



Photo: Brad Maurer



THE BUTTAHATCHIE RIVER STABILIZATION PROJECT

Brad Maurer, July 2011

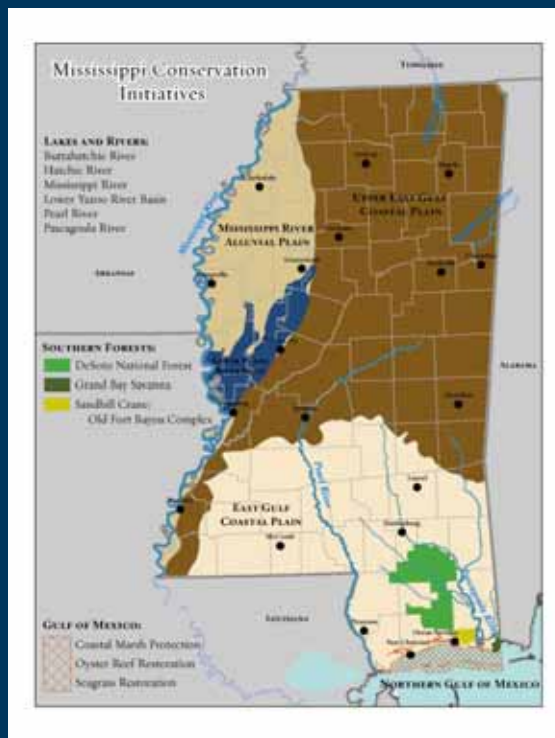


The Nature Conservancy

Preserve the plants, animals and natural communities
that represent the diversity of life on Earth
by protecting the lands and waters they need to survive



Where we work in Mississippi...



Goals of the Buttahatchie Project

**A Section 319 Project
Supported by Mississippi
Department of
Environmental Quality**

Demonstrate techniques to:

- Stabilize eroding stream banks
- Reduce sedimentation
- Buttahatchie River banks
- Tributaries



Why work on the Buttahatchie River?



Rare and unique fish communities and species

TNC Priority Conservation Area

Home to:

Mussels:

- 5 threatened or endangered species
- 9 species of special concern

Fish:

- 6 species of special concern

Why work on the Buttahatchie River



The Buttahatchie River and tributaries make up one of the highest quality aquatic systems in Mississippi

But the Buttahatchie has problems...

- Channel widening
- Rapid erosion of banks
- Quarry capture
- Excess sediment
(USDA 2005)



But the Buttahatchie has problems...

- Degraded habitat
- Loss of land and reduced land value
- Fewer recreational opportunities



Channel widening



Channel widening



Quarry capture



Project site location



Previous Conditions



Photo: Brad Maurer

Previous Conditions

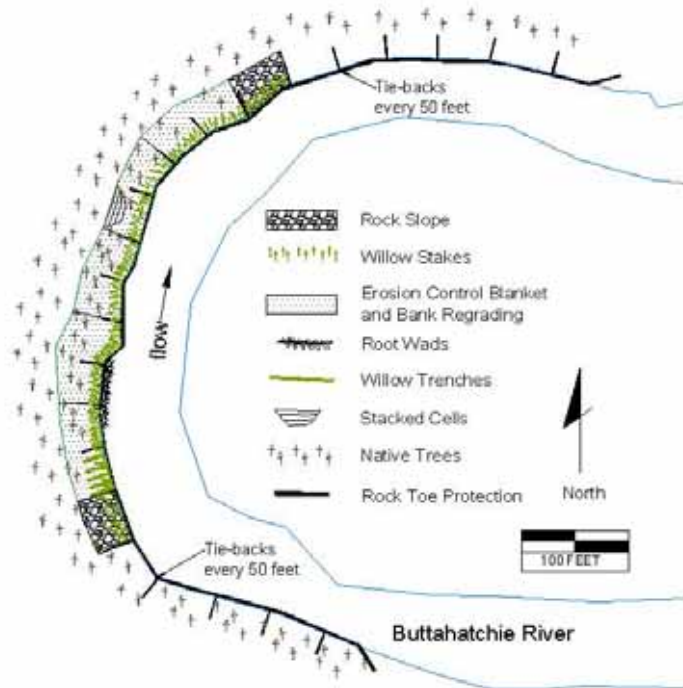


Photo: Brad Maurer

Site layout



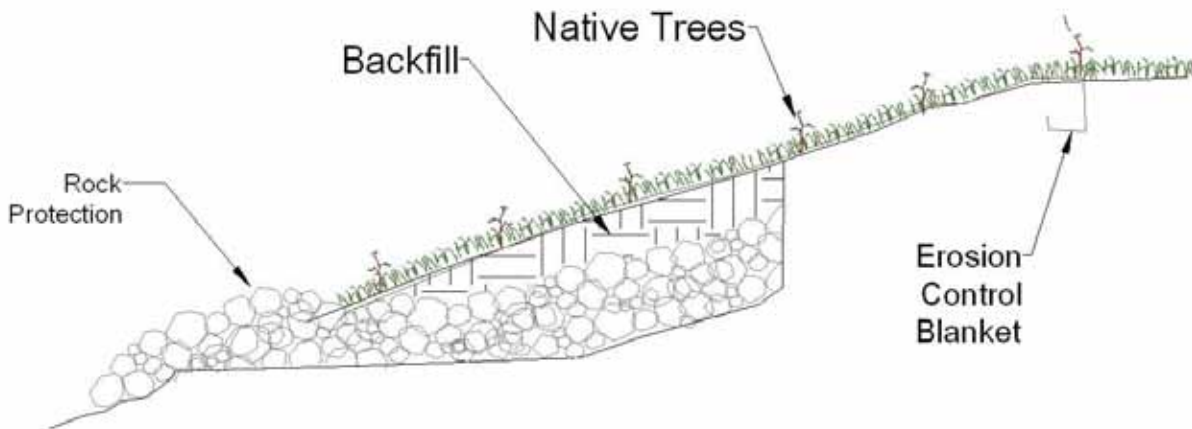
Best Management Practices (BMP) layout



Rock toe



Tie backs



Tie backs



Photo: Brad Maurer

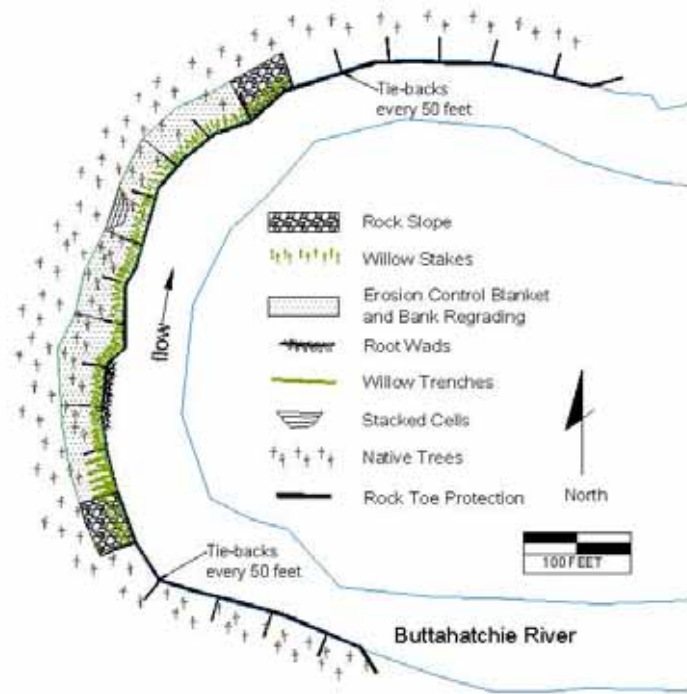
Tie backs



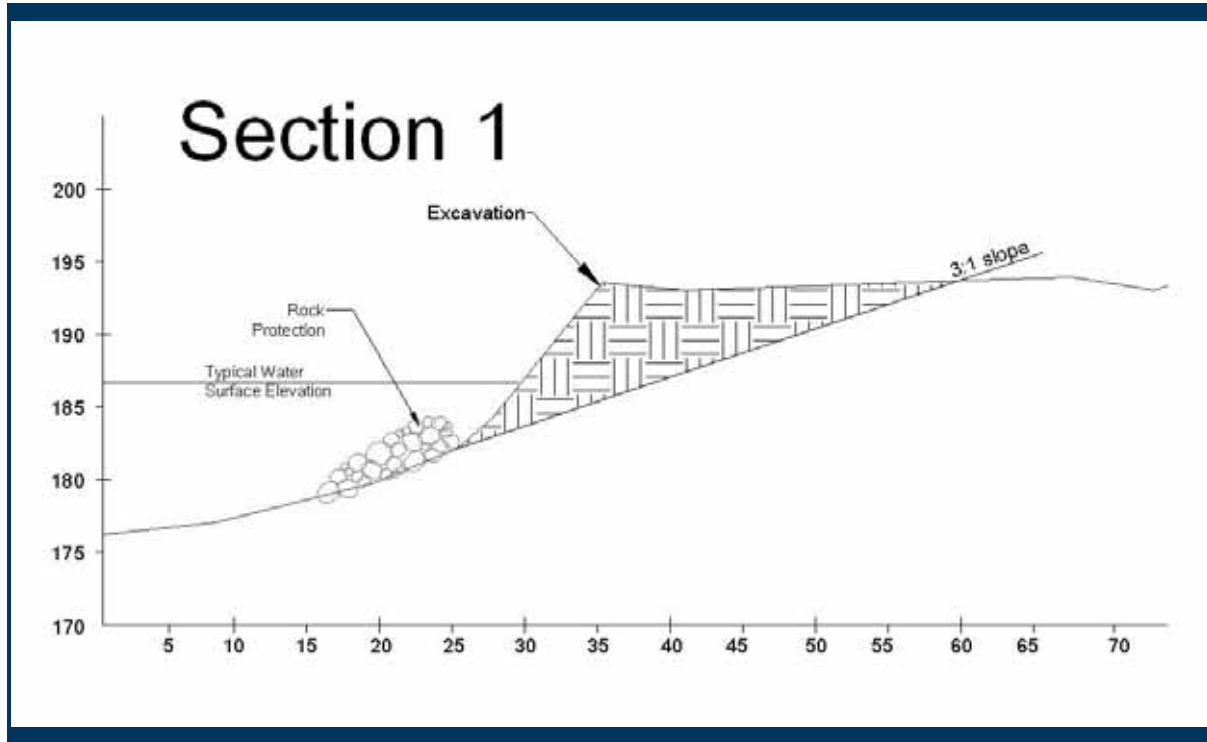
10/24/2010

Photo: Brad Maurer

BMP Layout



Slope Regrading



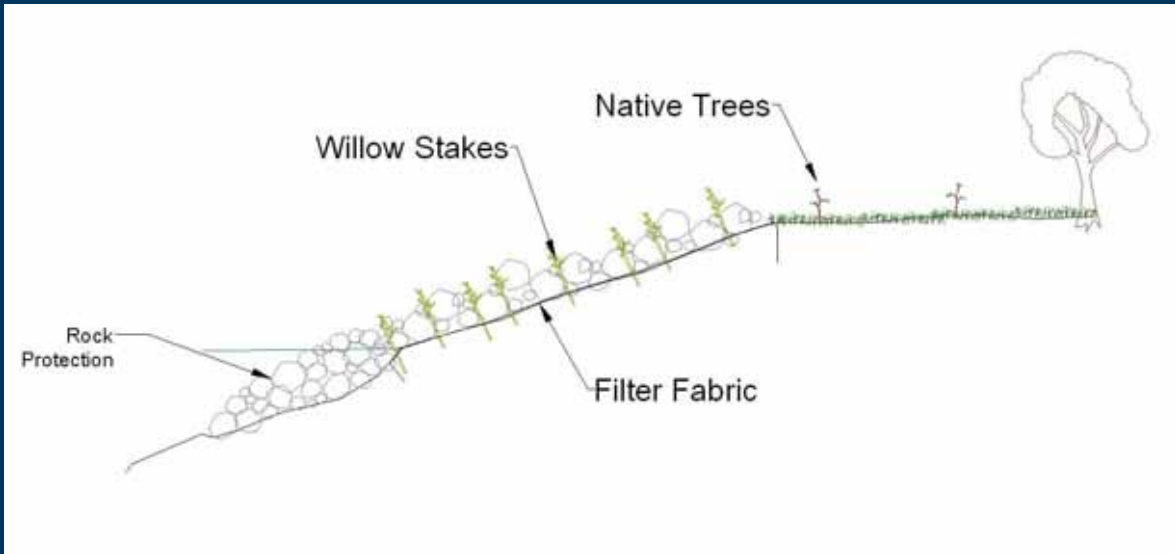
Slope Regrading



Slope Regrading



Rock slopes



Rock slopes

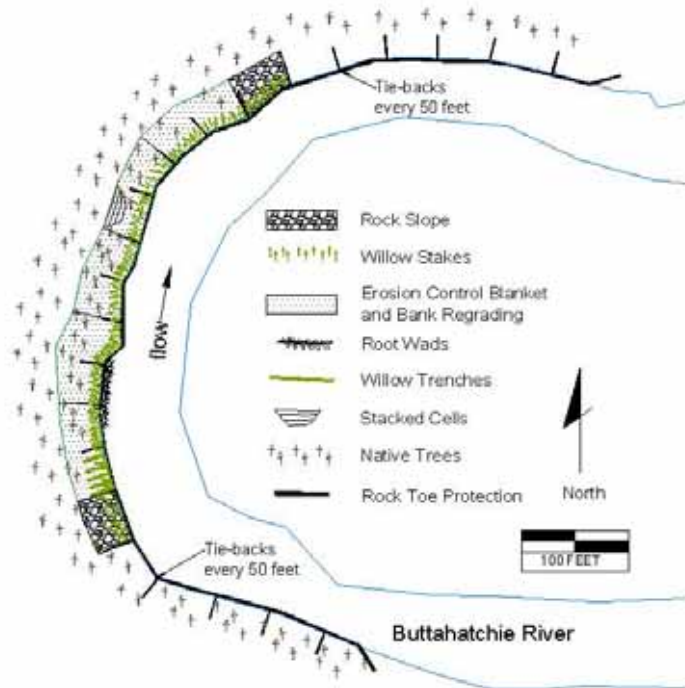


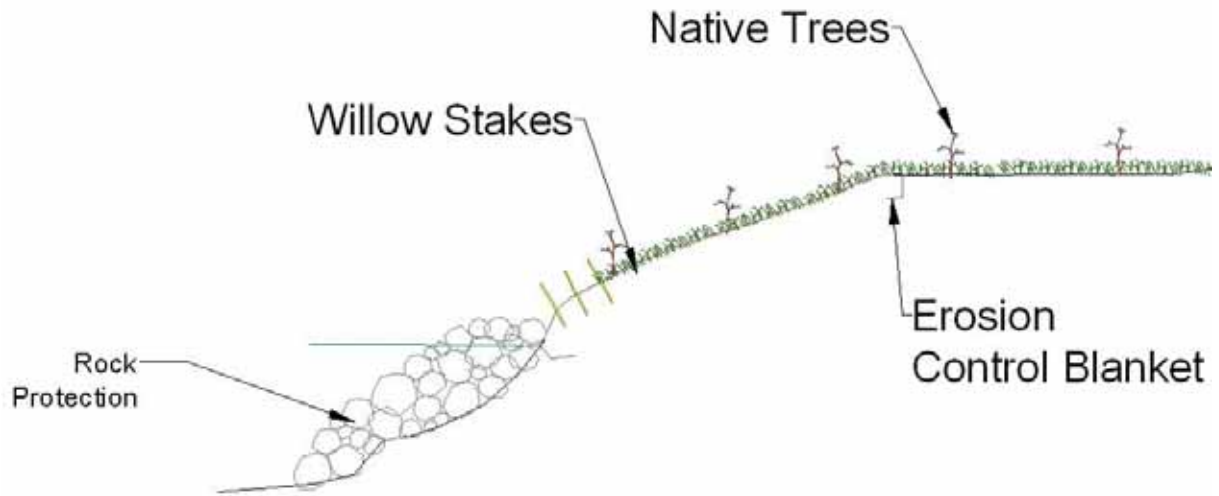
Rock slopes



Photo: Brad Maurer

BMP Layout





Laying erosion control blankets



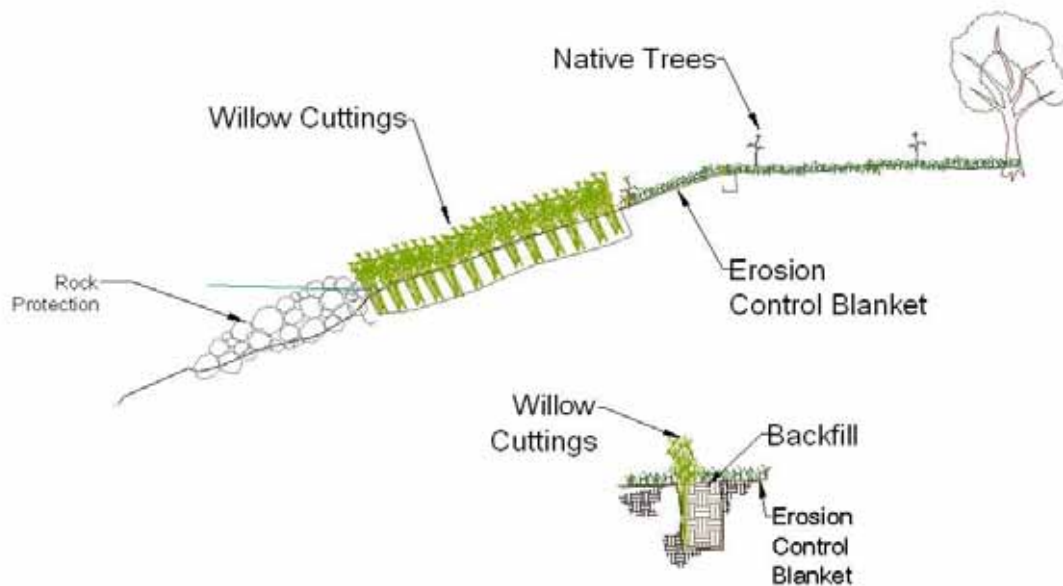
Willow stakes



Basic BMP set



Willow trenches



Willow trenches



Photo: Brad Maurer

Willow trenches

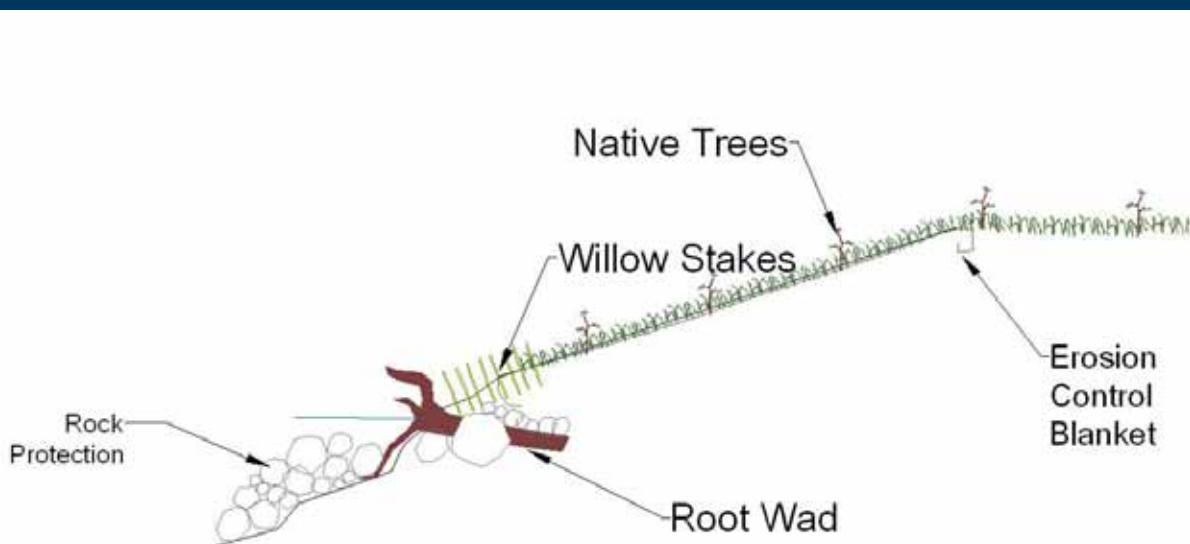


Photo: Brad Maurer

Willow trenches



Root wads



Root wads



Photo: Brad Maurer

Root wads

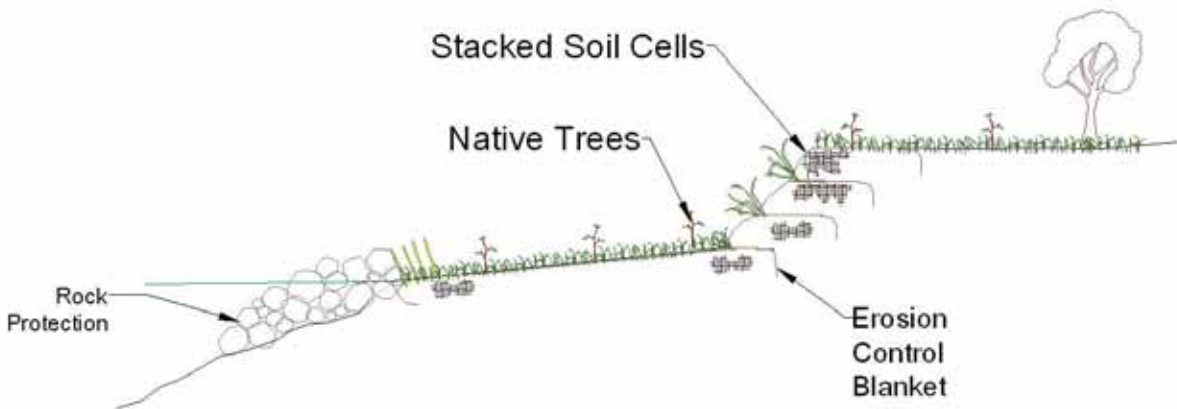


Photo: Brad Maurer

Root wads



Stacked soil cells



Stacked soil cells



Photo: Brad Maurer

Stacked soil cells



Photo: Brad Maurer

Stacked soil cells



Photo: Brad Maurer

Hydroseeding



Photo: Brad Maurer

Native trees



Finished Project



Before...



Photo: Brad Maurer

After...



Photo: Brad Maurer

After...



Photo: Brad Maurer

What did we accomplish?

- Over 4,000 cubic yards of soil were removed
- This is equivalent to a football field covered with nearly 2 feet of soil
- Prevented more sediment from entering the river as it continued to erode the bank
- Provided a stable riverbank for habitat development

What did we accomplish?

- Created an outdoor site that demonstrates a variety of stabilization techniques
- Stopped the continued loss of land on the property
- Implemented techniques that can be used in other places with similar problems

Partners

- Mississippi Department of Environmental Quality
- Lowndes County School District
- Mossy Oak
- Wallace Environmental
- Ellis Construction
- Phillips Contracting
- Private donors
- Lowndes County Wildlife Federation
- Army Corps of Engineers
- Monroe & Lowndes County NRCS
- Tombigbee River Valley Water Management District





- TNC has received a \$300,000 grant from US FWS
- 5 year grant beginning in August 2011
- Purpose is to implement river/quarry stabilization techniques
- Work will be concentrated on the reach from Hwy 45 N downstream to Route 373
- **This is a 1 to 1 match: for every \$1 we spend, we must raise \$1**
- This work will be carried out on the Buttahatchie, but will be relevant to other watersheds within and beyond the state of Mississippi



Photo: not by Brad Maurer

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