

## **A DESCRIPTION OF THE LANDSCAPE DEVELOPMENT INTENSITY INDEX AND ITS EFFECT ON THE STREAM CONDITION INDEXES OF FLORIDA'S STREAMS AND RIVERS**

**ABSTRACT:** The St. Johns River Water Management District has been involved in the Florida Department of Environmental Protection's Status Project since its beginning in 1999. This project runs in five-year cycles and we are currently nearing the end of the second cycle. When Cycle 2 began in 2004, a biological matrix was added to the already common water chemistry sample. This matrix included habitat assessment and a stream condition index (SCI) for large river and small stream sites. The SCI, in comparison to the water chemistry sample, can also be used to determine the health of a stream system and in addition can be useful when the chemistry of surface waters is in question. Habitat assessment and SCI were determined for 143 random surface water sites in the Ocklawaha, Upper, and Middle St. Johns River basins. The SCI scores were determined by a grading scale based on the number and type of taxa found in the benthic/macrobenthic samples taken for each site. Now entering our fourth year of the second cycle, we have attempted to determine what other matrixes can be used as a comparison to the SCI to evaluate its effectiveness. This poster will serve as a description of relationships we have found between certain matrixes and the SCI. In particular, the landscape development intensity index (LDI) from which the SCI was derived will be discussed extensively, as well as the derivation of the indexes and their affect on macroinvertebrate population in stream systems.