

# Keys canal water may be hazardous to health, study finds

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**LOWER MATECUMBE KEY** — Swimming or fishing in some Keys canals could be hazardous to your health: A study by a former University of South Florida researcher, funded by the Environmental Protection Agency, shows at least one Keys canal contains live infectious viruses linked to human waste.

Among the viruses the water sampling found are those that cause polio and viral meningitis, along with a variety of others that cause lesser viral illnesses.

Researchers sampled water at six sites from Key Largo to Key West, and though not all results are back yet, one canal in Lower Matecumbe Key is a definite hot spot. Former USF researcher Dale Griffin, who headed the study, says Keys residents and tourists should think twice about swimming in local canals.

Initial water-quality culture tests indicate the presence of live enteroviruses — including polio, coxsackie A and B and echoviruses — in Captains Cove, a canal basin in the Port Antigua neighborhood of Lower Matecumbe Key.

Coxsackie A and B cause

**'You couldn't pay me to swim in any canal in the Keys.'**

— DALE GRIFFIN,  
former University of South Florida researcher

diseases such as herpangina and myocarditis. Echoviruses can cause a variety of illnesses, ranging from fever to viral meningitis.

All the detected viruses, says Griffin, are transmissible through human feces and believed to have migrated into Keys canals and near-shore waters in raw sewage from leaking cesspools and septic tanks. The leakage from outdated waste-water treatment systems has prompted state officials to mandate that Monroe County complete an upgrade of virtually all sewage systems in the Keys by 2010.

**THE 'HOT SPOTS'**  
Last year, Monroe County consultants compiled a list of the county's top 30 "hot spots" — neighborhoods and subdivisions with the poorest sewage treatment and strongest need for central sewage facilities.

Among the selected neighborhoods was Port Antigua on Lower Matecumbe. Captains Cove, a lagoon-like area bordering Port Antigua to the south, feeds into Florida Bay and is visible from U.S. 1.

Additional test results on water recently taken from four other Keys canals and a near-shore water site are due back soon and Griffin said he believes at least two of those areas — including one in south Key Largo — will test positive for the same live viruses found at Captains Cove.

Although more extensive tests must be conducted, Griffin suspects the enteroviruses detected in Captains Cove are not vaccine strains, which although live, cannot endanger humans.

Even wading or eating raw or improperly cooked fish from infectious areas carries considerable health risks.

"The water may look clear and healthy with lots of fish and everything, but [canals] are really neighborhood drain fields for septic tanks," said Griffin, who now works for the

U.S. Geological Survey Center for Coastal Geology in St. Petersburg. "If your neighbor is sick and shedding infectious organisms through his feces, there's the possibility of getting infected if you swim in your canal."

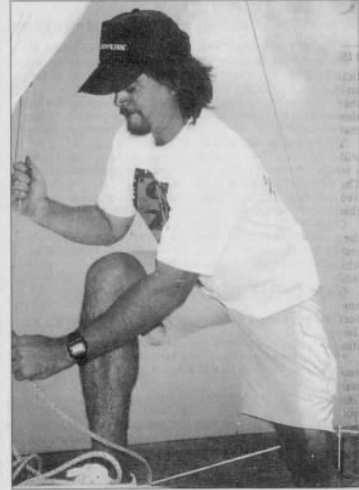
## STUDY BEGAN IN '97

Nearly four years ago, Griffin and a team of USF researchers began a water-quality study on Keys canals funded by the EPA. An initial survey conducted in 1997 involved the testing of 19 sites throughout the Keys, including 17 residential canals and two near-shore water sites picked off an EPA hot-spot list based on suspected poor water quality.

The recent six-site water-quality survey tested for specific viruses and whether they were alive or dead. The initial testing only detected the presence of viruses, not whether they were infectious.

In the initial survey, 15 of the 19 sites tested positive for enteroviruses and 12 sites tested positive for the hepatitis A virus. Two sites tested positive for Norwalk viruses, which can cause nonbacterial gastroenteritis.

Results of the completed study will be turned over to the EPA, Griffin said.



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**DIRTY WORK:** Dale Griffin, a former university researcher, has done tests showing at least one canal contains infectious viruses.