

# The Trouble with the INDIAN RIVER LAGOON

By G.B. Crawford, Director of Public Relations

In an age that idolizes immediate solutions, big challenges that involve large numbers of people and money pose uncomfortable realities. The inherent difficulty of addressing such challenges often leads some critics to find scapegoats.

By all reasonable measures, the Indian River Lagoon is a case in point. The lagoon suffers from an ecological crisis. But its primary cause has remained obscured because of the political pain a restoration will most likely inflict.

A 156-mile estuary along Florida's east coast, the lagoon extends from Ponce de Leon Inlet in Volusia County southward to Jupiter Inlet in Palm Beach County. Its watershed covers more than 2,280 square miles. More than 4,000 plant and animal species are found in the area, including manatees, oysters, dolphins, sea turtles and various grasses.

Burgeoning human population growth along the lagoon has created a major environmental problem. Between 2000 and 2010, for example, the population increased by nearly 18 percent. More than 2.9 million people now crowd the shorelines in a six-county region surrounding the lagoon.

The impact of these numbers has been made worse by the lack of an adequate wastewater treatment

infrastructure. Much of the residential property in the area is equipped with faulty septic tank systems.

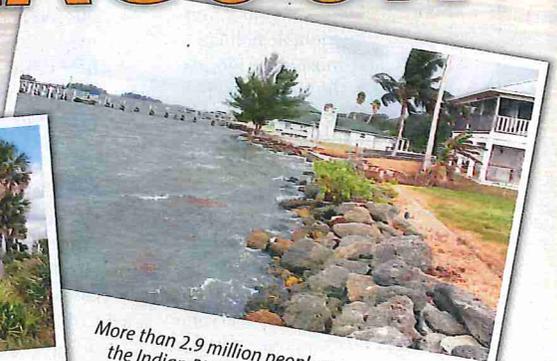
According to Florida Department of Health data, 42 percent of developed parcels in the region have some form of septic tank apparatus. In Volusia County the figure is 60 percent; in Martin County it is 83 percent.

Fish kills and the destruction of other sea life because of nutrient pollution in the lagoon have been documented for years. But the problem has recently become worse. In 2011 two massive algae blooms emerged in the water, destroying 60 percent of the aquatic grass in the ecosystem, according to St. Johns River Water Management District officials. Since then researchers have reported alarming death rates for pelicans, dolphins and other species. Fisheries and recreational businesses have suffered.

Uneven rainfall patterns add to the human contribution by disturbing the water salinity in various portions of the lagoon and, in turn, affecting a range of plant and



A large human population in Florida places ever-increasing demands upon natural resources, including wildlife habitat.



More than 2.9 million people now live around the Indian River Lagoon. Many properties have faulty septic tank systems.

animal life. During periods of heavy rain, even properly functioning septic tank systems are overwhelmed by the flow of nutrients.

The fundamental source of nutrient contamination has now been clearly identified. Brian Lapointe, a marine science researcher at Florida Atlantic University's Harbor Branch Oceanographic Institute, has repeatedly tested lagoon water in various locations to examine nitrogen content. His pioneering research involving the study of nitrogen isotopes gives him the ability to make a definitive conclusion.

Lapointe said "the overwhelming source of the nitrogen is human wastewater. It matches up very well with other well known sewage-polluted ecosystems like Boston Harbor and parts of Sarasota Bay that have tens of thousands of septic tanks draining down into them."

These results are not surprising to farmers in the area. Doug Bournique, executive vice president of the Indian River Citrus League, said "the nutrient loadings come from people, not from agriculture."

He explained that he has accompanied water management officials at citrus groves operated under skilled natural resource management so they can see how well farmers conserve and protect water. "We showed them that the water leaving the farms was cleaner by far than the water growers received from them," Bournique said. "The groves and other agricultural lands act like a kidney and help filter the water."

A similar result has been achieved in the Kissimmee River Basin, an area that is drained by canals during periods of heavy rainfall. One of the major drainage canals is connected to the lower Indian River Lagoon.

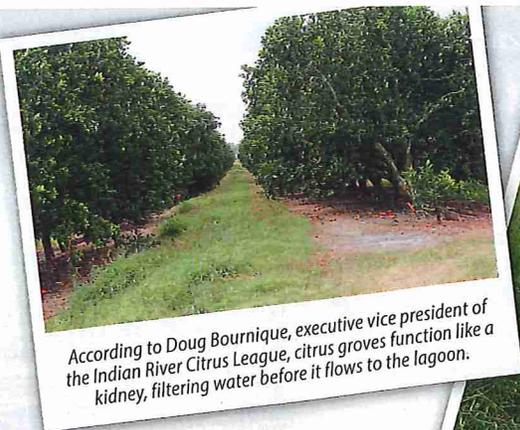
Bob Butler and his family, for example, operate a dairy within the Kissimmee River Basin in Okeechobee and Highlands counties with minimal nutrient releases into the surrounding environment. They collect animal waste from the milking barn and use the solids for fertilizer on forage grass. Water collected on the property is recycled for irrigation of the forage.

Through the installation of filtering ponds, water leaving the farm is cleaned of nutrients. The property serves as both a storage area for water and a flood control bulwark.

"Nutrients cost us money," Butler said. "Anything we can do to retain them helps us in forage production so we can feed our cows. In the long run keeping the nutrients on our property is a cost savings and it is a protection of the environment."

Florida's coastal residents enjoy critical resource benefits from farms, Butler added. "I think many people are beginning to realize that farmers, ranchers and dairymen are some of the best allies they have in environmental conservation."

Charles Lee of Audubon Florida agreed with the water storage assessment. "We think the farmers are the potential salvation of these systems simply because their land areas are so large and the capacity they have to hold water on their land is so great," Lee said. He also endorsed the concept of compensation for agricultural producers for their resource conservation.



According to Doug Bournique, executive vice president of the Indian River Citrus League, citrus groves function like a kidney, filtering water before it flows to the lagoon.



Bob Butler, center, and his sons, Will and Ben, recycle nutrients at their dairy in the Kissimmee River Basin. The nutrients enrich the grass fed to their cows.

Toward that end, Lee called for additional funding for landowners who participate in the Dispersed Water Management Program, a water storage project administered by the South Florida Water Management District.

Although he expressed his belief that agriculture releases some phosphorous into the Indian River Lagoon, Lee acknowledged that urban populations contribute much nutrient material into the watershed. "There is certainly a lot of residential input into that," he said.

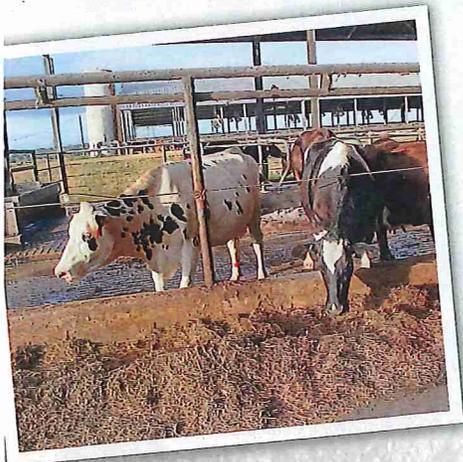
According to Bournique, "Anybody who flushes a toilet into a septic tank within a half-mile of the river and thinks they are not doing any harm is mistaken.

"Agriculture has the answer for these water issues. We can store it, we can filter it and we can provide water supply in the future."

The 2014 Florida Legislature will likely consider legislation designed to address several issues associated with the Indian River Lagoon problem. A Select Senate Committee has already held hearings on the issue. Whatever policies might be adopted, farm producers' demonstrated success at resource conservation will be part of the future solution.

Butler emphasized that all Floridians must take an active role in creating remedies. "Protection of our soil, water and air in this state is not just the responsibility of agriculture," he said.

"As farmers, we feel the responsibility to feed our population. We feel the responsibility of looking after natural resources. But our fellow residents are also responsible. We all need to participate." ∞



**"Understanding agriculture makes Farm Credit the only lender an agriculturalist should ever consider."**

Monty & Bruce Knox, Knox Nursery, Winter Garden, Florida.

**Loans made for farmers by farmers, since 1916.**

**FARM CREDIT**  
866.824.5626  
FarmCreditFlorida.com

Loans for land, homes & country living