



Florida Department of Environmental Protection

Linear Vegetation Survey (LVS) Analysis and Refinement

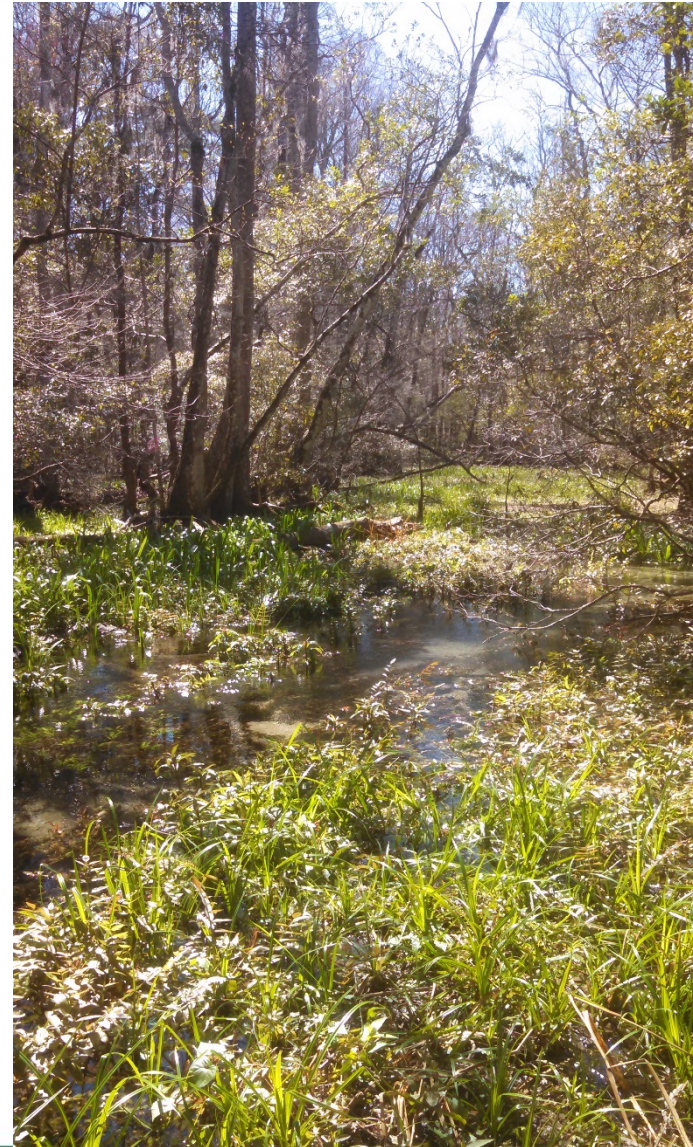
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LVS Background

- LVS is a rapid assessment of a stream's macrophyte community that determines how closely a stream's flora resembles that of an undisturbed condition
- Component of the floral measures of NNC, along with chlorophyll *a*, and periphyton abundance and community composition (RPS)
- Threshold: if mean weighted CC score is <2.5 AND FLEPPC % is >25%, for two consecutive, temporally independent samples, there is a floral imbalance





LVS Problem to address

- No strong stressor response relationships found between nutrients and biological measures in streams (most of study effort was periphyton and macroinvertebrates)
- Compromise approach was to use reference site distributions for nutrient thresholds and biological measures
- Dataset for the LVS was particularly limited; department adopted upper percentiles of reference site distribution for mean CC and FLEPPC %
- Need to improve upon this limited reference site approach



Plan for Analysis of LVS data



- Department has collected extensive LVS data in all nutrient regions since NNC were adopted
- SBIO database has been updated to accommodate the influx of data
- With LVS dataset, explore the relationship between human disturbance (and nutrient enrichment) and the response of vascular plants in streams



Plan for Analysis of LVS data

- Two-pronged approach
 1. **Multivariate**

Use various multivariate techniques to explore the biological structure of the plant community (using taxa lists, other attributes), to see how groups are defined, and to relate the community structure to environmental patterns –which abiotic factors or combinations are drivers of the community structure?
 2. **Multimetric**

Develop a biologically meaningful human disturbance gradient (HDG) and test plant community metrics (LVS metrics and other potential)

Ultimate goals are thresholds of biological health for stream plant community and a refined LVS tool.

