

## Muckalee Creek Wetland & Stream Mitigation Bank

Sumter County, Georgia



top: Monitoring groundwater levels to help determine restoration approach  
bottom: Restored wetland one month after construction and planting

*Over 397 acres of previously drained wetlands restored to a forested wetland supporting a bottomland hardwood swamp.*

A 400-acre deep woods, located in southern Georgia wetlands and adjacent to Muckalee Creek, underwent massive ditching in order to drain it for silvicultural use. Huge bottomland hardwoods had been cleared from parts of the site and pines planted in their place. The challenge was to restore the wetland hydrology and vegetation to set the stage for nature to regenerate the complex wetland ecosystem.

The design approach emulated a reference wetland ecosystem. The main strategy for restoring wetland hydrology was to reverse the effect of the six miles of a drainage ditching system constructed in the late 1980s. The main strategy for restoring wetland vegetation was to clear all planted pine zones and replant all cleared zones and graded areas. The graded areas included filled

ditches, removed road beds and the removed dike area.

Biohabitats developed a Stream and Wetland Mitigation Banking Instrument (MBI) which was approved by federal regulatory agencies. By developing three alternative conceptual designs along with cost estimates and calculations of possible credits generated for each alternative, Biohabitats was able to provide Georgia Department of Transportation (GDOT) with the most cost-effective design alternative which would generate the most mitigation credits.

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