

Powell River Project Progress Report, 2010-2011
Reclaiming Mined Land for Forests and Forestry

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This report lists products of research and education activities concerning reforestation of mined lands conducted during the 2010-2011 fiscal year. It is accompanied within this volume by other manuscripts that review more detailed results for certain activities:

Publications and Presentations:

Angel P., V. Davis, J. Burger, D. Graves, C.E. Zipper, 2011. What is the ARRI? p. 16-17, in: The Journal of the American Chestnut Foundation. Mar-April 2011.

Angel P., J. Burger, C. Barton, J. Skousen. 2011. The Forestry Reclamation Approach. In: The Journal of the American Chestnut Foundation. Mar-April 2011.

Angel P., S. Eggerud, C.E. Zipper. Reforestation / Biomass Assessment and Prescription Writing Guidelines Short Course Presented at: Reforestation & Biomass Development on Former Surface Mine Lands. 4/2011. Whitesburg KY.

Burger J.A. 2011. Sustainable Mined Land Reclamation in the Eastern U.S. Coalfields: A Case for an Ecosystem Reclamation Approach. in: Proceedings, 2011 National Meeting of the American Society of Mining and Reclamation.

Burger, J.A., C.E. Zipper. 2011. An Ecosystem Restoration Approach. Presentation at: Appalachian Regional Reforestation Initiative Annual Conference. Aug. 2-4, Knoxville TN.

Burger, J., C. Zipper, P. Angel, D. Evans, S. Eggerud. 2011. Reforestation guidelines for unused surface mined lands: Development, application, and adoption. in: Proceedings, 2011 National Meeting of the American Society of Mining and Reclamation.

Craig, N.G., B.D. Strahm, J.A. Burger, W.L. Nash, W.L. Daniels. Long-term Soil Carbon Accumulation in Reclaimed Mine Soils as Affected by Overburden Rock Type and Vegetation Prescriptions. Presentation at: 8th North American Forest Ecology Workshop. Roanoke, VA. June 19-23, 2011.

Craig, N.G., B.D. Strahm, J.A. Burger, W.L. Nash, W.L. Daniels. Soil carbon and nitrogen comparisons in reconstructed mine soils under contrasting vegetation in southeastern Virginia. Poster presentation at: 28th Annual Meeting of the American Society of Mining and Reclamation. Bismarck, ND. June 12-16, 2011.

Fields-Johnson, C.W. 2011. Appalachian surface mine reforestation techniques: effects of grading, cultural treatments and species selection. M.S. Thesis, Department of Crop and Soil Environmental Sciences.

- Skousen, J., C. Zipper, J. Burger, P. Angel, C. Barton. 2011. Selecting topsoil substitutes for forestry mine soils. in: Proceedings, 2011 National Meeting of the American Society of Mining and Reclamation.
- Skousen J., C.E. Zipper, J. Burger, C. Barton, P. Angel. 2011. Selecting materials for mine soil construction when establishing forests on Appalachian mine sites. Appalachian Regional Reforestation Initiative, US Office of Surface Mining. ARRI Forest Reclamation Advisory No. 8. 6 p.
- Strahm, B.D., J.A. Burger, W.L. Daniels. Total Aboveground Biomass of Northern Red Oak in Response to Different Topsoil Substitutes. 2010 Joint Mining Reclamation Conference of the American Society of Mining and Reclamation and the Appalachian Regional Reforestation Initiative, Pittsburgh, PA. June 5-10, 2010.
- Zipper C.E. 2011. Scientific Research Supports Forest Restoration Methods for Appalachian Coal Mines. Presentation at: "Restoring Forests on Appalachian Mine Sites," session at the Eastern Coal Regional Roundtable 3/2011. Pipestem WV.
- Zipper C.E. 2011. Surface Coal Mining, Reclamation, and Virginia Tech Research. Presentation for Rep. Morgan Griffith 5/2011. Virginia Tech, Blacksburg.
- Zipper C.E., J. Burger. 2011. Forest land reclamation on Appalachian coal surface mines: Scientific background for current practices. Presentation at: 8th North American Forest Ecology Workshop. June 19-23, Roanoke.
- Zipper C.E., J.A. Burger, J.A. McGrath, J.A. Rodrigue, G.I. Holtzman. 2011. Forest restoration potentials of coal mined lands in the eastern United States. *Journal of Environmental Quality* (in press).
- Zipper C.E., J.A. Burger, J.A.G. Skousen, P.N. Angel, C.D. Barton, V. Davis, J.A. Franklin. 2011. Restoring forests and associated ecosystem services on Appalachian coal surface mines. *Environmental Management* 47:751–765.
- Zipper C.E., J.A. Burger, D. Evans*, P. Donovan. 2011. Young Forest Composition and Growth after Nine Years on a Reclaimed Appalachian Coal Mine. Presentation at: Appalachian Regional Reforestation Initiative Annual Conference. Aug. 2-4, Knoxville TN.
- Zipper C.E., D.M. Evans, J.A. Burger, C.W. Fields-Johnson, A. Brunner, B. Stanton. Woody Biomass Production on Mined Land: Current Research. Presentation at: Biomass Opportunities for Former Surface Mine Lands Informational Session for Professional Land Managers and Coal Companies. 3/2011. Whitesburg KY.