

# WHO OWNS THE POND? WHO OWNS THE POLLUTANT? STORMWATER DETENTION PONDS AND POLLUTANT CONTROL IN SUBURBAN SOUTHWEST FLORIDA

*L. Donald Duke and Tori Catalo*

Florida Gulf Coast University, Fort Myers, FL, USA

Florida regulations specify that residential developments construct wet stormwater detention ponds to sequester nutrients before discharge to receiving waters, with design standards for individual ponds and detention volume for multi-pond housing developments. But ponds are poorly studied as to their effect on cumulative impacts at a regional scale, and regional approaches to operate ponds systematically for pollutant removal, drainage and flood control have not been widely investigated because ponds are privately owned and increased incrementally. This research analyzed the existing and potential regulatory authority available to Florida communities that may want to regulate stormwater ponds' water quality and detention capacity, and potentially design and operate a region's ponds in an integrated way. Institutional factors are not well integrated: Federal regulation for nonpoint sources addresses only monitoring, limited to selected geographic areas, and do assess ponds' stormwater quality as a category. State regulations (South Florida Water Management District, SFWMD) include Environmental Resource Permits (ERP) for activities affecting water resources, but for stormwater detention ponds specify only design geometry; do not direct owners to monitor water quality; and do not require routine inspections even for decades-old ponds whose ownership is assumed by private landowners – in southwest Florida, homeowner associations (HOAs) or community development districts (CDDs). Local agencies have authority to monitor publicly-owned drainage channels – which might detect pollutants in pond discharges – but not ponds on private property. Stormwater utilities allow municipalities to collect revenue, but do extended to design, monitoring, or maintenance of ponds in HOAs or CDDs. Regulatory authority is fragmented and diffuse. Multiple agencies have overlapping, redundant, or gaps in authority, some undefined authority, and no clear primacy of one entity over others. Any regional program for integrated monitoring, water quality control, or flow detention may require voluntary collaboration among multiple private and public entities.

**PRESENTER BIO:** Dr. Duke is Professor of Environmental Studies in the FGCU Water School. His 30 years of research specializes in watershed assessment; scientific basis for water resources policy; and flood mitigation. This research was funded by FGCU's Communities in Transition Initiative, conducted with undergraduate researchers under Senior Research in Environmental Studies.