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ARRI team tours Eastern States viewing Forestry Reclamation Approach sites

By Pete Hartman

The Appalachian Regional Reforestation Initiative (ARRI) core and academic team members participated in a field trip to various sites in Pennsylvania, Maryland, and West Virginia, June 5 – 9, 2006.

In addition, an academic team research workshop was held to update team members about on-going research related to mined land reforestation and plans for further research.

(Tours continued on page 2)



ARRI Core Team and Academia Team Members pose before their field trip. From left, front row, Michael Hiscar, Jeff Emmons, Dr. James Burger, Paul Yacovone, Ronald Rathfon, Paul Emerson, Linda Keene. From left, second row, Dr. Mary Beth Adams, Chris Stanley, Pete Hartman, Mike Bower, Victor Davis, Brad Edwards, Carl Zipper, Dr. Michael Jacobson. From left, back row, Tim Brehm, Denny Steele, Mike Garner, Patrick Angel, Gary Gilmore, Dr. Christopher Barton, Doug Saylor, Dr. Don Graves, Scott Eggerud, Dr. Brian McCarthy.

OSM and U.S. Fish and Wildlife explore partnerships

By Patrick Angel

OSM and the U.S. Fish and Wildlife Service (FWS) co-sponsored a workshop in Hazard, Kentucky on June 20-22, 2006 entitled, "The Appalachian Regional Reforestation Initiative and Terrestrial Carbon Sequestration Workshop."

The workshop, had three main objectives: 1) to promote and encourage partnership discussions for future implementation of terrestrial carbon sequestration projects along the Appalachian mountain range; 2) visit Appalachian Regional Reforestation Initiative partner-

ship projects for terrestrial carbon sequestration on surface mine lands in the coal fields of eastern Kentucky; and, 3) develop mutually agreeable terrestrial carbon sequestration, concepts for Industry,

(Partners continued on page 2)

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PowerPoint presentations were given and discussed. Topics included: the Forestry Reclamation Approach Advisors (FRA); future FRA topics and potential authors; possibilities for collaboration between academic team members; and discussion of possible funding sources for mine land reforestation related research.

The field tour began with an update on American chestnut breeding research done at the Leffel Chestnut Center at Penn State University. Breeders are backcross breeding in an effort to transfer the resistance of the Chinese chestnut into the American chestnut.

The chestnut blight hit in 1904. Just prior to that time, there were an estimated four billion chestnut trees in



(Photo by Mike Hiscar)
Branches from a cross bred American chestnut tree.

the United States from Maine to Georgia.

Field visits were made to mine sites near Kylertown and Snow Shoe, Pennsylvania, where mined land was planted with oak acorns and bare root stock. A reclaimed mine site on state game lands was visited to view natural succession amended with applied bio-solids.

ARRI members visited an AML reclaimed mine site near Orbisonia,

Pennsylvania where over 58,000 trees were to be planted. Various aspects of the FRA approach to insure better tree growth at the site was discussed.

In Maryland, a 38 acre forfeiture project was visited. The site was recently reclaimed using conventional backfilling and FRA backfilling techniques. The FRA area was planted with mixed hardwoods.

The ARRI team visited Anker Energy Permit, SM-84-393, where active mining operations were viewed. The 300 acre permit will use the FRA to achieve the post mining land use of forestry.

In West Virginia, the ARRI team toured reclaimed mine sites including wetland mitigation efforts, recent plantings of red pine and red

spruce stands. The Beacon Knob SMA was reviewed where remining of a pre-law highwall and red spruce restoration is planned.

The ARRI Academic team is preparing proceedings of the field trip. This publication will include papers from each academic, write-ups of each field stop, state summaries presented the first day of the trip, and selected photographs.



(Photo by Mike Hiscar)
West Virginia reclaimed site using wetland mitigation

Appalachian Regional Reforestation Initiative members participate in DOI "Why Partnership" video

By Patrick Angel

The Department of Interior (DOI) participated in a web-based video entitled "Why Partnerships" which explains why partnerships are necessary to efficiently conduct business at DOI.

ARRI was selected as one of four finalists from a pool of 45 department wide applicants.

The ARRI segment was shot in February on the campus of the

University of Kentucky (UK) and in the coal fields of eastern Kentucky.

The participants representing the partnership included: UK researchers, coal company representatives, the state regulatory authority, landowners, tree planters, mine consultants, reclamation inspectors, equipment operators and representatives from the American Chestnut Foundation.

The video should be released for viewing on the internet this fall.

Partners continued from page 1...

State, OSM, and U.S. FWS that will restore native habitats and manage them for fish and wildlife.

Participants included representatives from the coal industry, academia, and the state and Federal surface mining regulatory authorities and wildlife agencies from the seven Appalachian coal states.

Sterling Mining plants trees on reclaimed underground mine face-up area



(Photo by Mike Hiscar)
Seedlings planted on minesite.

By Mike Hiscar

Sterling Mining mine manager, Gary Shaffer, has planted approximately 10,000 trees on the reclaimed D-0949 underground mine face-up. The pre-mining land use was undeveloped. The permit changed the post-mining land use to pastureland. The ARRI team approached Schaffer about planting

trees on the reclaimed portion of the mine. The property is adjacent to the Brush Run Wildlife area in Jefferson County.

Sterling Mining changed the post-mining land use back to undeveloped to allow for tree planting. The landowner also agreed to have trees on the property.

The affected area was reclaimed using conventional reclamation practices, except the topsoil had not yet been replaced. Sterling Mining ripped the area where they could and then redistributed the topsoil, trying to limit the amount of compaction.

They seeded and mulched the area last fall using

hard fescue, ryegrass, trefoil, and alkire clover. The vegetation had not yet emerged on the site. The trees were hand-planted at a rate of 600 trees per acre or 8x8 spacing. The trees included: white pine, green ash, red oak, black locust, sweetgum, and swamp oak.



(Photo by Mike Hiscar)
Ripped and planted minesite.

Representatives tour minesites and ARRI presents Kentucky awards

By Paul Rothman

A reforestation field trip was conducted by University of Kentucky (UK) personnel for three staff members of Senator Mitch McConnell's Kentucky office on sites in eastern Kentucky, December 14, 2005.

They visited sites at Big Elk Mining Company in Perry county. and Appalachian Fuels Coal Company in Pike County.

While in Perry county, Paul Rothman, from the Kentucky Department of Natural Resources, presented

Dr. Don Graves the Appalachian Regional Reforestation Initiative (ARRI) award.

He was recognized for his long term research and dedication in furthering the development of sound reforestation techniques for reclamation on coal mined lands in Kentucky.

After traveling to Pike county, Rothman presented Robert Addington his ARRI award for invaluable support and contributions towards furthering the goals of Kentucky and ARRI reforestation initiatives.

Topics for discussion included ARRI, the UK Commonwealth Collaborative Initiative, reforestation, carbon sequestration, mineland water quality and hydrology, stream restoration in mined headwaters and hollow-fills, bioenergy opportunities, and regulatory implications.

The participating aides from Senator McConnell's Kentucky office were Larry Cox, State Director, Kevin Atkins, Bluegrass District, and Donna McClure, Eastern District.

(Representatives *continued on page 5*)



Winners of ARRI's 2005 Reforestation Awards for Kentucky were Robert Addington, Dr. Don Graves. From left: Patrick Angel, Addington, Graves, and Paul Rothman.

Local Citizens met with ARRI members to discuss planting trees

By Mike Hiscar

ARRI team members Jeff Emmons, DMRM, and Mike Hiscar, OSM, met with, approximately 30 citizens from Barnesville, Ohio, on April 10, 2006, concerning planting trees on surface mined lands.

The citizens were members of the Barnesville Area Reforestation Kommittee (BARK) and students from the local school. For the past three springs, BARK has planted over 6,000 trees on reclaimed mined sites around the Barnesville area on Oxford Mining properties. They planted these trees on reclaimed areas where vegetation had been planted and

the post-mining land use was pastureland.

Emmons and Hiscar discussed ARRI and the use of the Forestry Reclamation Approach (FRA) to reclaim surface mines, and the use of undeveloped post-mining land use for the planting of trees. The use of FRA identifies reducing the compaction of the soil and the competition of vegetative species when reclaiming active surface mines with trees.

Currently, numerous universities and State agencies are researching the use of FRA in reclaiming surface mines. The results are showing much better tree growth and survival rates for

the trees when the FRA is used rather than conventional approaches for reclaiming surface mines.

All present agreed to hold future meetings with BARK, Oxford Mining, and other coal companies mining in the area to encourage the use of FRA for tree planting on reclaimed surface mines.

The ARRI members distributed the Statement of Mutual Intent to the BARK members for their review and signature. They would join a growing list of State and Federal agencies, coal companies, industry representatives, and citizen groups throughout Appalachia who are signing the agreement to plant more viable trees on reclaimed surface mines.

District holds year end staff meeting

By Paul Yacovone

As part of the Appalachian Regional Reforestation Initiative presentations are made to various State and industry groups outlining the goals of the initiative using the ARRI video, and a power point presentation showing reforestation techniques with emphasis on the Forestry Reclamation Approach (FRA). In December 2005 a presentation was given at the Pennsylvania Department of Environmental Protection's Cambria District Office in Ebensburg, Pa. The presentation was part of the District's year end Staff Meeting. A lively discussion of the FRA followed the video presentation.



From left, Don Barns, District Mining Manager, introducing Paul Yacovone of ARRI.

American Chestnut Foundation hosts annual meeting

By Patrick Angel

The 22nd annual meeting of The American Chestnut Foundation (ACF) was held Oct. 29-30, 2005 at the Marriott Griffin Gate Resort in Lexington, Kentucky.

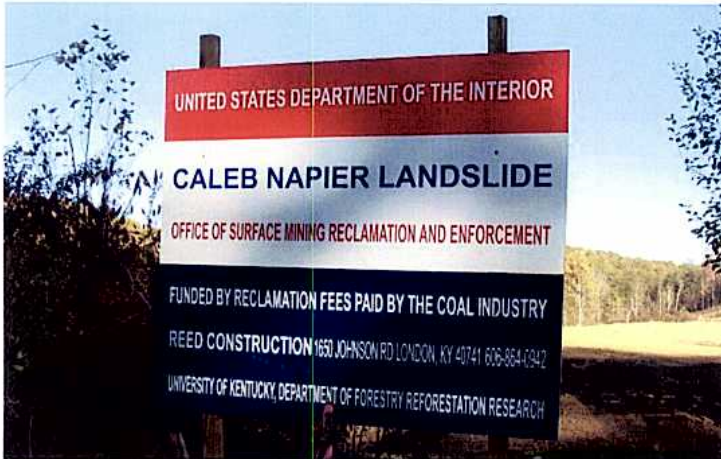
An Appalachian Regional Reforestation Initiative (ARRI) representative from the Lexington Field Office was a speaker in the technical session of the meeting. He spoke on ARRI's mission to locate potential ACF planting sites throughout the Appalachian coal fields, the natural habitat of the species.

Trees grow faster using the Forestry Reclamation Approach on surface mines compared to native soil.

ARRI locates mine sites with cooperating coal companies and landowners so that they can serve as a spring board for bringing this species back into its native range.

Photos show site preparation for Caleb Napier landslide

The focus of the reclamation of the Federal emergency Abandoned Mine Land project in Pulaski County, Kentucky is reforestation. The University of Kentucky is involved in the planning of the reforestation and credit must be given to Jim Holliday for embracing the Forestry Reclamation Approach and applying it to this project.



Club plants seeds of opportunity

By Patrick Angel

Patrick Angel, Office of Surface Mining, and Mike French, American Chestnut Foundation, gave an ARRI presentation in April titled "Surface Mine Reforestation: The Return of the American Chestnut". It was sponsored by the Appalachian Master Gardeners Reaching Out (AMGRO).

AMGRO is more than a local garden club, they are community/conservation activists who have an interest in planting trees and may, according to their leaders, decide to become involved in a surface mine project. The presentation was at the Community Center in London, Kentucky and open to the public.

Representatives continued from page 3...

UK participants were: Drs. Carmen Agouridis, Chris Barton, Steve Bullard, Don Graves, Tamara Cushing, Rick Sweigard, Richard Wagner, Bill Schweri, Will Marshall and three research technicians.

Minesite representatives were Jeff Hoops, Big Elk Mining Company, Addington, and Dave Maynard, Appalachian Fuels Coal Company.

Larry Adams and Rothman represented the Kentucky Department of Natural Resources.

Patrick Angel represented the Office of Surface Mining.

Appalachian Regional Reforestation Initiative



The Appalachian Regional Reforestation Initiative was started in 2004 with the goal of encouraging the planting of high-value hardwood trees on reclaimed coal mine sites using the Forestry Reclamation Approach. The initiative is a coalition of the States of the Appalachian, the Office of Surface Mining and their partners in industry, environmental organizations, academia, local, State and Federal government agencies and local citizens who have come together to support this valuable initiative.

For more information on ARRI see our website at: <http://arri.osmre.gov/>

GOALS OF ARRI

- **Plant more high-value hardwood trees on reclaimed coal mined lands in Appalachia.**
- **Increase the survival rates and growth rates of planted trees.**
- **Expedite the establishment of forest habitat through natural succession**

ARRI Core Team Leaders:

Paul Rothman, Kentucky DNR
Scott Eggerud, West Virginia DEP
Linda Keene, OSM AVS Office
Mike Bower, OSM Appalachian Region

Academic Team Leaders:

Dr. Jim Burger, Virginia Tech
Dr. Don Graves, University of Kentucky

Academic Team Liaisons:

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Special thanks to Maurice Sanders, Lexington Field Office, OSM summer intern