

**Reforestation of
Abandon Mine Lands in
Virginia by Gobco, LLC**

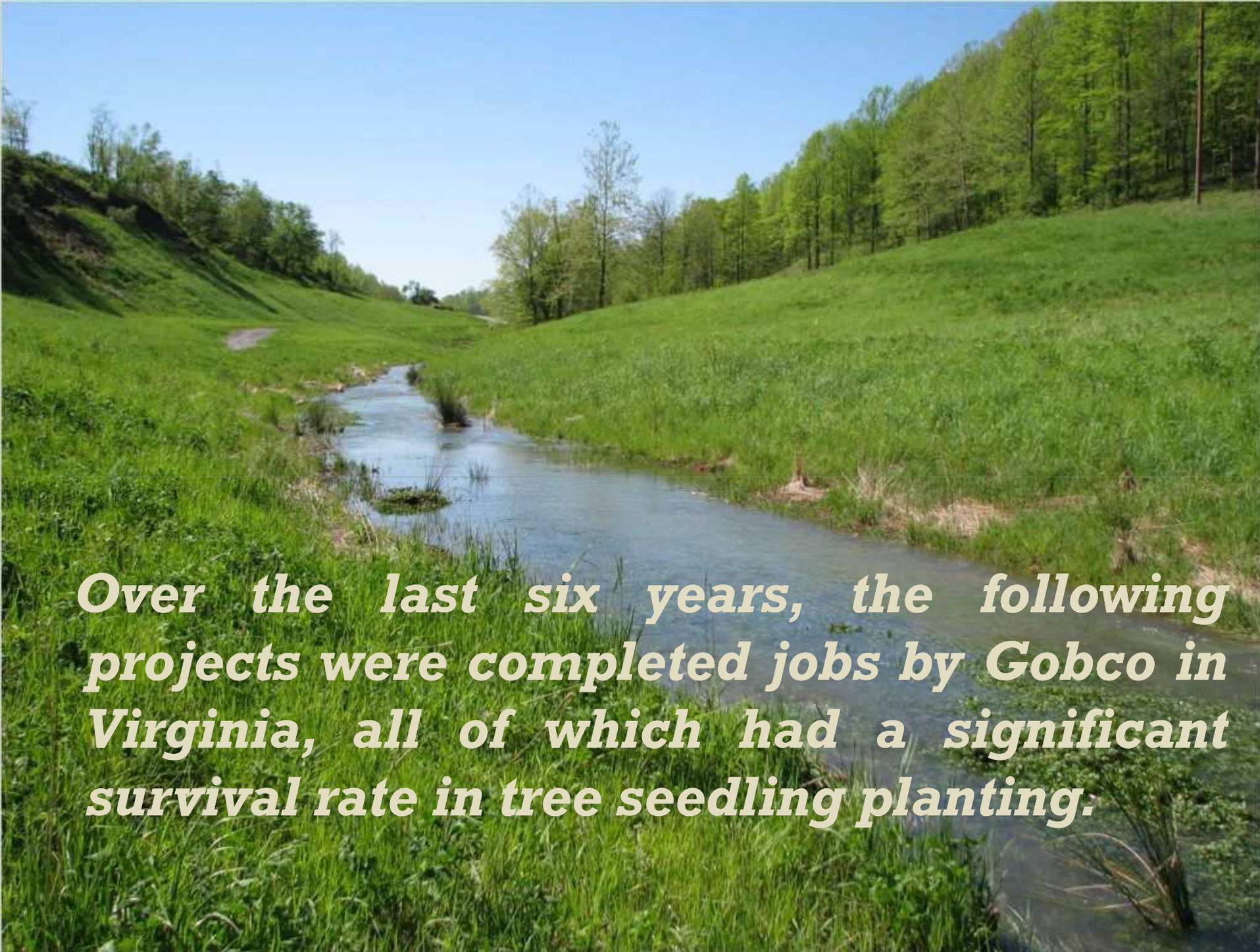
Presented by Walt Crickmer

GOBCO, LLC

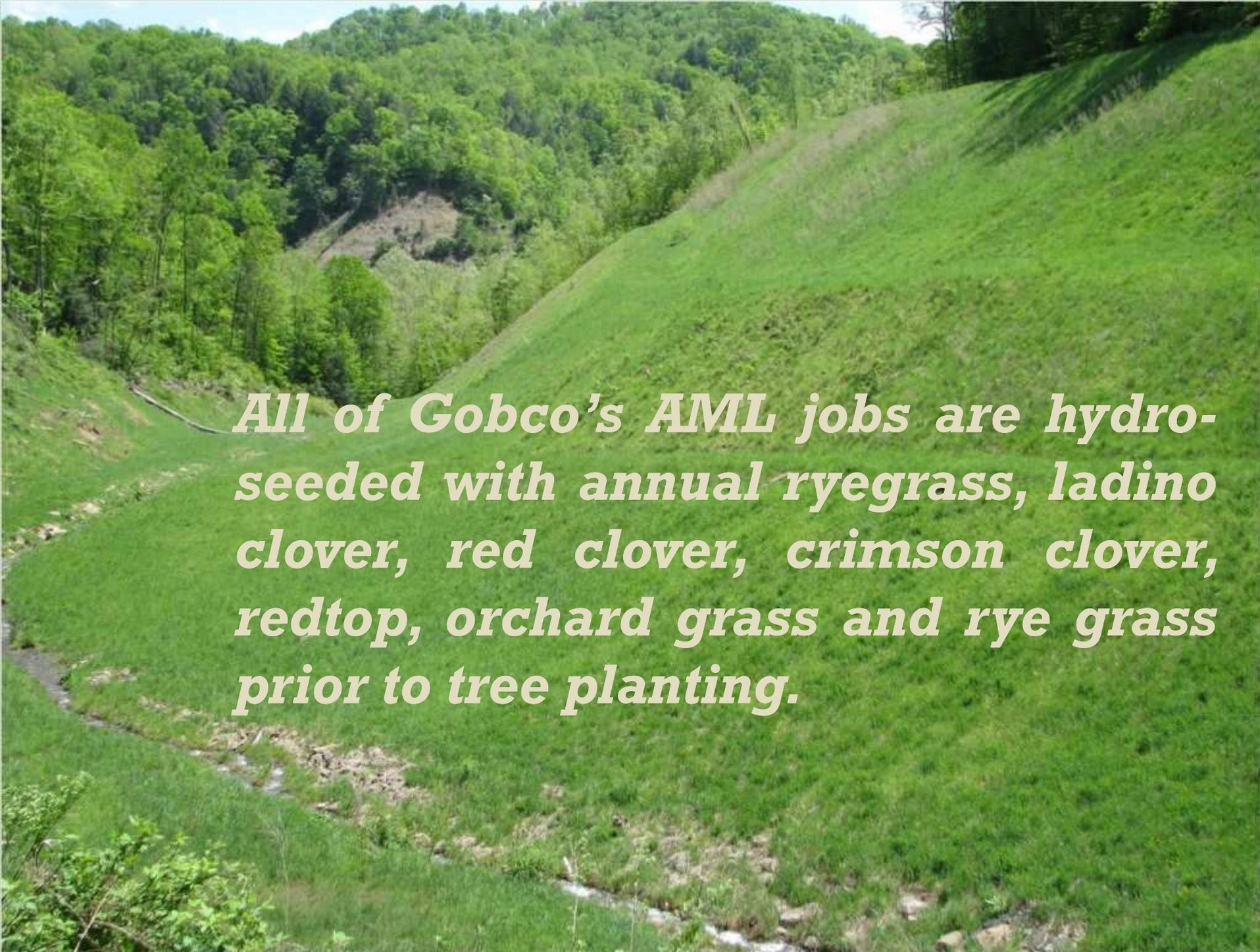
An environmental reclamation company specializing in the clean up of coal waste piles (gobpiles) and the reclamation of land, streams and forest to the original environment.

GOBCO, LLC

Works with the state of Virginia in the Abandoned Mine Land (AML) program as a contractor, specializing in the clean up of gobpiles.

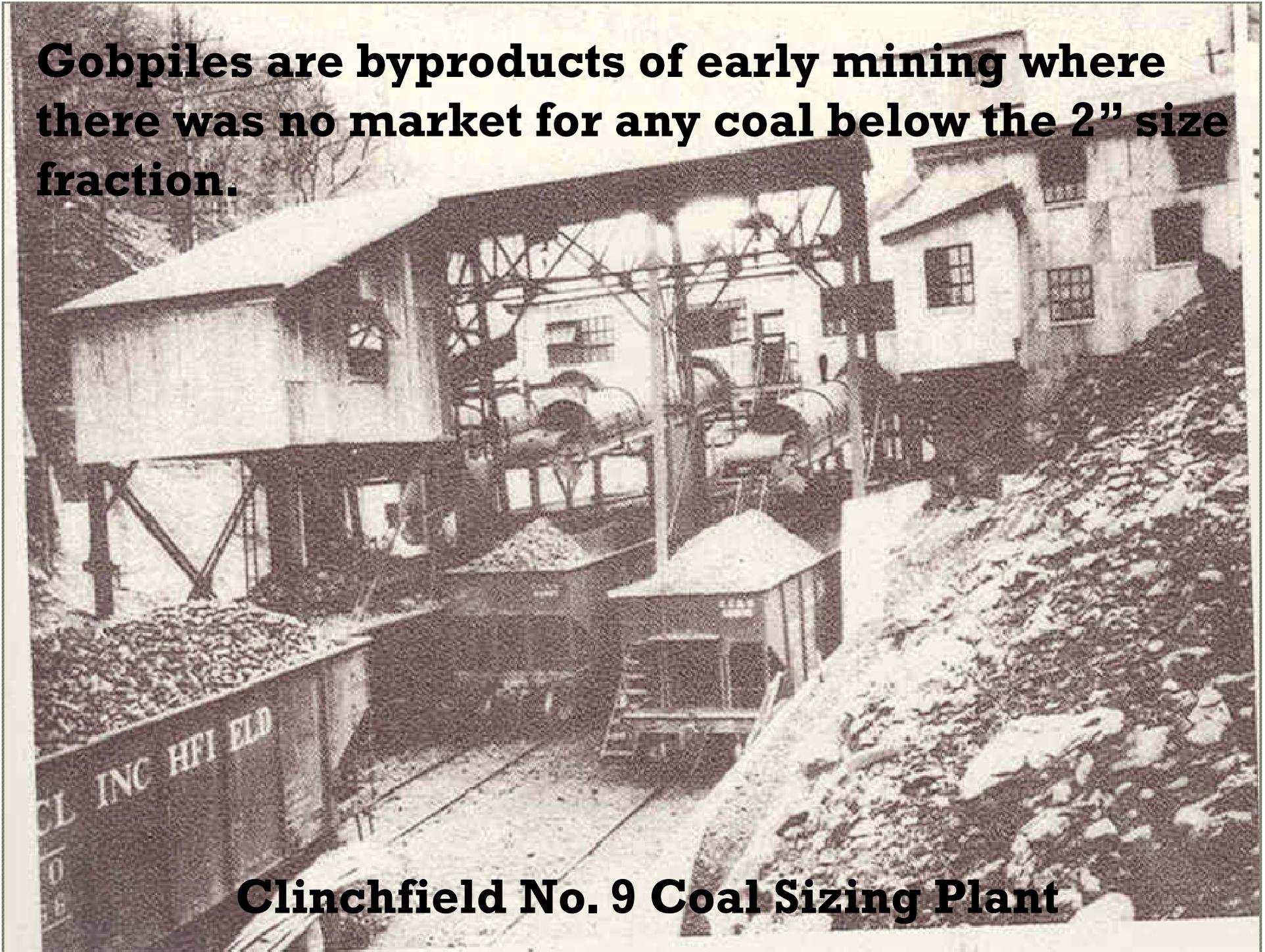


Over the last six years, the following projects were completed jobs by Gobco in Virginia, all of which had a significant survival rate in tree seedling planting.



All of Gobco's AML jobs are hydro-seeded with annual ryegrass, ladino clover, red clover, crimson clover, redtop, orchard grass and rye grass prior to tree planting.

Gobpiles are byproducts of early mining where there was no market for any coal below the 2" size fraction.



Clinchfield No. 9 Coal Sizing Plant

Clinchfield No. 9 Gobpile

The coal waste was deposited from 1920 to 1940.



Clinchfield No. 9 Gobpile

Estimated size of the gobpile was 800,000 tons.



Clinchfield No. 9 Gobpile

Separation of coal and rock



Clinchfield No. 9 Gobpile

Separation of coal and rock



Clinchfield No. 9 Gobpile

Areas of the pile were still burning due to spontaneous combustion.



Clinchfield No. 9 Gobpile

Mining and the start of the reclamation phase.





Clinchfield No. 9 Gobpile

Reclamation and establishment of the creek channel. It is important not to compact the new topsoil before the planting of seedlings.

Clinchfield No. 9 Gobpile

Final stream channel construction.



Seedlings are planted by DMME (Virginia Department of Mines, Minerals, and Energy) using contract labor and volunteers.



**At Clinchfield No. 9 Gobpile DMME
planted 7500 seedlings comprised of
northern red oak, white oak, yellow
poplar, green ash, and birch.**



Beech Branch Gobpile

The Beech Branch gobpile was a byproduct of Clinchfield No. 7 Mine that was deposited in Beech Branch between 1925 and 1950.



Beech Branch Gobpile

This gobpile was blocking the natural drainage and was estimated to have 450,000 tons of refuse.



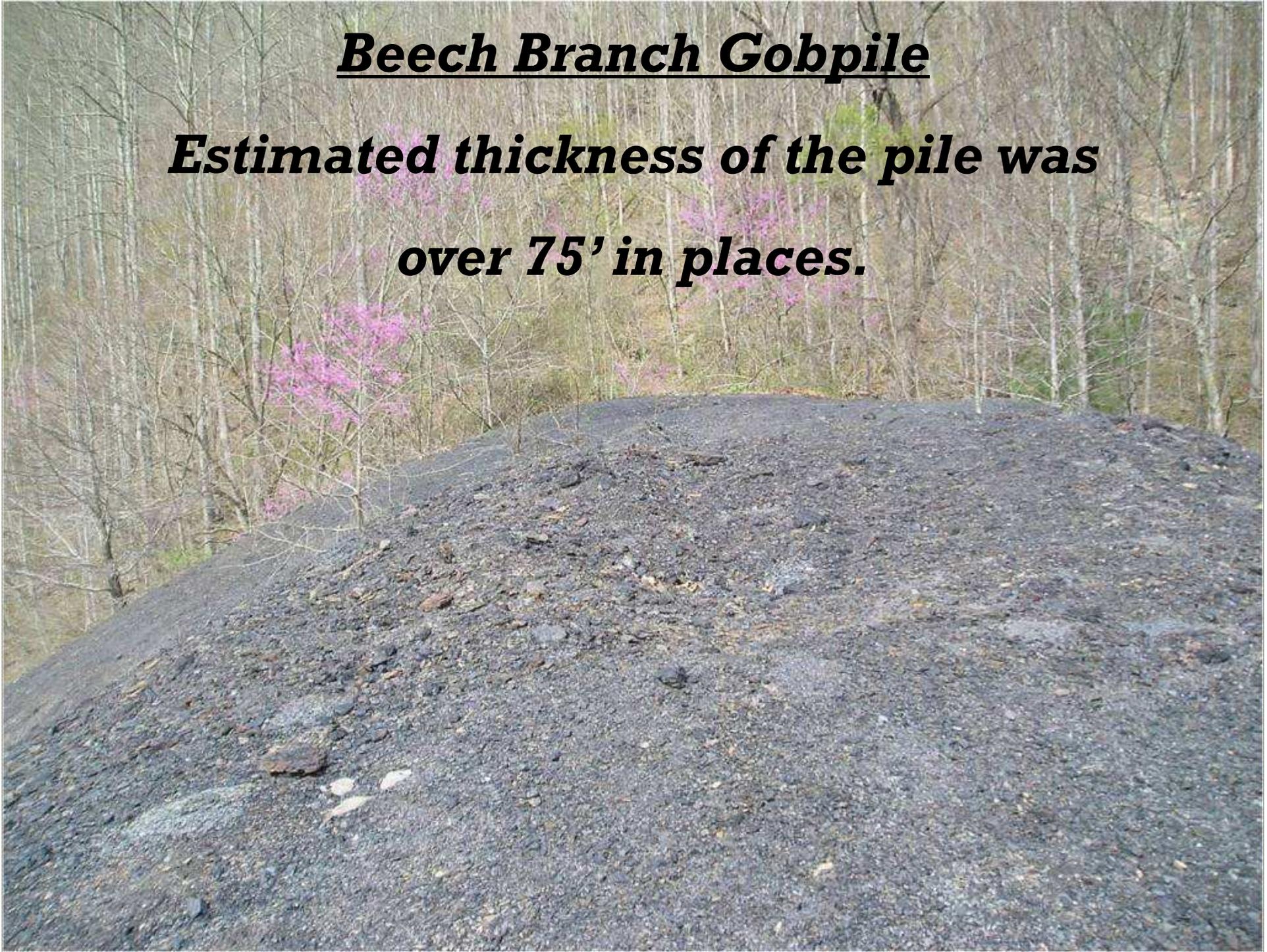
Beech Branch Gobpile

***Impounded water by
the gobpile.***



Beech Branch Gobpile

***Estimated thickness of the pile was
over 75' in places.***



Beech Branch Gobpile

Separation of coal, rock and red dog (coal waste that has been burned due to spontaneous combustion or forest fires).





Beech Branch Gobpile

After total removal of coal waste and eliminating the impounded water, construction began of the creek channel and the start of reclamation.

Beech Branch Gobpile

***The hydro-seeding of
grasses prior to tree
planting.***



Beech Branch Gobpile

***Reclaimed and ready
for tree planting.***

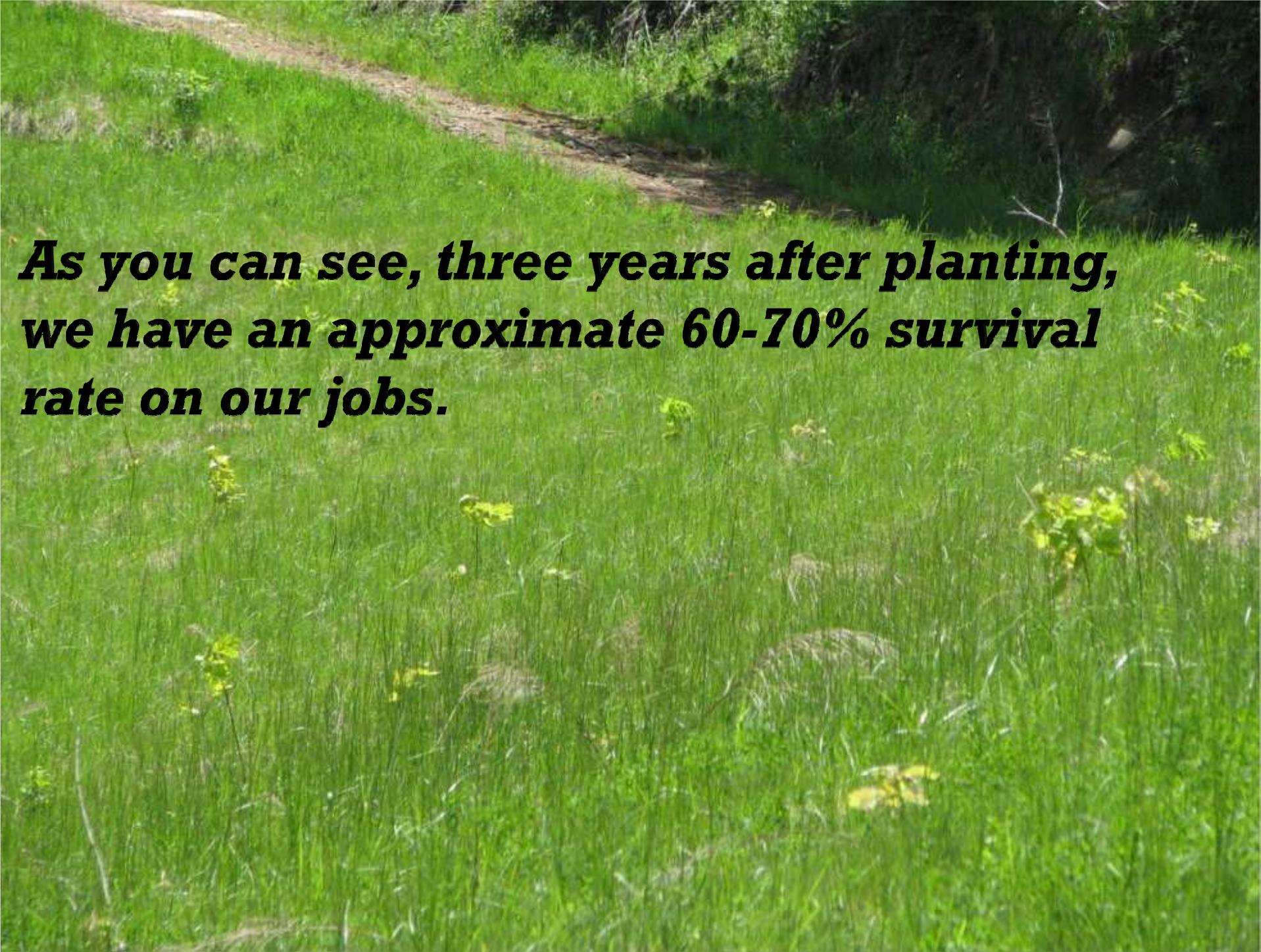




Tree planting occurs during the spring of the year to help insure a high degree of seedling survival.

Beech Branch gobpile project was planted with 4500 seedlings including northern red oak, white oak, yellow poplar, red osier dogwood, and birch.

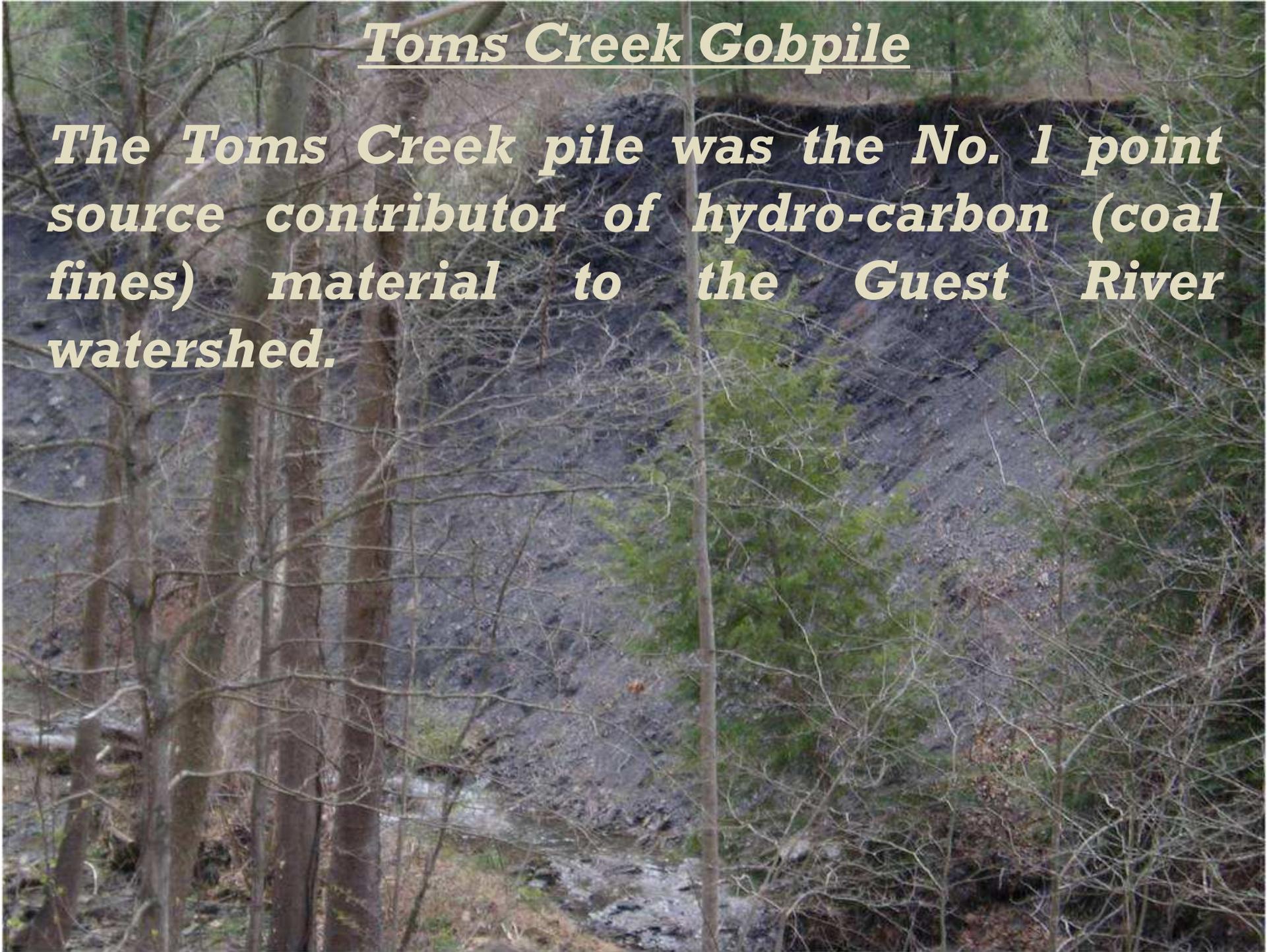


A photograph of a grassy field with a dirt path. The field is filled with tall green grass and several yellow wildflowers. A dirt path runs diagonally across the upper portion of the image. The background shows a dense line of trees and shrubs.

As you can see, three years after planting, we have an approximate 60-70% survival rate on our jobs.

Toms Creek Gobpile

The Toms Creek pile was the No. 1 point source contributor of hydro-carbon (coal fines) material to the Guest River watershed.



Toms Creek Gobpile

Coal fines spoiling into the creek





Toms Creek Gobpile

***Working with DMME on
stream channel design.***

Toms Creek Gobpile

BEFORE

AFTER





Toms Creek Gobpile

Final reclamation after establishing flood plain and before hydro-seeding and tree planting.

A photograph of a creek flowing through a valley. In the foreground, a stone wall runs across the middle ground, with a small stream of water flowing through it. The background shows a dense forest of trees, some bare and some with green foliage, under a slightly overcast sky. The overall scene is a natural, rural landscape.

Toms Creek Gobpile

***After hydro-seeding and
before tree planting.***

A scenic view of a creek flowing through a lush green landscape. The creek is bordered by a stone wall on the left and flows towards the background. The surrounding area is filled with vibrant green grass and various trees, including some taller, thinner trees on the left and a dense forest on the right. The sky is clear and blue.

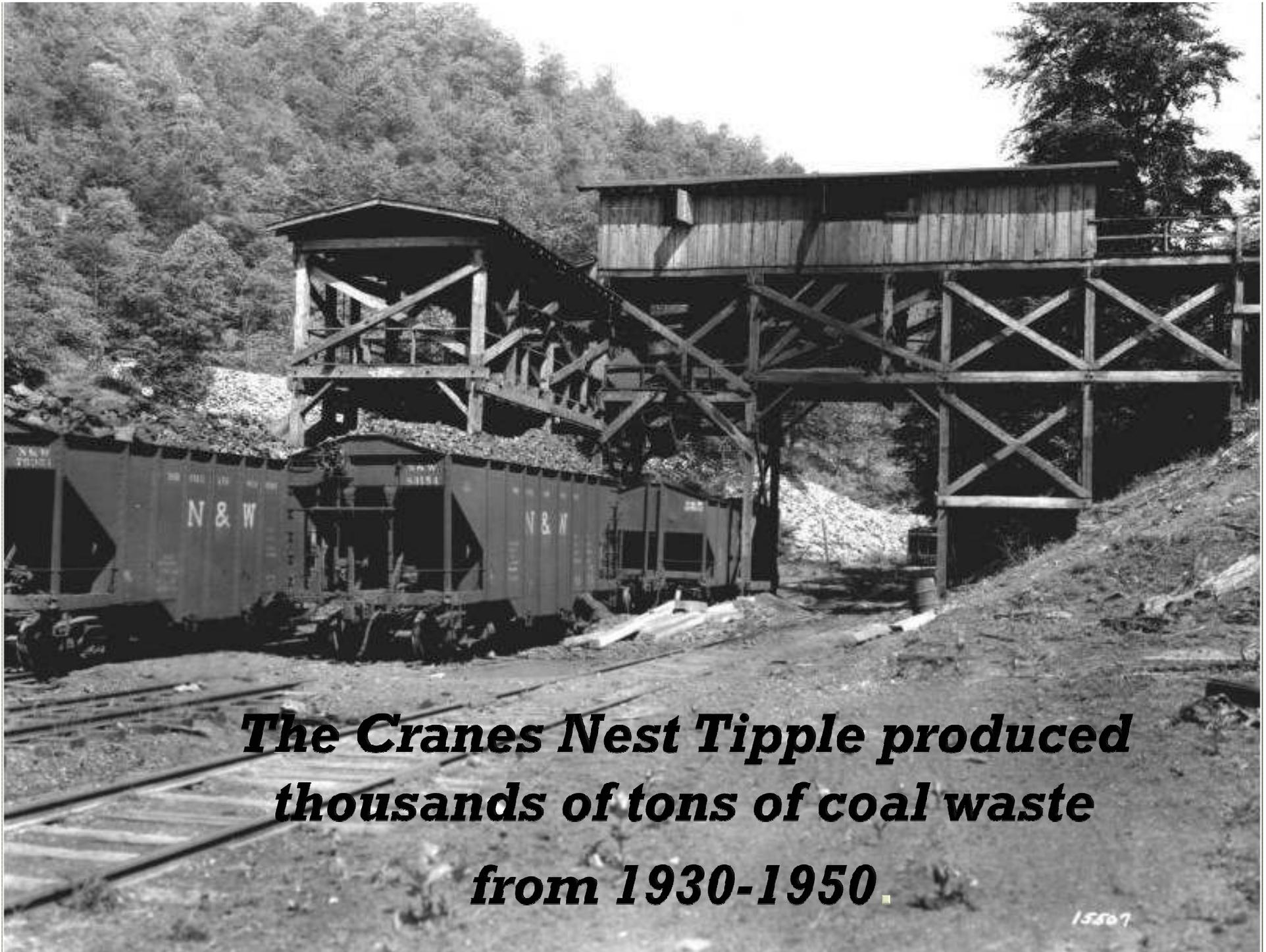
At the Toms Creek Gobpile Project, 2500 seedlings were planted including red oak, sugar maple, sycamore, red osier dogwood, birch and American chestnut.



Toms Creek



2010



***The Cranes Nest Tipple produced
thousands of tons of coal waste
from 1930-1950.***

***At the Cranes Nest
gobpile reclamation job,
we removed 500,000 tons
of coal waste.***



Most major gobpile reclamation jobs require the re-establishment of new stream channels since most gobpiles were easy to deposit in stream valleys.



At the Cranes Nest job, we utilized the Rosgen method for stream channel design.



Working on final reclamation at Cranes Nest



At the Cranes Nest job, DMME worked with community volunteers and contractors for the planting of 6500 seedlings which included birch, sycamore, willow, green ash, northern red oak, swamp chestnut oak and sugar maple.



After two years of growth, we are seeing a very high survival rate of all species.



Cranes Nest



Cranes Nest

2010



After reclamation and tree planting, you can see that our re-establishment of the natural environment is taking root.



THANK

YOU