Home of Franklin D. Roosevelt NHS

Empire Forester: FDR as a Tree Farmer Education Program

Pre-visit Materials 7th - 10th Grades

Place-based education provides students with opportunities to connect with themselves, their community, and their local environment through hands-on, real –world learning experiences. This enables students to see that learning is relevant to their world, to take pride in where they live, to connect with the rest of the world, and to develop into concerned and contributing citizens.

- Jack Chin

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File I

A Note to the Teacher
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A Note to The Teacher

Dear Teacher:

It is important to us that your students be prepared for their visit to our site. If they have the background knowledge on the topics included it in this packet they will be able to better understand their place-based experience here at Roosevelt-Vanderbilt National Historic Sites, and its relationship to their school studies. We have designed our programs to tell the parks story by using the cultural and natural resources at the site and by linking them to the New York State Learning Standards.

We hope you find the pre-visit material helpful. The files are arranged by activity. It is our intent for you to be able to use each file with ease. The files contain the necessary information and materials for the activities. Simply print the activity and materials you wish to use for handouts or for your own information.

We look forward to your visit with us!

Sincerely,

Susanne Norris

Susanne Norris
Education Specialist
Roosevelt-Vanderbilt NHS
4097 Albany Post Rd.
Hyde Park, NY 12538

Please feel free to call us at (845) 229-0174.

This program takes place across the street from the Roosevelt Entrance at the Roosevelt Forestry Kiosk. Bus parking to be determined.

On Site Program Description

Empire Forester: FDR as a Tree Farmer 7th - 10th Grades

Program Description

An exciting hands-on investigation and discussion will lead students through map orienteering, and a hike to one of FDR's forestry plantations. Student swill participate in forestry techniques, data collection, discover forest ecology, and learn about President Roosevelt's conservation polices. Post visit activities include entering data collections onto the park website data base, making graphs and charts of their findings, writing a forestry management plan for recommendations to the park
natural resource division. Sustainability issues will be discussed. There is also a second field trip option to a local lumber mill and furniture factory.

Program Theme

FDR had a deep connection to his life-long home "Springwood" in Hyde Park. Through out his life he would describe himself as a tree farmer, planting hundreds of trees on his own property, trying to find ways to manage lands in a responsible and economically sustainable manner. Lessons learned on the land at his home would later be transformed into public policy.

Program Objectives

After participating in the program students will be able to:

- Explain why FDR had tree plantations on his property
- Describe the different types of tree plantations he had, and how he managed them.
- Identify at least three new deal programs that directly related to FDR's tree farming experiences.
- List several ecological findings from the student plot studies and data collection.
- Explain forest ecology.
- Enter data into park database; make charts based on the findings, make recommendations for the park forestry management plan.
- Explain the importance of forestry management in FDR's time and in the present.
- Have experience writing a forestry management plan.
- Direct
- Experience a sense of place.
- Meet NYS State curriculum standards.

Outcomes: 1. Forestry Management Plan & Recommendations , 2.Forest Stewardship and Sustainability Issues & understandings, 3. Citizenship responsibility (vision and action)

Optional Post –visit activity 1. Visit to local Lumber Mill ,2. Visit to the furniture factory
3. write management plan based on data collections and research.

Curriculum Standards

Meets NYS Learning Standards

Social Studies: 1, 2, 3, 4, & 5
Language Arts: 3 & 4

Science, Math, & Technology: 1 – 7

Standard 1: Students will use mathematical analysis, scientific inquiry, and engineering design, as appropriate, to pose questions, seek answers, and develop solutions.

Standard 2: Students will access, generate, process, and transfer information using appropriate technologies.

Standard 3: Students will understand mathematics and become mathematically confident by communicating and reasoning mathematically, by applying mathematics in real-world settings, and by solving problems through the integrated study of number systems, geometry, algebra, data analysis, probability, and trigonometry.

Standard 4: Students will understand and apply scientific concepts, principles, and theories pertaining to the physical setting and living environment and recognize the historical development of ideas in science.

Standard 5: Students will apply technological knowledge and skills to design, construct, use, and evaluate products, and systems to satisfy human and environmental needs.

Standard 6: Students will understand the relationships and common themes that connect mathematics, science, and technology and apply themes to these and other areas of learning.

Standard 7: Students will apply the knowledge and thinking skills of mathematics, science, and technology to address real-life problems and make informed decisions.

Program Outline - Pre-visit

<u>Pre-Visit</u> - 45 minutes to 1 hour

A ranger will visit your classroom to work with you and your students in preparing for the field trip experience (50 mile radius). In future programs the park will conduct teacher workshops on -site to help teachers present the pre-visit materials and portions of the field trip.

Goal of the Program:

To foster student's understanding ……...

I. Introduction

Introduction to NPS, Roosevelt Vanderbilt National Historic Sites, the Natural Resource Division and the program project.

II. PowerPoint Presentation (FDR & Conservation)
Q & A - students are encouraged to ask questions.

III. What students will be doing on-site: Land & Tree measurements
a. Point Sampling of Historical White Pine Plantation, which FDR planted.
b. Collecting Data
What we will be measuring:

- Trees: species, DBH, BF, height , crown, dominant/co-dominant,
- Stand value
- Forest ground conditions
- Keystone Species
- Key nesting birds
- Stand slope & aspect (Distance from ground to top of slope, distance x conversion factor of 4 = area %)
- Photographs & map making

IV. Using Forestry Tools: hands-on demonstrations

- Biltmore Sticks
- Diameter Tape
- Cruising Prisms
- Increment borer
- Tree Calipers
- Soil Corer
- ID Books

V. Conclusion: What to bring on field trip.

Understanding a Forest

Stand Types: Hardwood, Mixed wood, Softwood
Providing a sustainable flow of timber depends on maintaining density, stand structure, and providing fro regeneration.

Forestry Practices

Acre - An area of land measuring about 43,560 square feet. A square 1-acre plot measures about 209 feet by 209 feet; a circular acre has a radius of 117.75 feet.

Afforestation -Establishment of forest crops by artificial methods, such as planting or sowing on land where trees have never grown .

Even aged - forests consist of trees which are of equal age and roughly equal height. This results in a single canopy.

Uneven aged - In a two-aged forest, there will be two distinct canopy layers. The overstory will be made up of shade intolerant trees such as pines. The understory layer will be made up of shade tolerant trees such as maples, dogwoods, and elms.

Aspect -Compass direction to which a slope faces. Also called exposure.

Clear cut - A harvesting and regeneration method that removes all trees within a given area. Clear-cutting is most commonly used in pine and hardwood forests, which require full sunlight to regenerate and grow efficiently.

Salvage Cut - The harvesting of dead or damaged trees or of trees in danger of being killed by insects, disease, flooding, or other factors in order to save their economic value.

Section cut - The periodic removal of individual trees or groups of trees to improve or regenerate a stand.

Shelter Wood Cut - Removing trees on the harvest area in a series of two or more cuttings so new seedlings can grow from the seed of older trees. This method produces an even-aged forest

Thinning - opens the canopy for regeneration.

Pruning - Cutting back dead limbs

Forest Stewardship

- Arises from an awareness of the forest gained through a strong sense of place.
- Involves knowledge of human's place as part of the ecosystem.

Forest Stewardship continued

Knowledge, skills & experiences students need to become long-term forest stewardship.

Forestry Management Plans

"The pathway to living sustainable is integrating our economic, social, and environmental needs . This requires scientifically credible information and clear understanding of our issues and options"

Considerations:

Forest health
Critical issues
Keystone species
Ecological concepts
Environmental impact
Watershed
Cultural ethics
Human influence
NPS regulations

Inventory & Monitoring News

National Park Service
U.S. Department of the Interior

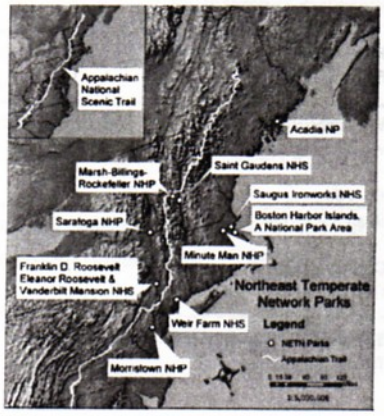
Ready...Set...Monitor!

Roosevelt-Vanderbilt NHS 2006 What Will Be Monitored Here?

Knowing the condition of natural resources in national parks is fundamental to the Service's ability to manage park resources. The Inventory and Monitoring Program designs and implements ecological monitoring programs that provide critical information to the National Parks and the public about key vital signs. Vital signs are indicators of ecosystem health, environmental stress, or important species and species groups.

Natural resource monitoring provides site-specific information needed to understand and identify change in complex, variable, and imperfectly understood natural systems.

Vanderbilt Mansion

Detailed monitoring protocols will provide step-by-step guidance for collecting, analyzing, and reporting information for each vital sign. Centralized staffing, agreements with cooperators, and park supported programs are implementing monitoring efforts. In some cases other agencies are already monitoring vital signs (for example, air and climate) and the NPS monitoring program will focus on acquiring data, interpreting, and reporting results.

As part of the Service's efforts to improve park management through greater reliance on scientific knowledge, a primary purpose of the monitoring program is to develop, organize, and make available natural resource data. We will transform data into useful information through analysis, synthesis, modeling, and reporting. The information will be available to identify desired conditions and evaluate management effectiveness.