



INSIDE THIS  
ISSUE:

Chestnut cont. 2

Foresters meet 2  
at KY State Park

Excellence cont. 2

Students cele- 3  
brate Arbor Day

Students enjoy 4  
earth day at  
Nicholas Energy

Reforestation 4  
interest gener-  
ated at Univer-  
sity of Kentucky

Reforestation 5  
award to Apogee  
Coal

Institute for Ru- 5  
ral Journalism  
and Community  
Issues Holds  
Conference

Arbor Day cont. 5

Pennsylvania 6  
presents Excel-  
lence in Refore-  
station Awards

Nicholas cont. 6

Emerald Ash 6  
Borer surface in  
Illinois

Borer cont. 7

Borer cont. 8

## Ohio AML Program Receives Excellence Award

By Jeff Emmons

The Appalachian Regional Reforestation Initiative (ARRI) core team created the *Excellence in Reforestation Award* to honor both active and abandoned coal mine reclamation operations from each state in the Appalachian Region.

The Ohio Division of Mineral Resources Management – Abandoned Mine Lands Reforestation Program was recently awarded the *2005 Excellence in Reforestation Award* for their work with the Mt. Ephraim Abandoned Mine Land (AML) Reclamation Project.

The Ephraim site in Noble County, Ohio was originally mined in the late 1950's and early 1960's. The site consisted of almost 100 acres of barren and severely eroded un-

reclaimed mine land.

More than one hundred sixty thousand trees have been planted on this site since 1992. Species include Virginia pine, red oak, black locust, *(Excellence continued on page 2)*



From left, Mike Sponsler, Chief of Mineral Resources Management, presents John Sprouse, AML Manager, Division of Mineral Resources Management, the Ohio 2005 Excel-

## Pennsylvania Students Plant Chestnut Tree Seedlings

By Paul Yacovone

An Arbor Day Celebration and tree planting was held April 28, 2006 at the American Chestnut Foundation's research project site, Smith Chestnut Farm, in Washington Township, Jefferson County, Pennsylvania, in an area known as

Coal Glen.

Students from both the Jefferson County Vo-Tech's Forest Products Curriculum and the DuBois Area Catholic High School planted chestnut tree seedlings, as well as hardwood and other species on the reclaimed surface mine.

Doug Saylor started the festivities by welcoming all the attendees and special guests. Welcoming remarks were made by J. Scott Roberts, Deputy Secretary for Mineral Resources Management, Department of Environmental Protection, and George Rieger, *(Chestnut continued on page 2)*

## Chestnut continued from page 1...

Division Chief, Pittsburgh Division, Office of Surface Mining.

The remarks and support from the special guest, The Honorable Samuel H. Smith, Representative from the 66th District, Pennsylvania House of Representatives, were greatly appreciated by all who took part in the days activities.

The celebration highlighted efforts to re-establish the American chestnut tree in Pennsylvania, and promoted the planting of high-value hardwood trees on reclaimed mine lands. The event was cooperatively organized by the Penn-

sylvania Department of Conservation and Natural Resources, the Pennsylvania Department of Environmental Protection, the American Chestnut Foundation, the Woodland Owners of Clarion-Allegheny Valley, and the U.S. Department of the Interior, Office of Surface Mining in conjunction with its Appalachian Regional Reforestation Initiative.

The Chestnut trees were supplied by The American Chestnut Foundation and the Pennsylvania State University Forest Resources laboratory. The other species were supplied by Free-

man's Greenhouse of Jefferson County, Pa. Refreshments were supplied by The Weyerhaeuser Company, Johnsonburg, Pa. Mill.

Gary Gilmore of The Department of Natural Resources and Conservation worked hard to make this Arbor Day event a very pleasurable experience for all that attended.

Sara Fitzsimmons gave an informative presentation on re-establishing the American chestnut tree. The Woodland Owners of the Clarion-Allegheny Valley set up the tables and tents for the food and displays.

## Foresters Meet at Kentucky State Park

The Kentucky/Tennessee Chapter of the Society of American Foresters (KTSAF) held their annual meeting at Jenny Wiley State Park in Prestonsburg, Kentucky on January 26 and 27.

They gave the Appalachian Regional Reforestation Initiative (ARRI) most of their morning session to make presentations. Dr. Donald Graves, Paul Rothman, and Patrick Angel gave three 45-minute presentations about ARRI, RAM #124, reforestation research, and the forestry reclamation approach to about 150 foresters.

Prior to the meeting, Vic Davis, Graves, and Angel addressed the KTSAF's Executive Board, which is comprised of about 15 people in the leadership ranks of this chapter, and explained ARRI's Statement of Mutual Intent (SMI). KTSAF's Chairman Donald G. Hodges signed in behalf of the chapter. In addition, 41 members of the

KTSAF voluntarily stepped forward after ARRI's presentation and signed the SMI.

On the second day of the meeting, Davis and Graves led the group on a tour of the University of Kentucky's reforestation research plots at Star Fire mining complex in Perry County, Kentucky. ARRI received an invitation to make a formal presentation to the National SAF convention in Pittsburgh, Pennsylvania in October 2006.

In addition to the invitation, a special session dealing with the recent advances in research concerning the reforestation of surface mines was created for the upcoming conference in Pittsburgh. Abstracts describing ARRI and research conducted by numerous researchers on ARRI's Academic Team have been submitted to the National SAF organization and have been accepted into the program.

Excellence continued from page 1...

black alder, sweet gum and white pine.

Most of the trees were inoculated to help them survive in the harsh soil conditions. This project shows that with the proper selection of species, tree handling and planting practices, reforestation in even the harshest mine sites is possible.



Site prior to planting



Site as of 2005 - red oak, Virginia pine and white pine

## Students Celebrate Arbor Day on Bent Mountain in Kentucky



Dr. Christopher Barton helps a student from John's Creek Elementary School plant an American chestnut tree.

By Carla Blanton

Johns Creek Elementary School students got a first-hand look at how reclaimed mine land is being reforested to benefit the environment and the economy.

And, those 100 fifth-graders helped the reclamation project on Bent Mountain by planting American chestnut and green ash trees. Students also displayed their posters and read essays on how the planting will improve Appalachia.

The reforestation program is a cooperative effort among Appalachian Fuels, the University of Kentucky and various federal and state agencies. Appalachian Fuels prepared the Bent Mountain site according to specifications that improve the growth of trees. After that, the University of Kentucky planted the trees and monitors the site.

"We are pleased to take a leading role in the creation of renewable resources that will benefit future generations of Eastern Kentuckians," said Stephen Addington, president of Energy Coal Resources, Inc., of Ashland, Ky., which is the parent company of Appalachian Fuels, LLC.

Through this research, UK

hopes to improve the region's economic, environmental and ecological conditions, as well as create reclamation guidelines that will become national standards.

"The great thing about this reforestation initiative is that so many different departments and agencies have come together and are working for the good of Kentucky and Appalachia," said University of Kentucky Professor Don Graves, who is a forestry professor and principal investigator and organizer of the initiative. "It's a real team effort."

Previous reclamation guidelines left soil so compacted that water would run off the site. By not compacting the top layer of soil (about four feet), water reaches the trees' roots and dramatically improves their survival and growth rates.

"If we reclaim property in the proper manner and re-establish the forest, then the land will be more valuable and more productive," said Robert Addington, an Energy Coal Resources, Inc., board member and longtime proponent of this reforestation technique.

As the research continues, several benefits already have been identified:

- The survival rate for trees improves because the loose soil allows rain to soak into ground around the tree roots;
- Growth occurs at about twice the rate of trees in virgin forests;
- The loose soil and tree plant-

ings help reduce flooding and runoff in the area;

- Reforestation captures and stores carbon dioxide, which reduces greenhouse gases;
- Because more water is retained, the habitat for wildlife improves;
- Forests will yield harvestable timber, which will aid the local economy; and

- It is a vital part of the reintroduction of the chestnut tree — highly sought after in making furniture but near extinction after blight struck in the 1930s. The new species of American chestnut thrives on former mine sites because the soil lacks other competing materials and the high, dry location is also good for the trees.

Another way Energy Coal Resources, Inc., and Appalachian Fuels are taking a lead role in reforestation efforts is through their participation in the Appalachian Regional Reforestation Initiative. Kentucky is one of seven states to join the initiative, which is a coalition of industry, citizens and government. The goal is to restore forests on coal-mined lands in the Eastern United States.

"This project is important for Appalachia and for the entire commonwealth," said Kentucky House Majority Leader Rocky Adkins, who participated in the official signing of the Appalachian Regional Reforestation Initiative last year. "Research shows that reforestation of land can be done (*Arbor Day continued on page 5*)

# Students enjoy Earth Day at Nicholas Energy

Contributed by *The Nicholas Chronicle*

Students at Zela Elementary School learned firsthand the true meaning of Earth Day when they spent last Friday morning with Nicholas Energy at their surface mining operations at Jerry Fork near Drennen, West Virginia.

Nicholas Energy combined Earth Day with being the recent recipient of an environmental award for their outstanding reclamation work.

The students gathered in the Nicholas Energy training center and viewed power point presentations. Nicholas Energy Environmental Coordinator Will Fisher gave a presentation on why coal is mined and how it is used.

Jimmy Wood, Nicholas Energy Chief Surface Mining Engineer, gave a presentation on the different types of coal, and how it is mined using the deep and surface methods. It was pointed out that Nicholas Energy employs 350 people at all of their operations and mined 3.3 million tons of coal in 2005.

In his second presentation, Fisher told the students about the company's reclamation efforts and how they tie in with Earth Day. He said they practice the Forestry Reclamation Approach with the goal being to return the land to its original natural forest state.

Brad Edwards, Reclamation Specialist for the federal Office of Surface Mining told the group that Nicholas Energy is the recipient of an environmental award as a result of their forestry reclamation practices. He said the company received the Appalachian Regional Reforestation Initiative (ARRI) award and was being recognized for planting 60,000 trees on 100 acres on the reclaimed Wildcat surface mine.

Edwards explained that in using the reforestation approach, the soil is less compacted so that the

trees will grow better. The company also used the "ripping" method of tilling the soil on the valley fill decks to make it less compacted and then planted the tree seedlings. Planted were several thousand oaks, ash, sycamore, redbud, white pine, black locust, black cherry, and sugar maple.

Nicholas Energy planted a total of 232,000 trees last year on their entire surface mine operations combined.

The students then went to the Robinson North surface mine operation where 100,000 seedlings were planted in March, also using the "ripping" method.

At another area of Robinson North which is still being surface mined, the students viewed in the shovel pit the giant 495 hydraulic shovel as it was removing overburden and loading it into the giant 830 dump truck.

*(Nicholas continued on page 8 )*



Brad Edwards, OSM, plants a tree at the Earth Day event.

## Reforestation interest generated at University of Kentucky

By Patrick Angel

ARRI members participated in two expositions on the campus of the University of Kentucky (UK) in Lexington, Kentucky in late February and early March. An ARRI core team mem-

ber set up tables with ARRI display panels, brochures and literature and discussed the forestry reclamation approach with engineers, coal operators, students and interested visitors at the UK Mining Department's "Engineer's Day

Symposium and Exposition" on February 25, 2006 and UK's 2<sup>nd</sup> Annual "Career and Internship Exposition" on March 1, 2006. A lot of interest in the reforestation initiative was generated at these two events.

## Reforestation Award Presented to Apogee Coal

Members of the Appalachian Regional Reforestation Initiative, (ARRI), the West Virginia Department of Environmental Protection, and the U.S. Office of Surface Mining presented the ARRI 2005 Excellence in Reforestation Award to Apogee Coal Company for their successful implementation of the Forestry Reclamation Approach on the Ruffner mine in Logan County.

Students from Ralph R. Willis Vocational-Technical School were on hand to assist in a tree planting activity.

Apogee Coal Company has reclaimed this 1,335 acre mountaintop removal mine site to a post mine land use of commercial woodland.

Special care was taken to construct the best

possible growth medium for forestry purposes with overburden materials on site. Compaction of the growth medium was minimized. This helps infiltration of rain water, reduce runoff, and improve productivity of the future forest. A tree compatible ground cover was established, and to date, over 700,000 commercially valuable, native hardwood seedlings have been planted. Tree species include red oak, white oak, chestnut oak, green ash, yellow poplar, sugar maple, red maple, black walnut and sycamore.

The Ruffner mine is an example of industry, academia and regulators working together to reclaim mine sites to their most productive and beneficial uses for society.

## Institute for Rural Journalism and Community Issues Holds Conference

By Patrick Angel

The University of Kentucky's Institute for Rural Journalism and Community Issues in the School of Journalism and Telecommunications, held a conference entitled "Covering Coal" on November 18, 2005, at Marshall University Graduate College, in South Charleston, West Virginia.

The purpose of the conference was to provide insight to Central Appalachian journalists about reporting or covering news related to the coal industry.

Professionals from coal companies and the utility industry; State and federal regulators; environmentalists and concerned citizens, as well as seasoned jour-

nalists provided advice on providing more informative coal news. An OSM representative appeared as a panelist with two University reforestation researchers and a reforestation extension specialist from the West Virginia Department of Environmental Protection to discuss "Reclamation and Reforestation."

### Arbor Day Continued from page 3...

more effectively. The result is more jobs and a better environment – a win-win situation for the people of Eastern Kentucky."

Other participants in today's event included Susan C. Bush, commissioner for the Kentucky Department for Natural Resources, as well as officials from the U.S. Office of Service Mining, the U.S. Forest Service, the Kentucky Division of Forestry and the American Chestnut Foundation.

*Energy Coal Resources, Inc., is headquartered in Ashland, Ky. It is the parent company of Appalachian Fuels, LLC.*



Rex Mann talks to the students from John's Creek Elementary School, Pikeville, Kentucky, about the American chestnut tree.

# Pennsylvania Presents Excellence in Reforestation Awards

By Paul Yacovone

The Pennsylvania members of the Appalachian Regional Reforestation Initiative (ARRI) presented the first abandoned mine site award to Kyler Environmental, of Somerset, Pennsylvania.

The site, located in Center County, Pennsylvania was mined in the 1960's, and left unreclaimed.

The soils consisted of weathered shale's and sandstone. The area was amended with biosolids and left in a roughened state.

Most areas were planted in grasses, while other areas, where erosion was not a problem, were left unseeded.

Tree establishment is showing signs of success from sprouts at this time.

The site was prepared early enough in the spring to take advantage of seed dispersal. Spring 2006 has shown results of seed germination.

ARRI presented the first active mine award to Warren Hartman contracting, sub contractor to Sky Haven Coal Company. The award mine site was permitted in 1998, and required alkaline addition due to the nature of the overburden.

Trees were planted using a mechanical tree planting machine. At this time success rate is about 90 % survival.

On the previously mined areas, the soils were amended with

biosolids and left in a roughened condition to encourage natural regeneration of early successional trees. Red oak seedlings were planted in the established aspen regeneration.



From left, The awards were presented to Chris Harman of Warren Hartman Contracting, and Greg Barchey of Kyler Environmental by Doug Saylor of Pennsylvania Department of Environmental Protection.

## Nicholas continued from page 4...

The group then went to the reclaimed Wildcat surface mine site where Fisher officially accepted the ARRI award from Scott Eggerud, Forester for the Department of Environmental Protection.

In commemoration of Earth Day, Nicholas

Energy presented each student with a blue spruce or redbud seedling, just like what is planted by the company on their reclaimed mine sites.

The Nicholas Energy Spousal Group assisted in serving the students a pizza lunch.

## Emerald Ash Borer Surfaces in Illinois

The following article was printed in the June 2006 edition of the Society of American Forester's newsletter *The E-Forester*. According to the editor of the newsletter, the article was picked up from the website <http://www.emeraldashborer.info/>, a collaborative effort of the USDA Forest Service, the Michigan Department of Agriculture, the Michigan Department of Natural Resources, USDA Animal and Plant Health Inspection Service (APHIS),

Michigan State University, Purdue University, and Ohio State University.

Below are comments from some members of ARRI's Academic Team in response to the question, "Do you think that we should consider this insect pest when we make ash recommendations for mine sites?"

Emerald Ash Borer Surfaces in Illinois

June 14 -- The Illinois Department

of Agriculture (IDOA) has announced that the emerald ash borer (EAB) has been detected in northern Illinois. The pest was found in the yard of a Kane County home east of Lily Lake. The homeowner discovered the beetle and alerted the Animal and Plant Health Inspection Service's Illinois field office, which sent the bug to its lab in Romulus, Mich., for identification and notified IDOA nursery inspectors. Inspectors have not determined

## Borer continued from page 6...

how the beetle arrived in Illinois, but suspect it may have been transported here in contaminated firewood from a quarantined area in Michigan. Michigan and Illinois are two of the five states where EAB infestations have been confirmed. The others are Indiana, Ohio and Maryland. In response to the discovery, the director of the IDOA said that the agency will conduct an extensive survey of ash trees in the area to determine the extent of damage.

Here's how our academic team members responded to the question regarding recommending ash species for mine sites:

I think that the EAB is something that we must seriously consider when we are making ash recommendations for mine sites. Ash is such a good survivor on mine sites that it is really a shame to see this problem developing on the horizon. But then, almost anything that we plant may have some potential problem in the future. There are some who will argue that we shouldn't be planting cove hardwoods like yellow poplar because they are "off site" on surface mines and that eventually they will crash. We know that ash will grow now and that they will help a mine operator get his bond release. If we reduce ash down to about 10% of the mix and consider it more of a nurse tree, we will be cutting our risk and allowing more room for high-value hardwoods like oaks, maples, poplar, etc. **Dr. Donald Graves, University of Kentucky**

I would not recommend ash being planted on mine sites,

or any site for that matter. I have been involved with some EAB research on a periphery role and once it is in a stand we can expect 100% mortality. It is also difficult to detect until it is too late. As far as utilization, moving outside of the quarantine zone is not allowed with some approved treatment -- usually stripping the bark and upper 1/2" of wood. There might be other ways including phytosanitary methods. I am currently talking with the Ohio Division of Forestry to examine these methods. **Dr. Charles Goebel, Ohio State University**

This is the first I have heard about this pest. I certainly am no authority on the subject, but my gut reaction is to forego the inclusion of ash in mine planting prescriptions, at least until more is known about how fast and where this thing is spreading. **Willis Vogel, U.S. Forest Service (retired)**

Emerald Ash Borer (*Agrilus planipennis*) was identified in the Ohio/Detroit area several years ago and has spread westward. It is related to the Bronze Birch Borer, Twolined Chestnut Borer that develops in oak, Honeylocust Borer, and 20-some other small beetles that have a normal yearly life cycle and overwinter as larvae. The larvae especially damage trees by making tunnels under the bark. Foresters in the upper midwest have become concerned about possible extensive damage to ash trees. I endorse Willis' recommendation, unless ash was used as a nurse tree like black locust with the locust borer where early demise might be desirable. If so the possibility of sustaining a breeding population would be a

concern. **Dr. Clark Ashby, Southern Illinois University**

There are concerns associated with planting ash anywhere because of the EAB. However, I think we should still include it in plantings -- we simply need to be sure there is sufficient number of species. My understanding is that it is spread through contaminated firewood or wooden pallets (not sure about the last one), transported from an infected zone to a non-infected zone, and there are efforts to prevent interstate transfer of such sources. On the other hand, we don't necessarily want to provide food for any that does escape. **Dr. Mary Beth Adams, U.S. Forest Service**

This should absolutely be a consideration. It doesn't necessarily mean we should scrap the use of ash altogether, but that it should be more of a minor component of the stand than it often currently is on reclamation plantings. Really, any prescription should not rely too heavily on any one species. **Ron Rathfon, Extension Forester, Purdue University**

I agree with Ron. **Dr. John Groninger, Southern Illinois University**

When we commented on the revision for FRA Publication No. 2, we stated that planting ash may not be recommended in the future. Regardless, the text for step 4 still listed white ash. The EAB is influencing forest management and tree care in the tri-state area, and many people believe that the pest will steadily spread. Yes, I personally believe that we should be very cautious when  
(*Borer continued on page 8*)

## Borer continued from page 7...

recommending planting or naturally regenerating ash species. With no control strategies currently having a major impact, the EAB seems destined to cause mortality throughout the eastern U.S. **Dr. David Hix, Ohio State University**

Green and White Ash are two of the most tolerant and easy to establish trees on mined lands. They have been shown to establish and grow in both acid and alkaline environments. I have known of this beetle and the disease it creates, and of course I am worried about the future of ash trees. I love these trees and just planted a couple of nice-sized ash trees around my new house. I don't want to lose them. I think we should continue to plant ashes. They are usually only one component of any tree planting mix for commercial forestry but we may want to consider making the ash trees less than 10% of a mix. **Dr. Jeff Skousen, West Virginia University**

Yes, I think that the ash borer is going to be a problem. I heard rumors that nurseries have lots of ash left over because people have stopped planting them. I think a warning is in order, and I think we should stop recommending green and white ash. From a forest economic point of view that is not a big loss, but it has been a good reclamation tree given that it survives well. This is all the more reason for good site preparation so we can grow the oaks, black cherry, sugar maple, and tulip poplar. **Dr. Jim Burger, Virginia Polytechnic Institute and State University**

That is unfortunate news about the ash borer spreading to Illinois! Forest entomology isn't really my specialty, and I haven't seen what the projections are for that particular critter as far as spread (beyond the risk map in the April/May J. of Forestry arti-

cle). I know someone in the Michigan DNR, Roger Mech, who is right on top of that situation, and he might be able to give us more information on the level of containment of the EAB, especially what the risk is in more forested settings vs. urban areas. His e-mail is [mechr@michigan.gov](mailto:mechr@michigan.gov). There might also be some extension information on this emanating from Deborah McCullough at Michigan State. As far as recommendations for ash on mine sites, I guess I would like to know if the entomologists believe there is a very good chance of containing emerald ash borer infestations in urban and suburban areas (at least for now), as seems to be the case for Asian long-horned beetles. It could definitely be that no one really knows, so it may be prudent to at least lay out the potential risks of planting ash. On the other hand, this pest may not become a serious problem for several decades in Kentucky and Tennessee, if ever. The main point I can offer is that we should make people aware that the potential for future loss of planted ash species to Emerald Ash Borer exists, but that it is too soon to know how well entrenched the Emerald Ash Borer will become in this country, and also how rapidly it will spread. **Dr. David S. Buckley, University of Tennessee**

If you want more information on the EAB, you can check out these websites:

<http://www.emeraldashborer.info/>

<http://ashalert.osu.edu/>

[http://www.michigan.gov/mda/0,1607,7-125-1568\\_2390\\_18298---,00.html](http://www.michigan.gov/mda/0,1607,7-125-1568_2390_18298---,00.html)

<http://www.na.fs.fed.us/fhp/eab/>



# 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:**

Patrick Angel, OSM Appalachian Region  
Vic Davis, OSM Knoxville Field Office

**ARRI News editor: Linda Keene**

**Layout design: Maurice Sanders and Linda Keene**

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