

# Forest Restoration Issues

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## Cases today

- Longleaf pine
- Hardwood wetland
- Mine reclamation in the mountains of Maryland



## Issues today

- Seed source debate
- Competition control
- Herbivory
- Planting medium
- Soil Moisture
- Objectives



## Harris Research Tract Plantation 1 Piedmont Transitional Longleaf Pine Community

- Established 1999
- 2-0 container seedlings
- 8 x 10 spacing
- Followed by spring and summer drought
- 72% survival in 2000



Arsenal and Velpar, after piling  
 Site Prep Burn 1998

## HRT--P1

Arsenal release 2002

Plantation 1 in Fall 2003



Cones 2009

## HRT Restoration Area 2 Harvested 2000, burned 2001

138 acres  
 10,536 BF saw timber per acre  
 9,564 BF pine  
 861 BF oak  
 41 BF poplar  
 70 BF other  
 16.6 tons pulpwood per acre  
 almost even split pine/hardwood



Seedlings 12 x 12, 2002  
 Arsenal 14 oz/acre, 2003

Area planted 2003, 12 x12

### HRT Restoration Area 2 Controlling loblolly invasion

A collage of four photographs showing a landscape where loblolly pines are invading a restoration area. The top-left photo shows a dense stand of young pines. The top-right photo shows a mix of pines and taller, more established trees. The bottom-left photo shows a close-up of a pine sapling. The bottom-right photo shows a wider view of the forest with many pines.

### Evans Road wetland mitigation

A collage of two photographs. The left photo shows a wetland area with tall grasses and some trees. The right photo shows a reference site with a dense forest of trees. A green box at the bottom left contains the text: "Correct Hydrology", "Deer herbivory", and "Cat-tail dominance". A green box at the top right of the right photo contains the text: "Reference site".

### Strip Mine Reclamation

A collage of three photographs showing a strip mine reclamation site. The top-left photo shows a large, dark, excavated area. The top-right photo shows a grassy field with a tree in the foreground, labeled "Amish". The bottom-right photo shows a close-up of soil and rocks.

### Strip Mine Reclamation

A collage of three photographs showing a strip mine reclamation site. The top-left photo shows a grassy field with a tree in the foreground, labeled "Amish". The top-right photo shows a grassy field with a tree in the foreground, labeled "Little Meadows". The bottom-right photo shows a sign that reads: "ABANDONED MINE RECLAMATION PROJECT STATE OF MARYLAND DEPARTMENT OF NATURAL RESOURCES BUREAU OF MINES BOARD OF PUBLIC WORKS WILLIAM DONALD SCHAEFER, GOVERNOR LOUIS L. GOLDSTEIN, COMPTROLLER LUCILLE MAURER, TREASURER FUND SOURCE: RECLAMATION FUND BY PAULETT, 2003 MARYLAND COAL INDUSTRY".

### Acid mine drainage

A collage of three photographs showing an acid mine drainage site. The top-left photo shows a grassy field with a tree in the foreground, labeled "Teets site". The bottom-left photo shows a grassy field with a tree in the foreground, labeled "Durst". The bottom-right photo shows a stream flowing through a wooded area.

### Conclusions

A collage of two photographs showing a forest landscape. The top photo shows a dense forest of trees. The bottom photo shows a grassy field with a tree in the foreground.

- Longleaf seedling source still debated
- Competition control essential for long term success
- Deer management for hardwood establishment
- Planting medium amendments site specific
- Soil moisture management critical
- Objectives drive all other decisions: *what are you trying to restore?*