

DRAFT 2013 Course Calendar Agenda:
EDPD – 678-K60: South Carolina Teachers Tour:
Teaching Sustainable Forestry in Environmental Education

The following is a tentative draft schedule for the 2013 S.C. Teachers' Tour. Events may change as we progress toward the summer but the overall structure of the course will remain the same.

June 18 – 20, 2013: EE Advanced Workshop – Instructional time = 22 hours

June 24 – 27, 2013: 4-day Forestry Tour – Instructional time = 23 hours

*Total Instructional Time = 45 hours

*NOTE: Instructional time does not include breaks, meals, or travel time on bus.

3-day Advanced Environmental Education Workshop – Harbison State Forest, Columbia, SC

The purpose of the 3-day Advanced Environmental Education workshop is to provide instruction in Project Learning Tree curriculum materials, including hands-on multidisciplinary lessons to be used in the classroom, along with providing lectures and experiences that will provide a base of knowledge to understand the social, economic, and ecological aspects of forestry in the state.

TUESDAY, JUNE 18TH

Introduction to Forestry and Environmental Education

- **Issue Presentation – Forestry in SC: political, social, and economic aspects** – Joel Felder, Deputy State Forester for the S.C. Forestry Commission will deliver the opening remarks and discuss the politics, social, and economic aspects of a state agency dedicated to “protect, enhance, promote and nurture the forest lands of SC. (Science, Economics & Social Studies)
- **Video – Southern Forest, Southern Heritage** – This 20 minute film covers the history of land use in the South, from the pre-settlement use by the Native Americans to the present day use by modern society. (Science and Social Studies)
- **Issue Presentation – Forestry in South Carolina** – Jerry Shrum, Environmental Education Coordinator for the SC Forestry Commission will discuss the present condition of the forests and forestry in the state, including economic, social and ecological aspects. (Science, Economics, and Social Studies)
- **Issue Presentation - What is Sustainable Forestry?** Introduction to the Montreal Process (United Nations) of developing sustainable forests and a review of the Sustainable Forestry Initiative and other certification processes used in South Carolina. (Science, Economics, & Social Studies)
- **Hands on Activities for the Classroom** – Two Project Learning Tree activities from the Forests of the World and PLT PreK-8 Activity Guide coupled with information from their notebooks will show students the relationship of SC forests to forests in the world and their local communities. Students will also learn the difference between renewable and non-renewable natural resources and make a map of the world related to population and GNP of the continents. (Science, Math, & Social Studies)
- **Issue Presentation – American Tree Farm System** – Students will view a short video and discussion of the American Tree Farm System’s certification process and its importance to individual landowners and consumers. (Science, Economics)
- **Issue Presentation – Forestry and the Environment** – Guy Sabin, SCFC Environmental Forestry Director will lead a discussion of Best Management Practices in forestry to protect water quality and the laws governing forestry practices from an environmental aspect. (Science)
- **Issue Presentation – Video “Materials and the Environment”** – students view a video based on the research by the University of Wisconsin describing the attitudes and challenges facing decision makers and citizens related to forestry issues. (Science & Social Studies)

- **Hands on Activities for the Classroom** – PLT Activity # 13 – “We All Need Trees” demonstrates the many products and benefits of trees and how much we depend upon them in our daily lives. (Science, Social Studies, & Language Arts)
 - **Issue Presentation – Endangered Species of South Carolina** – Daryll Jones, environmental specialist for SCFC will conduct a presentation on the endangered species of South Carolina, focusing on those that are forestry related, especially managing the endangered red-cockaded woodpecker. (Science, Social Studies, Economics)
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WEDNESDAY, JUNE 19TH

- **Tree Physiology** – demonstration and hands-on activities on how trees and forests grow. Activities correlated to SDE Curriculum Standards in math, social studies, language arts and science (PLT Activities #76 Tree Cookies, #27 Every Tree For Itself, #63 Tree Factory)
- **Developing outdoor learning centers and using the outdoors as a classroom** – Field trip around selected parts of Harbison State Forest’s “Learning Trail” to view and discuss how to identify and use areas for outdoor learning centers.

Grade level break out sessions

- **Secondary Teachers Break Out Session (Grades 9-12, alternate for 7th & 8th grade teachers)**
Secondary teachers will learn how to take a forest inventory, tree measurements, global aspects of forestry, and practice critical thinking activities designed for secondary students. Three different secondary modules will be explored: *Exploring Environmental Issues – Focus on Forests*, and *Exploring Environmental Issues – Forest of the World*. (Science, Social Studies, Math & Language Arts)
 - **Elementary and Middle School Break Out Session (Grades 3 – 8)** – Participants will be trained in conducting several PLT Activities, including:
 - **Activity #23 The Fallen Log** – Students examine the role of decomposers in the food web as they study rotting logs and gather organisms in the field. (Science, Visual Arts)
 - **Activity # 5 Poet-Trees** - Students write poems using nature. (Science, Language Arts)
 - **Activities # 21 – “Adopt-A-Tree” and Activity #22- “Trees As Habitats”** – Participants use an adopted tree to determine the ecological niche and how it is used by many other organisms as a habitat. The use of student portfolio’s using PLT activities is also demonstrated. (Science, Geography, & Language Arts)
 - **Issue Presentation – “What is a Forester?”** A presentation by Jimmy Walters, Urban Forester, of the role and responsibilities of a modern day forester, the types of foresters and the tools and methods of forestry. PLT Activities #77 Trees in Trouble and #67 How Big is Your Tree (Science, Social Studies, Math)
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THURSDAY, JUNE 20th

Forest Protection

Fire Ecology – Mike Bozzo, SCFC Wildland Fire Director will lead a discussion of the role fire has played on the ecology of the state’s forests, including:

- History of fire in SC
- The recent Hwy. 31 fire in Horry County
- Fire dependent plant and animal species of the state
- Science of Fire – the Fire Triangle
- National perspective of fires in our national forests and national parks
- “Firewise” – protecting your home and community from disastrous wildfires
- Fire dependent ecosystem of the Southeast – the longleaf pine ecosystem
- Video “ Two Sides of Fire”
- Technology - Participants will learn how to use the “Burning Issues” CD/DVD as a technological teaching resource.

Prescribed fire as a tool of foresters – Participants will learn the factors involved in using prescribed fire as a tool for forest/wildlife management. SCFC personnel will demonstrate wildland fire fighting techniques using fire suppression unit and equipment. (Science, Social Studies)

Burning Issues – participants will learn to use the “Burning Issues” Instructional CD to simulate prescribed fires, gather data on weather, and other fire related ecological systems in the US. Classroom copies will be given to educators to use with students. (Science, Social Studies, Technology)

Disease and Insects of the SC Forests – Entomologist Laurie Reid of the SC Forestry Commission will discuss common insects and diseases of the forests and how we manage them. (Science)

4-Day Tour (Field Study) of Forestry in the Midlands of South Carolina

The purpose of the 4-day field study is to give the participants practical experiences and applications for the knowledge they have gained about forestry and forest management in our state. Participants will visit and view different forest management techniques in the field and discuss harvesting and nurturing this natural resource. Participants will visit manufacturing facilities to experience and learn applications of modern techniques such as computer and laser applications in the manufacturing process, discuss with human resources personnel educational and social requirements for employment in manufacturing facilities, and learn about value added and capital investments in forest industry in our state.

Monday, JUNE 24th, Columbia, SC

- **Issue Presentation – “Forestry Perspective – Modern Logging Industry”** - Joe Young, CEO of Low Country Forest Products, Georgetown, SC, a fifth generation logger and former state legislator, will discuss modern day logging, including the capital investment required and the economics of logging and the long history of family business associations in the forest industry. Crad Jaynes, CEO of the SC Timber Producers Association will discuss current legislative issues and other concerns of the logging industry. (Science, Social Studies & Economics)
- **Field Studies – Congaree National Park** – Participants will tour the newest National Park and the only National Park in our state, Congaree National Park. Research scientist will discuss the most current research going on in the park and then the participants will take a brief walking tour of the boardwalk to Weston Lake in the Park. (Science & Social Studies)

Tuesday, JUNE 25th

- **Public Land – Fort Jackson** – Most people think of Fort Jackson as being the premier training ground for American’s soldiers, but the forest lands that make up the fort is rich in diversity. We will visit the longleaf pine ecosystems around the fort and explore the role of prescribed fire and protection of endangered species (the red-cockaded woodpecker) play in this important public forestland. (Science, Social Studies, Economics)
- **Canfor Southern Pine Sawmill, Camden, SC**– participants will tour this modern, state-of-art sawmill and discuss the employment skills, community involvement, technological aspects of this local industry. (Science, Engineering, Technology, Economics, and Social Studies)
- **The Tree Farm Program** - The Tree Farm program is a nationwide certification program for individuals wishing to grow trees on a sustainable basis. Participants will visit a Eastover tree farm and discuss the management objectives and techniques used by private individuals for their lands and the Tree Farm certification system to insure sustainability of the natural resource. The role of conservation easements will also be discussed. (Science and Social Studies)
- **Industrial Tour – International Paper, Eastover, SC** – Participants will tour this paper mill and discuss the technology used in modern production of paper, the skills necessary and careers available in the industry, and chemistry behind modern paper production, domestic and foreign trade of paper, and the economic and environmental impact of the paper industry. Teachers will examine the many uses of the chemical by-products of paper making and the chemistry involved in turning wood fiber into paper. Teachers will also learn how to make recycled paper in their classroom. Participants will then participate in a classroom activity where they can show their students how to make paper. (Science, Engineering, Technology)

- **Kensington Mansion, Eastover, SC** - Completed in 1854 and placed on the National Register of Historic Places in 1971, Kensington Mansion is an architectural and historical treasure. International Paper acquired Kensington Mansion in 1981 and restored the house to its former glory. We will tour the house and its historic significance and discuss the SFT's certification process that protects important historical and environmental sensitive areas. (Social Studies)
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WENDESDAY, JUNE 26th

- **Harvesting Techniques and Modernization** - Participants will visit a logging operation and take a look at how forests are thinned and the equipment used in today's modern logging operations. Discussions also on the environmental aspects of logging and the economic considerations of modern logging operations. (Science, Social Studies, & Economics)
 - **Industrial Land Tour** – students will visit the forest lands managed by Plum Creek, the largest private landowner in the US. Participants will tour their lands to view a clear cut planting, a 2 year old thinning operation, as well as various stages of forests growth up to 60 year old timber and discuss the various successional stages of timber growth, the economic and ecological aspects of multi-aged timber management. Also, the role of Best Manage Practices will be investigated in the field and how BMP's reduce the impact on water quality form forestry activity. (Science & Economics)
 - **Industrial Tour - Norbord Manufacturing facility in Joanna, SC** - The Norbord, SC Manufacturing facility is the most modern facility in the nation producing oriented-strand board (OSB). OSB technology literally takes a tree apart and then reassembles it into a stronger board to be used for structural lumber. Computer and laser technology will be viewed and discussed, as well as employment requirements and career opportunities. (Science, Engineering, Technology)
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THURSDAY, JUNE 27th

- **Issue Presentation – New Engineered wood products – past/present/future** – Participants will learn about the new products that are being made for wood, wood scraps and waste wood. Recycled products will be discussed in detail along with the economics of “value added” forest products industries and its importance to job creation and economics in our state. (Science, Economics, and Social Studies)
- **Environmentalism in the 21st Centry** – Students will view a video and receive a book by Patrick Moore, former founder of Greenpeace, discussing the need to work together to solve future environmental issues and problems. (Science & Social Studies)
- **Question and Answer session** – Participants will be able to discuss topics of their interest and ask questions from a panel of forestry experts about any topics concerning forestry.
- **Teacher critiques, evaluations** – Participants will give their own reviews of what they have gained, new perspectives and insights, and how they can use the knowledge they gained on the tour and training.