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Stream Restoration and Mitigation Activities Associated with Attapulgitte Mining (BASF Complex A), Gadsden County, Florida

January through July, 2014

Client: BASF/Phoenix Environmental

### Project Summary

Frydenborg EcoLogic conducted biological (flora and BioRecon), habitat, and geomorphological sampling at eight intermittent seepage streams in Gadsden County, FL. Working with Phoenix Environmental, Frydenborg EcoLogic created a detailed restoration and mitigation plan to be conducted subsequent to proposed attapulgitte mining. Six linear wetland/intermittent seepage systems associated with mining were to receive re-creation/ restoration and mitigation was planned for two adjacent systems (damaged by recent silviculture activities).



After defining the geomorphology and aquatic habitat of the systems proposed to be eliminated, the mitigation was designed to restore the fundamental physical, habitat, and biological components of the intermittent stream systems, and make improvements, since existing conditions (failing BioRecon) indicated degradation. It was proposed that the success of the restoration/ mitigation effort be quantified by measuring stream habitat (DEP SOP FT 3000) and biological communities (BioRecon, DEP SOP FS 7000) after the project is complete. The study provided reasonable assurance to FDEP that the restoration plan was scientifically defensible and would be expected to be successful when implemented.

### Innovative approach



Geomorphologic and hydrologic restoration was based primarily on Kiefer methods, in-stream habitat improvements were designed to achieve optimum scores on the FDEP Habitat Assessment procedure, the riparian zone vegetation plan was based on restoring the species composition of the native hardwood forest, and the success criteria consisted of passing the BioRecon, post-restoration.

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