is that with a change in elected officials it may be possible to reverse some of the negative results of years of denial and inaction.

   Our area has two examples of the problems that are created when environmental rules are not enforced. The owners of the Solite hazardous waste site in Clay County have been allowed to delay cleanup of the site for over 20 years. DEP has failed to conduct a though inspection of the DuPont now Chemours mining operations in Clay, Bradford and Baker counties. A recent inspection by EPA staff found numerous longstanding problems with the facility.

As a Biological Scientist my educational and work experiences help me define critical questions and use data to evaluate approaches to our environmental issues. My position as a nontenured faculty member at the University of Florida Center for Training Research and Education for Environmental Occupations (TREEO) from 1990 to 1996 provided valuable experience in solid and hazardous waste management and the role statutes and rules can play in protecting our environment. Since retiring from UF in 1996 I have been active in water issues and have challenged over 12 water use permits or agency actions dealing with water issues through the Administrative Hearing process.

While one minority member of the Florida House has limited powers to initiate change, the position of State Representative does offer the opportunity to ask questions and offer changes to pending legislation. The most important role a minority member of the House may be to use their staff resources to seek input and information about critical environmental issues.

More detailed approaches to specific issues are covered in my responses that follow.

Pollution

Unfortunately, the St. Johns River and its tributaries are receiving too much nitrogen and phosphorous from failing septic tanks, stormwater runoff, fertilizers, wastewater treatment plants, industrial discharges, and sewage sludge.

Excessive nutrients feed uncontrolled algal blooms that deplete oxygen in the water needed by fish, reduce light that is essential to submerged aquatic vegetation (SAVs), and threaten the health of both humans and aquatic life by emitting toxins. Toxic algal blooms and pollution also hurt businesses (marinas, kayak outfitters, fishing guides, realtors, boat dealers, restaurants, hotels, etc.), cost jobs, reduce property values and our tax base, and diminish recreational opportunities.

Potential policy solutions include: Increase awareness about proper use and application of fertilizers, increase funding to remove failing septic tanks, implement septic tank inspection program, increase enforcement actions on utilities for frequent sewage spills and permit violations, and prohibiting use of sewage sludge near waterbodies

2. What do you see as the most effective and necessary steps to protect the St. Johns from nutrient pollution and prevent algae blooms?

It is critical that the sources of the nutrients be accurately identified. Once the sources are identified it should be possible to identify what approaches would remove the most nutrients for the least cost. Severely restricting or prohibiting the

use of fertilizer or certain types of fertilizer for landscape and turf application could provide significant benefits in some areas at no cost. Replacing septic systems in some areas may have limited benefits for a very high cost. There may be areas where intensive agriculture should not be permitted.

The algal blooms are an important warning of what happens when you fail to develop environmental regulations or enforce existing regulation that reduce the impacts of business activities and development. Businesses and developers may receive a temporary reduction in costs only to find in the long run their costs will increase because more aggressive regulations will be needed to correct problems that were created by not havening adequate environmental regulations and enforcing those regulation.

Septic Tanks

Thirty percent of the people in Florida rely on an estimated 2.6 million septic tanks for their wastewater disposal.

Thousands of these septic tanks are failing or malfunctioning, allowing bacteria, nitrogen, and other contaminants (pharmaceuticals, hormones, etc.) to leach into our waterways. While the 2017 Water Bill did provide programs and funding to remove some failing and poorly located septic tanks, more funding is needed and little is being done to curb the high volume of new septic tanks permits that are issued every day by county health departments. Developers of new subdivisions and single family homes are often not required or provided incentives to connect to existing water lines, or develop in areas where wastewater infrastructure already exists.

3. ***Would you support more funding for septic tank remediation and/or policies that protect waterways and sensitive lands by placing more stringent permit requirements on new septic tanks?***
4. ***Would you support a septic tank inspection program and requirements to properly maintain and repair septic tanks, when necessary? If not, please explain your answer.***

The key to management of septic tank nutrients is a better evaluation of the impacts septic tanks play in nutrients reaching surface water or ground water. A one rule fits all may result in spending limited resources on replacing septic tanks that are not a significant source of nutrients. Understanding the impacts of soils, geology, septic tank density, and location relative to both surface and ground water is critical in assuring we are not spending a lot of money and effort to replace septic tank systems that may not be significant contributors of nutrients.

It is also important to have better data on all nutrient inputs so nutrient reduction efforts can be directed to get the maximum reduction for the least cost. For example, as noted above banning the use of fertilizer for landscape turf may be very cost effective and produce a whole new industry of non-grass based yard landscaping.

Wetlands

Since the early 1900's, Florida has lost nearly 44% of its original wetlands. Yet, thousands of acres of wetlands continue to be destroyed each year throughout the state. Wetlands are critical for water quality, fish and wildlife habitat, groundwater recharge, storm and flood protection, and filters for our waterways. A 2015 University of North Florida economic study of the Lower St. Johns River found that "wetlands result in in almost $3 billion dollars in savings for flood prevention or $15,000 for each residence within the flood zone, and the wetlands provide an economic value for nutrient removal that exceeds $400 million/year for Nitrogen and $5.3 million /year for Phosphorous."

5. ***Which statement best describes your perceptions of our current wetland protections?***
    a. ***Current rules and regulations are sufficient to adequately protect wetlands.***
    b. ***Current rules and regulations are not sufficient to adequately protect wetlands and need to be strengthened or improved.***
    c. ***Current rules and regulations are excessive and need to be curtailed.***
    d. ***Current rules and regulations are sufficient but are burdensome to businesses and need to be curtailed in order to stimulate job growth.***

Current rules and regulations are not sufficient to adequately protect wetlands and need to be strengthened or improved.

Wetlands are my passion. The 115 acres that my wife Kathy and I own have over 50 acres of wetlands. I have planted over 7,000 cypress trees and installed ditch pugs in drainage ditches to rehydrate drained wetlands. The Suwannee River Water Management District sent me a notice of violation for installing ditch pugs without a permit. When the Division of Forestry ruled installing ditch pugs was not a normal forestry practice that would not require a permit I challenged their decision through the Division of Administrative Hearings. My hope was that a favorable ruling in my case would establish that ditch plugs were a normal forestry practice that other land owners could use without obtaining a permit. Unfortunately, I lost the case and had to pay the $100 permit fee.

I believe the loss of wetlands in the Santa Fe River Basin are a more significant cause of lower groundwater levels and spring flows than groundwater withdrawals.

Restoring and protecting wetlands are critical for groundwater recharge, pollutant removal and critical ecosystem and habitat preservation. It is going to be critical to protect wetlands from development as people migrate in from the coast as the result of sea level rise. The next two election cycles are critical in making the changes needed in key areas to protect critical environmental resources like wetlands.

Water Conservation and Supply

The State of Florida is already reaching the sustainable limits of its predominant source of water, the Floridan Aquifer. Current water supply plans are looking to draw on surface water from our rivers and lakes in order to meet future demand. The St. Johns River Water Management District has developed plans to withdraw up to 160 million gallons of surface water a day from the St. Johns River. Removing millions of gallons a day from the flow of the river or its tributaries, such as Black Creek and the Ocklawaha River, will worsen existing pollution problems, increase salinity levels, and adversely impact the fisheries, wildlife, and submerged vegetation in and along the St. Johns. We are committed to preventing withdrawals and advocating for more sensible solutions, such as water conservation and the reuse of reclaimed water. Some of the proven conservation strategies include, tiered utility rates, incentives for the purchase of water-efficient plumbing fixtures and appliances, incentives for water-efficient landscaping and building practices, water audits, mobile irrigation labs, Consumptive Use Permit fees based on the quantity of water used, and building codes that require water-efficient fixtures and irrigation systems.

6. ***What will you do to demonstrate leadership on water conservation to ensure that proven reuse and conservation strategies are implemented and water is conserved and more efficiently utilized in Florida?***

I believe in many cases current conservation and reuse strategies will not produce the decided results and are not cost effective. I believe what is needed is a limit on the use of groundwater for turf and landscape irrigation. Without water for watering, the current grass-based turf would likely be replaced with alternatives like perennial peanut or a mixed species system that would also reduce the need for added fertilizer. Some estimates indicate that 50% of public water supply water is used for landscape irrigation.

Tiered utility rates are a tool that needs to be applied more aggressively with very significant increases when residential units use significantly more water that a set amount. Part of the increase in revenue from an aggressive tiered rate should be

used to make repairs on water systems of homes of residents with limited income where leakage may be the cause of excessive water use.

7. Currently, Consumptive Use Permits (CUPs) do not include a fee based on the quantity of water used by the applicant. Would you support a fee on water withdrawn from the aquifer?

I would suggest as an alternative to a fee based on the quantity of water used an annual well registration fee that would be based on the size of the well. This fee would also be applied to wells that do not require a CUP. This approach avoids the cost of determining the amount of water pumped and calculating the fee for that amount.

Springs Protection

Florida's springs are unique and iconic natural treasures of our state, with a greater concentration of springs in Florida than in any other region of the world. More than 100 springs are located within the St. Johns River watershed providing approximately 30% of the flow. Unfortunately, many of our springs are in serious decline due to encroaching development, agricultural and urban runoff, groundwater pollution, failing septic tanks, and the reduction in levels of our underground aquifers.

As a result, many springs have experienced significant decreases in flow, water clarity, and fish biomass with alarming increases in nitrate levels and algal blooms. Silver Springs, a National Natural Landmark, is a perfect example of the tragic situation that is taking place. Discharge rates have declined from a historic average of about 824 cubic feet per second (cfs) to 465 cfs in 2017, which is a 43% reduction in flow since 1955. Fish biomass has decreased by 92%. Nitrates have increased from an average background level of less than 0.05 milligrams per liter (mg/l) to an average above 1 mg/l which represents about a 20- fold increase.

One of the major contributors to a decline in the health of Silver Springs is the existence of the Kirkpatrick Dam or Rodman Pool on the Ocklawaha River. The Dam has flooded more than 7,500 acres of forested wetlands, 16 miles of river and at least 20 springs. It also blocks passageway for migratory fish and manatees that historically wintered at Silver Springs.

8. What kinds of measures would you support to protect our springs and springsheds?

With respect to nutrients, I have reviewed in detail the DEP Basin Management Action Plan (BMAP) for the Santa Fe River Springs and have filed a petition with DEP requesting an Administrative Hearing review of that BMAP. Each spring is impacted by different human inputs and land uses. Each spring needs to have a plan to address the specific nutrient sources impacting that spring. For the Santa Fe springs agriculture is the major source of nitrate. Reducing nitrate levels will likely

require some property owners be compensated for taking their land out of intensive agricultural use and converting it forestry or unimproved pasture with limited stocking rates. Other springs may require restrictions on landscape fertilizer use.

The current method of setting Minimum Flows and Levels for springs is very inefficient and ineffective. Spring flows can be impacted by water levels in the surface water feature that is receiving the spring flow. A better approach would simply set minimum levels for the aquifers that support spring flow. The significant amount of resources spent to develop individual MFLS would be better spent on land purchases or implementing recharge projects.

9. Would you support breaching the Kirkpatrick Dam and restoring natural flow to the St. Johns, Ocklawaha, and Silver rivers? Why or why not?

I support developing a plan that would lead to the eventual breaching of the Kirkpatrick Dam. I would propose an extended drawdown of several years that would allow the evaluation of regeneration of plants in the floodplain. The several year drawdown would allow information to be collected on potential invasive plant invasion of the exposed floodplain and the types of native plants that would naturally return to floodplain. A long drawdown would also provide valuable data about nutrients moving downstream.

Resiliency

It is estimated that 28% of Florida's total assets are located within the 100-year floodplain, or $714 billion. Climate scientists are predicting slower, wetter and more intense storms, further increasing the risk to low-lying communities in the state. When widespread flooding occurs, water can infiltrate pipes causing sewer systems to back up and sewage to be discharged into nearby streets and waterways. Over 28 million gallons of wastewater spilled across Florida in the wake of Hurricane Irma. For septic tank users, rising groundwater levels prevent proper drainage, causing them to back up and overflow. Blooms that can be toxic to fish, wildlife, and humans can grow. Flood waters also often flush chemicals and contaminants from roads, parking lots and industrial and hazardous waste sites into surrounding neighborhoods and our river, creating additional health hazards.

10. What policies or programs would you support that aim to protect our communities from rising waters?

Denial of climate change must end and planning for adaptive change initiated. This may require abandoning areas where the cost to build and maintain infrastructure to protect property from flooding will be greater than the value of the improved property.

Alternatives to septic tank systems such as composting toilets should be required for human fecal mater for properties that flood.

Significant drainage systems should be maintained by the water management districts.

The trend to lower tax rates must be reversed to assure funds are available to install the required infrastructure to meet the changes that sea level rise will require. Not collecting revenue now and installing the needed infrastructure will result in much higher costs in the future.

All new development should be evaluated with respect to the impact sea level rise will have on the developed infrastructure. One element that needs to be included in the planning along the St Johns River is the impact of the river dredging project on high tides and storm surge.

Growth Management

Growth management policies and programs that influence new development in order to promote sustainable communities and protect our environment have been cut or weakened in the last eight years. Incentives and requirements for redevelopment, green infrastructure, and low impact development are often not strong enough or do not exist in many communities. Unsustainable growth and the development of environmentally-sensitive regions of our state impacts water quality through wetland loss and stormwater runoff, makes us more vulnerable to storms and flooding, fragments wildlife corridors and destroys habitat, and requires costly new roads, infrastructure and services that some municipalities may not be able to adequately provide for its residents.

11. Do you support growth management policies that promote, encourage, or require sustainable development practices? If so, please describe the type of policies that you think are necessary to better manage growth in our state and more effectively protect our waterways and natural resources.

Aggressive growth management regulation is essential if we are to have a sustainable future. Any wetlands impacted by development must be replaced by wetlands with

conservation easements. The number of acres needed to replace 1 acre of wetlands should be greater than 1 acre. The wetlands mitigation process needs to be evaluated. Two wetlands mitigation projects in Bradford County are failing to meet the expected performance criteria. Purchasing conservation easements on existing wetlands is more cost effective in insuring wetlands are protected.

Conservation Land

A huge majority – over 75 percent – of Florida voters approved the Water and Land Conservation Amendment to the Florida Constitution in November 2014. The title was clear: "Dedicates funds to acquire and restore Florida conservation and recreation lands." The amendment requires that 33 percent of the proceeds from the already existing real estate documentary-stamp taxes go for land acquisition. A judge ruled in June 2018 that the state legislature to date has failed to appropriately allocate these funds based on the voter intent and the language of the State Constitution.

12. Do you think the Florida Legislature has properly and sufficiently allocated funds from the real estate documentary-stamp tax for land acquisition? What expenses do you think are appropriate for the use of these dedicated funds and what type of land conservation projects do you think should be prioritized by the state?

It is critical that essentially all the documentary-stamp funds be used for land acquisition now before significant increases in land values occur as the result of migration from coastal areas due to sea levels rise. Much of the land essential for aquifer recharge and wildlife habitat is currently being used for timber production. Timber harvests are a tool that can be used to return purchased lands to conditions that enhance aquifer recharge and restore predevelopment habitat. Timber harvest revenues can be used for maintenance costs. Aquifer recharge by rehydrating drained wetlands and reducing timber stand densities should be a major consideration in conservation projects. Protecting critical sink hole features and springsheds should also be a priority.