

## **A PRESCRIPTION FOR COST EFFECTIVE RESTORATION OF FLORIDA'S SPRINGS**

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Florida's natural artesian springs are experiencing "death by a thousand cuts". Average flows have been reduced by more than one third and nitrate-nitrogen concentrations have increased on average by more than twenty fold. Many springs now stop flowing during droughts and have lost their native plant communities to excessive growths of filamentous algae. Wide spread depletion and pollution of the groundwater that brings life to these highly adapted and naturally productive aquatic ecosystems has reduced the environmental health of Florida's springs and spring runs, statewide. Although the State of Florida is expending large sums of public money in springs restoration programs, lack of oversight and prioritization of the most effective projects is evident in the documented continuing decline of springs health. The root problems negatively affecting Florida's springs are well understood and primarily include excessive groundwater pumping and use of nitrogen fertilizers, and inadequate wastewater management. All three of these root causes of spring decline can be addressed at relatively low cost to the public. Clean groundwater is a public resource and Florida law mandates its protection. Existing law allows for establishment of limits on groundwater withdrawals and nitrogen pollution. A cap and fee system on groundwater and nitrogen use is recommended to curtail springs declines and to foster restoration.

**PRESENTER BIO:** Dr. Knight is Director of the Florida Springs Institute. He has 40 years of professional experience as an environmental scientist and has conducted ecosystem assessments of more than 50 springs in Florida. He taught graduate level classes in Springs Ecosystems and Treatment Wetlands Design at the University of Florida.