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# BLACK ROCK FOREST NEWS

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Spring 2004

The Black Rock Forest Consortium

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## Forest Lodge Opens for Overnight Visits by Scientists and Students

By the time Consortium members celebrate the official opening of the new Black Rock Forest Lodge on June 13, at Consortium Day (see ["Forest News in Brief," p. 7](#)), students and teachers from several Consortium institutions will already have slept in the new beds, eaten dinner and breakfast in the skylit dining area, gazed at the mountains and the stars from the front deck, and enjoyed all the excitement and educational benefits of spending the night in the heart of the Forest. These pioneers are the first of some 3000 overnight guests expected in the Lodge's first year of operation.

"The new Forest Lodge will enable more practical, prolonged, and productive use of Black Rock Forest for a wide range of scientific and educational purposes," notes Executive Director Dr. Wil-

liam Schuster. Its 9000 square feet, on two levels, can accommodate up to 60 visitors at a time; an additional 15 can continue to stay overnight at the Old Forest Headquarters building.

Like the adjacent award-winning Black Rock Forest Science and Education Center, opened in 1999, the new Lodge was designed by Sylvia Smith, a principal at [Fox & Fowle Architects](#), along with her colleague Paul Tapogna, and incorporates "green" and "smart" features to sup-

port the study of nature in a sensible, sensitive, and sustainable way. The builders, Verticon Ltd., worked throughout the cold and snowy winter to ensure the Lodge's spring opening. Grants from the National Science Foundation, the Kresge Foundation, the Bay Foundation, the Golden Family Foundation, and the State of New York, among others, funded the construction.

### Lodge Logistics

As visitors head towards the Science Center along the access road from the parking lot, the Lodge stands on a "bench" to the right, oriented along the contour to maximize views. It is a long structure, built into the hill-

side, and blends into the background more than the earlier building. However, its external appearance recalls some of the fea-

tures of the Science Center: a standing seam roof, clapboard siding, use of fieldstone, and comparable windows. Similarly, its central area is topped by a roof monitor that directs light and airflow into the building, and access to both levels is from the upslope side.

Sleeping areas are available on both the main and lower levels. The main level features two lodging wings separated by a common space that

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## Research

### *Understanding What Controls Tree Growth*

From platforms high in the trees in Black Rock Forest to labs measuring enzyme activity, carbon and nitrogen concentrations, and more at Lamont-Doherty Earth Observatory and in Texas and New Zealand, Dr. Kevin Griffin and his multi-institutional team of collaborators are attempting to understand the diverse factors that control tree growth. "Our overall aim is to quantify the carbon balance of forest ecosystems and identify the environmental and physiological variables that limit carbon uptake," he explains. "Although we are primarily asking basic research questions, the need to understand how site characteristics and biological processes in complex ecosystems regulate tree growth has important applied implications, including carbon accounting, basic management of forest resources, and monitoring ecosystem health and sustainability." So far, their research in Black Rock Forest has led to the publication of nine articles in such varied journals as *Tree Physiology*, *American Journal of Botany*, *Oecologia*, and *Biological Invasions*.

### A Team Effort

Last year's Forest Research Symposium offered a glimpse into the range of studies carried out by Dr. Griffin's team and the diversity of his colleagues. Papers in the "forest processes" segment of the symposium discussed the causes of age-related productivity patterns in trees, the response of tree respiration to temperature under a variety of environmental conditions, the relationship of night-time respiration to photosynthesis, and respira-

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The almost-finished Black Rock Forest Lodge.

## Black Rock Forest Consortium

*Black Rock Forest News* is published three times a year by the Black Rock Forest Consortium.

The Black Rock Forest Consortium is an alliance of public and private schools, colleges, universities, and scientific and cultural institutions engaged in research, education, and conservation in the 3785-acre Black Rock Forest in New York's Hudson Highlands.

The Black Rock Forest Consortium is a not-for-profit 501(c)(3) organization supported by membership dues, grants, and gifts.

### Consortium Institutions

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[Brooklyn Botanic Garden](#)  
[Browning School](#)  
[The Calhoun School](#)  
[Columbia University](#)  
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[Storm King School](#)

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## Report from the Executive Director

An historical treatise chronicling the early years of the Black Rock Forest, George Trow's *The Harvard Black Rock Forest* (actually a reprinting of an essay published in *The New Yorker* in 1984), has just been released by the [University of Iowa Press](#). It paints an intriguing history of the Forest and its years under the ownership of Harvard University against the backdrop of evolving national conservation attitudes and policies between the 1890s and the 1980s. A reading of it, combined with Neil Maher's history of the Forest from the 1700s to its establishment as a research facility in 1928 (see "[Black Rock's Hidden Past](#)," p. 3), provides a vibrant accounting of local and national environmental history, documenting both historical cycles and examples of understanding of the past leading to real change.

The expansive forests of the eastern United States were entirely cleared during the period prior to the mid-nineteenth century, generally with little regard to conservation or environmental quality. One of the earliest waves of conservation occurred during the mid- to late 1800s, characterized by influential acts of land preservation (Yellowstone, Paliades Interstate Park) and an increasing reverence for nature represented by the Hudson River School of Art. Trow's book begins in 1892 with a young Gifford Pinchot, later to become Chief of the US Division of Forestry and one of the many personalities described in the book. He became a favorite of President Theodore Roosevelt, and together they established conservation of natural resources as a national priority. But Pinchot was dismissed in 1910 and, according to Trow, "More than twenty years passed before the government took an active role in conservation again."

However, inspired by the ideas and ideals of Pinchot and others, Dr. Ernest Stillman established the Black Rock Forest in 1928, in part to heal the "ruined remainder of the economic processes embraced and mastered by his father," banker James Stillman. Ernest Stillman comes across as a very thoughtful man, ahead of his time: due to his actions, this particular forest began a

new historical trajectory that has led to many good outcomes over the years.

Trow's book includes many interesting passages revealing the thoughts of key players and the national mood through the years. Harvard Forest's founder Richard Thornton Fisher, who significantly influenced Dr. Stillman, said that for land such as the Black Rock Forest "the only foreseeable use is for recreation or forest products." In the 1940s, the eminent botanist Hugh Raup expressed a broader view that the Forest could offer "a wider range of possibilities in teaching and research in general Biology." The view of Ernest Stillman now seems prescient: "patient work within the forest could produce benefits he could not foresee." In addition to recreation, production of forest products, and biology teaching and research, the Forest now supports research and learning in a wide range of other subjects, acts as a natural filter and provides drinking water for surrounding communities, and serves as an important reserve for a host of native plants and animals. Who can say which of these is actually most important or how history will ultimately view the benefits provided by this parcel of land?

Periodic nationwide lulls in environmental conservation have been intermingled with periods of greater activity, including the establishment of a great many parks and the Civilian Conservation Corps during the administration of President Franklin Roosevelt and the enactment of monumental environmental legislation such as the Clean Air Act, the Clean Water Act, and the National Environmental Policy Act in the 1960s and 1970s. Trow's book ends in 1984, before the creation of the Black Rock Forest Consortium in 1989 and all that has followed that development. It will be interesting to see how history records this current chapter, what has been occurring now and in the recent past at the local and national levels, and where we are currently heading. Our actions will be more than interesting reading to future generations: they will determine the very nature of the world they will inherit. ■

— Dr. William Schuster

## Black Rock's Hidden Past: A History of Land Use

Hidden beneath the big trees and lush foliage of Black Rock Forest, unobserved by most of the students, scientists, and hikers who traverse its trails, "lies the story of a vibrant and varied rural economy dependent on farms, orchards, woodlots, and pasturage." So says Dr. Neil Maher, an environmental historian who has studied land use history in the Hudson Highlands, explored the seventeen old home and farm sites in the Forest itself, and written a report on this research.

Environmental history, according to Dr. Maher, involves "the historic and ever-changing relationship between society and the natural world." He has examined this evolving relationship in the Hudson Highlands from the arrival of Henry Hudson in 1609 through the creation of the Black Rock Forest by Ernest Stillman in 1928. "Each successive stage in the agricultural development of the Forest overlaid that which preceded it," he notes, "covering up the farming practices of earlier generations with new fields and different crops, but all had a lasting impact."

Dr. Maher began his research on the land use history of Black Rock Forest by examining articles and books on the Cornwall region and the Forest itself. "The Cornwall Town Historian, Janet Dempsey, provided me a wealth of material," he says. "Not only had she set up an extensive archive, but she knew everything about the region and took the time to share her knowledge with me." He delved into early Black Rock Forest bulletins, including ones by Harvard botanist Hugh Raup and the Forest's first director, Henry Tyron, and other archives and maps kept in the Forest.

But this was only the beginning. "I had to get out there and walk in the Forest," Dr. Maher explains. Forest Manager John Brady provided invaluable help because he knew the locations of old foundations and agricultural fields. Once Dr. Maher hiked to the sites, he used the tools of the environmental historian's trade to determine their use. The height of stone walls, and the size of their stones, for

example, tell whether a field was used for growing crops or enclosing animals such as dairy cattle: small stones indicate a farmer tossed them to the side as his plow uprooted them; larger stones and higher walls mean the stones were deliberately placed to create a secure enclosure. "If you know what to look for," Dr. Maher says, "you can read the landscape like a book."

### The Homesteads

Dr. Maher identifies seventeen distinct homesteads within Black Rock Forest. From the most extensive homestead, the Chatfield property, to the very small Annie's Cabin; from early sites like the Barton property, dating to at least 1875, to the Mailley homestead which was occupied right up to the creation of Black Rock Forest; from sites with much evidence of

supplemented their farming with dairying and egg production. A small foundation of another Mailley farm building remains on the hill just north of the Science Center.

The Chatfield property, the most extensive in the Forest, consisted of 220 acres on both sides of Continental Road where the 1833 Stone House still stands (the stone walls are original, but the floors and roof were rebuilt in 1932 following a 1903 fire). The various families who lived on the property from 1833 on farmed nearly a dozen fields, maintained an apple orchard, and engaged in woodcutting as well. Since Continental Road was the only one connecting West Point and Newburgh in the mid-nineteenth century, many travelers passed through the property; Dr. Maher quotes an 1875 report by a Cornwall woman traveling by carriage who stopped at the house for lunch.

### The Highlands

Dr. Maher also examined the land use history of the Hudson Highlands in general, providing information on the Forest area when available. He notes three distinct phases in the region's history: agricultural, logging, and tourism. Within the Forest itself, only about 270 acres, or 7.5 percent of the land, was ever cultivated, due to the poor soil and steep topography. Logging had a more widespread impact: in the mid-nineteenth century, approximately half of the Forest was cut over at relatively

short intervals to fuel brick kilns. By the late nineteenth century, Cornwall had become a center of tourism, with some 6000 vacationers visiting it in 1873 alone. Mineral Springs, now within the Forest, became one of the most popular attractions, hailed for healing properties.

Now an assistant professor of history at Rutgers University and the New Jersey Institute of Technology, Dr. Maher earned his doctorate in American history at NYU. His report on Black Rock Forest, and an article on regional environmental history published in the *Hudson Valley Regional Review* in 1999, are available from the Forest office. ■



The Stone House after the 1903 fire.

agricultural and other uses, like the Ryerson homestead near Mineral Springs, to the Aleck dairy farm which today lies hidden under Aleck Meadow Reservoir, Dr. Maher uses the terrain and man-made structures to paint a picture of the diverse land-use practices in what is now Black Rock Forest.

The Mailley farm occupied the site that is now the Science Center parking lot; the family's house stood on the stone foundations just south of the road, and parts of the dam they built on the brook can still be seen. The Mailleys may have used the dam for water power for a mill, or for a pond for fishing or ice-cutting. They

## Student Research Spotlight: Carbon Stored in Coarse Woody Debris

by Susanna Blankley

As you drive along the curvaceous highway that brings you from New York City to Black Rock Forest, the beautiful scenery entices your gaze away from where it should remain: on the road. Before you even enter the Forest, you are deeply aware that something awaits you that is worthy of exploration and preservation. You are eager to immerse yourself in its vibrant canopy, but cautiously not to disturb it.

Last summer, fellow Barnard student Emma Hoyt and I tried to achieve a balance while working to obtain knowledge about carbon sequestration that we hope will aid in the preservation of all forests. Emma was doing research for her senior thesis and I was working on a research project; both focused on the amounts of carbon contained in coarse woody debris (CWD), which is basically large logs and dead trees. Black Rock Forest is an ideal place to conduct this research because, for nearly seventy-five years, the trees on certain long-term plots have been measured, and their above-ground biomasses (AGB) and carbon content have been calcu-

lated. There is a significant amount of carbon in the Forest's soil and woody debris as well, yet the amount of carbon in CWD had not been widely studied. The purpose of this project was to estimate the amount of carbon in the CWD of the long-term plots and to create a set of methods that could be further developed for future use.

It is important to know as much as possible about forest carbon sequestration in order to determine a forest's efficacy as a carbon sink. The amount of carbon dioxide in the atmosphere is increasing at a rapid rate, and methods to reduce it must be found. There are doubts that the shrinking number of forests can absorb the growing amount of carbon dioxide. It is argued that they are only a temporary solution, and that those that are approaching maturity will not function as sinks in the future. Our research showed, however, that this might not be the case. Although the amount of carbon that forests can sequester each year tends to decrease with age, they still absorb a large amount of carbon that is ex-

cluded from the atmosphere. Currently in Black Rock Forest, biologists estimate that 33 percent of the carbon in the Forest ecosystem is in the AGB of trees. Our research showed that the CWD contains an average of 5 percent of the Forest's carbon.

It is possible that even mature forests can continue to sequester carbon, but that this will take place less in the trees and more in the CWD and the soil. We only applied our methods to a few of the long-term plots; this summer, other investigators will apply them more widely across the Forest. This, along with studies on other aspects of the Black Rock Forest ecosystem, will provide us with a better knowledge of how to maintain and increase a forest's carbon stores, preserving our lives and the forests that sustain them. ■

Susanna Blankley is a [Barnard College](#) senior who worked at the Forest in the summer of 2003 on a Hughes fellowship, guided by Professor Peter Bower and Dr. William Schuster. Emma Hoyt worked at the Forest on a [CERC](#) internship.

### New Lodge (continued from page 1)

will function as both a dining and meeting area. Each wing contains five bedrooms, of different sizes, able to house up to 24 overnight guests, and two full lavatories, for a total of 48 visitors in both wings. A 1300-square-foot lower-level lodging and activity space, added midway through the design process to enhance utility and visitor comfort, particularly in light of the potential for long-term residential programs at the Forest, will accommodate an additional 12 visitors (in six bunk beds) and two additional full bathrooms. Forest staff will be able to divide groups among the different housing sections to suit the needs of both scientists and students.

The 1300-square-foot common area on the main level can function as dining space for at least 50 people, or as meeting space for up to 100. It includes a large catering kitchen; Forest staff can help visitors arrange for prepared meals from local suppliers. Full multimedia, internet, and video conferencing capabilities are available

on the main level, and the lower level will serve as additional program space when not in use for lodging. The adjacent Science and Education Center features dry and wet laboratory facilities, two 500-square-foot classroom/lecture rooms, a 400-square-foot library/conference room, and a complete computer network with more than 20 PCs.

Additional support for conferences, retreats, and larger programs may be available at the [Storm King School](#), a Consortium member located less than a mile from the Forest Lodge, if reservations are made well in advance (845-534-7892). Its dining facility features year-round kitchen staff, and its dormitories may also be available during the summer. Both can accommodate up to 125 guests.

### Green Features

The sustainable and energy-efficient design features are similar to those in the Science Center, but have been enhanced by the substitution of recycled cellulose for insulation instead of

fiberglass, and by the use of only "certified sustainable" wood. Like the earlier building, the Lodge uses geothermal heating and cooling (using extra capacity from the wells already drilled for the earlier building); composting toilets on the main level, with possible reuse of gray water for irrigation; high-efficiency lighting; operable windows and fans for ventilation; "sandwiched" roof panels and staggered wall studs for high thermal efficiency; building orientation to capture sunlight; and sustainable materials, including wood and stone from the Forest itself.

### Program Possibilities

"As early as 1990, the Consortium's Board of Directors recognized that enhanced lodging facilities were needed to support on-site research, education, and training programs," explains Dr. Schuster, noting that the nation's most successful field stations all feature lodging and meeting accommodations. "Now, groups that

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**Tree Growth** (continued from page 1)  
tion in woody stems (see “Scientists Present Diverse Studies,” [Fall 2003](#)). The presenters, in addition to Dr. Griffin, were Dr. Matthew Turnbull, from the University of Canterbury in New Zealand, Dr. David Tissue from Texas Tech University, and one of Dr. Griffin’s graduate students, Will Bowman. Other scientists actively involved in the overall research are Dr. James Lewis of Fordham University, Dr. David Whitehead from Landcare Research in New Zealand, and Executive Director Dr. William Schuster.

“Each team member adds a specialty that strengthens the overall group,” Dr. Griffin explains, as well as complementing his expertise in respiration and climate change. Dr. Lewis is an expert on mycorrhizal fungi and symbiotic associations, Dr. Tissue on enzyme physiology, Dr. Turnbull on nitrogen dynamics and ecology, and Dr. Whitehead on stomatal physiology and mechanistic models of canopy physiology. “Dr. Schuster’s expertise in forest ecology and vast knowledge of the Forest is the piece that pulls this all together,” Dr. Griffin adds.

In addition to these senior scientists, five graduate students have worked or are working on related projects: Dr. Victor Engel on biophysical controls on water use, Dr. Jennifer Nagel on invasive species, Will Bowman on woody tissue respiration, Chengyuan Xu on seasonal variations in respiration, and Rob Carson on age-related decline in tree growth. “Each student has been able to carve out a niche,” notes Dr. Griffin, “but by fitting them into the general framework of this project we can all help each other and learn much more than we could individually.”

## Research and Results

The research program uses experimental manipulations to identify and quantify the physiological and ecological controls on carbon uptake, including direct measurements, usu-

ally in place on attached leaves, of small fluxes of carbon dioxide and water vapor. The scientists clamp individual leaves into gas-tight chambers, send gases mixed to desired concentrations into these chambers, and measure and analyze the gas that flows out: if the leaf is photosynthesizing, for example, there will be less carbon dioxide in the gas that leaves the chamber, but more if the leaf is respiring. This equipment can control leaf temperature, light level, relative humidity, and carbon dioxide concentration.

“We can measure the response of photosynthesis to a wide variety of environmental factors,” Dr. Griffin explains, “by matching our experimental questions to the right set of measurements.” The team has compared photosynthesis in different tree species at different times of year, in trees of different ages, on drier ridgetops and in wetter valley bottoms, and in leaves in different positions on the trees. “We’ve spent a lot of time up in the canopy,” he jokes, “enjoying the view and soaking up the sun.”

Dr. Griffin is excited about a project that demonstrates linkages between photosynthesis and respiration in red oak (*Quercus rubra*). “Most research concentrates on one or the other,” he notes, “but little effort has been made to link them, although I believe that, biologically, the linkages are the key thing to understand.” In a paper by Whitehead *et al.* due out in the next few months in *Global Change Biology*, the collaborating scientists show a strong relationship between the amount of photosynthesis during the day and the amount of respiration the following night, and use a mathematical simulation to find that this linkage lowers estimates of annual respiration by 23 percent, thus “importantly and significantly” altering the estimated rate of carbon accumulation, a key factor in modeling and understanding forest responses to climate change.

## The Future

A future project, dependent on obtaining funding, focuses on the impact of elevated night-time temperatures on photosynthesis, respiration, and forest growth, since research has shown that night-time temperatures have been increasing at twice the rate of daytime temperatures, thereby reducing the daily temperature range. Dr. Griffin and his collaborators, including Dr. Turnbull and Dr. Schuster, would like to examine how this will affect forest regeneration and forest composition in the eastern deciduous forest by experimentally increasing the night temperature for seedlings of red oak (oaks are currently the dominant canopy species, but are not regenerating) and of two increasingly dominant understory species, red maple (*Acer rubrum*) and black birch (*Betula lenta*).

Changes in tree species composition could have “serious implications,” Dr. Griffin notes. “We expect maple and birch forests to be potentially less productive, significantly different in goods produced, possibly different in carbon sequestration, and certainly different in habitat and suitability for animal species.”

“Black Rock Forest has so many advantages,” Dr. Griffin says, “the helpful and knowledgeable Forest staff, the historical data and long-term plots, the fact that it is quite representative of forests throughout New York and the larger oak deciduous regions of the northeast, and its proximity to my lab at Lamont-Doherty and Columbia University, which makes it an ideal place to train students and run a research program. In addition, its proximity to New York City makes it an outstanding field site to research ways the forest ecosystem will cope with continued urban pressures and climate change. We are just getting started, and there is so much to do: it’s all very exciting.” ■

**New Lodge** (continued from page 4)  
had previously been too large to stay overnight are already making reservations, and new field courses, resident internships, and teacher training programs are being discussed, none of which would have been possible without this new facility. Construction of the Forest Lodge, along with the building of the Science and Education

Center and key improvements to road safety and parking, represents the completion of the Consortium’s 1997 facilities master plan. It opens an exciting new chapter in the history of Black Rock Forest.”

## Reservations

Consortium members wishing to reserve space in the Lodge, starting in

June 2004, should make reservations as much in advance as possible by calling the Forest office. Overnight use of the Lodge will cost \$20 per person per night through April 2005, and may be adjusted after that first year to correspond to actual operating costs. The price of the Old Forest Headquarters apartments will stay at \$10 per person per night. ■

## Current Research at the Forest

The Black Rock Forest Consortium is committed to encouraging collaboration among member institutions and also between researchers and students. To help members learn what other members are doing and explore opportunities for collaboration, we here present a list of current research projects at the Forest, along with contact information. ■

**Biodiversity of Spiders of the Black Rock Forest.** Vladimir Ovtsharenko and Kefyn Catley (American Museum of Natural History). *Contact: Vladimir Ovtsharenko.*

**Long-Term Carbon Storage in Wetlands.** Dorothy Peteet (Lamont-Doherty Earth Observatory of Columbia University) and Terryanne Maenza-Gmelch (New York University). *Contact: Dorothy Peteet.*

**Long-Term Study (75 years) of Tree Population Dynamics and Carbon Storage.** William Schuster (Black Rock Forest). *Contact: William Schuster.*

**Management of Eastern Hemlock Decline in the Northeastern United States.** William Schuster and John Brady (Black Rock Forest). *Contact: William Schuster.*

**Coyotes of the Hudson River Highlands and the New York Bioscape Initiative.** Fred Koontz (Wildlife Trust). *Contact: Fred Koontz.*

**Floristic Changes Over Time in the Black Rock Forest.** Kerry Barringer and Steve Clemants (Brooklyn Botanic Garden). *Contact: Kerry Barringer.*

**The Effect of Leaf Longevity on the Carbon Gain and Growth of Japanese Barberry (*Berberis thunbergii*).** Kevin Griffin (Lamont-Doherty Earth Observatory). *Contact: Kevin Griffin.*

**Hydrologic and Chemical Fluxes in the Black Rock Forest.** H. James Simpson (Lamont-Doherty Earth Observatory of Columbia University). *Contact: H. James Simpson.*

**Controls on Carbon and Nitrogen Cycling in the Cascade Brook Watershed of Black Rock Forest.** Kevin Griffin (Lamont-Doherty Earth Observatory). *Contact: Kevin Griffin.*

**Ground Source Geothermal Power Systems: Assessing Energy Efficiency and Local Heat Flow.** Dallas Abbott (Lamont-Doherty Earth Observatory of Columbia University). *Contact: Dallas Abbott.*

**Long-Term Studies of Painted Turtle Population Dynamics and Dispersal.** David Karrmann and Christopher Raxworthy (American Museum of Natural History). *Contact: David Karrman.*

**Delineating Detailed Ecological Land Units in the New York Bioscape Using Multi-Temporal Landsat Imagery.** John Mickelson (CIESIN at Columbia University), William Schuster (Black Rock Forest), and Fred Koontz (Wildlife Trust). *Contact: John Mickelson.*

**Taxonomic Inventory of the Black Rock Forest in Relation to Environmental Stability: A Voucher-Based Field Collection.** Angelique Corthals and Julie Feinstein (American Museum of Natural History). *Contact: Angelique Corthals.*

**The Potential Role of Physiology in the Age-Related Decline of Red Oak Productivity at Black Rock Forest.** Kevin L. Griffin (Lamont-Doherty Earth Observatory) and Will Bowman (Center for Environmental Research and Conservation at Columbia University). *Contact: Kevin Griffin.*

**Survey of Bees (Hymenoptera, Apoidea) of Black Rock Forest.** Jerome G. Rozen, Jr. (American Museum of Natural History). *Contact: Jerome Rozen.* ■

## Planning for the Future

With the imminent opening of the new Forest Lodge ushering in a new era, the Black Rock Forest Consortium held an all-day strategic planning session on March 11. Led by John Vogelsang, an experienced facilitator from the [Support Center for Nonprofit Management](#), the forty participants, including representatives from fourteen member institutions and members of the Consortium and Preserve boards, gathered to develop goals for the next three to five years. The scientists met in the morning and the educators in the afternoon, with the groups joining for lunch.

Both the scientists and the educators first reviewed the results of a pre-meeting questionnaire, and then broke into smaller groups to discuss a variety of issues: what participants would like to see the Consortium accomplish in the next several years, what criteria should be used in developing goals, and what those goals should be. After each segment, the small groups presented their results to the group as whole. The facilitator encouraged the participants to gather with different people for each group discussion as a way of getting to know other Consortium members better.

The groups generated many ideas for making the Forest a major site for multidisciplinary ecological and environmental research, a model for integrating scientific research and education, and a learning environment that enables students to understand, appreciate, respect, enjoy, and act as advocates for the natural world. These ideas, summarized in a report from the facilitator, will allow the Consortium's Executive Committee to start work on a long-range plan which will then be brought back to the group as a whole for discussion and further development.

"The retreat provided an opportunity for people committed to the mission of Black Rock Forest to interact and discuss ideas with others," notes Executive Director Dr. William Schuster. "It highlighted the great strengths of the Consortium: its diversity, the talented and passionate people behind its operation, and their ability to cooperatively formulate goals for the future." ■

## Forest News in Brief

**Celebrate Lodge Opening at Consortium Day!** This year's Consortium Day, on Sunday June 13 from noon to 5:00 PM, will celebrate the opening of the new Black Rock Forest Lodge. The day will begin with hikes and demonstrations by scientists and school groups. The official Lodge opening will take place at 3 PM (although several groups will have already stayed there; see p. 1), with tours of the building. This will be followed by a celebratory meal, including champagne, and presentation of the annual Stillman Award to H. Peter Stern, the founder and chairman of the [Storm King Art Center](#) and a supporter of environmental efforts in the Hudson Valley.

**Small Grants Awarded.** In its fifteenth year, the Consortium's Small Grants program, funded by a generous grant from the Ernst Stiefel Foundation, has awarded a total of \$18,530 to five projects. The funded projects include creation of a reference collection of selected types of organisms throughout the Forest for biodiversity and evolutionary studies, by Angelique Corthals and Julie Feinstein of the American Museum of Natural History; a study of the effect of hiking trails on arthropod and bird community diversity by James A. Danoff-Burg from the Center for Environmental Research and Conservation and Edwin McGowan of the New York-New Jersey Trail Conference; an investigation of the effect of leaf longevity on the carbon gain and growth of Japanese barberry (*Berberis thunbergii*) in the Forest understory by Kevin L. Griffin of Lamont-Doherty Earth Observatory; a long-term assessment of a scattered population of eastern painted turtles

(*Chrysemys picta picta*) by Dave Karrmann of the American Museum of Natural History; and a project integrating nature study with student artistic expressions by Jamie Taylor of the Balmville School in Newburgh.

**Science Center Wins Green Building Award.** The [Northeast Sustainable Energy Association](#) gave the Black Rock Forest Center for Science and Education a [2004 Northeast Green Building Award](#). The judges cited the Center's "reliance on all-local materials and its excellent energy efficiency" in awarding it an honorable mention in the "places of learning" category.

**Sign-in Registers on Forest Trails.** As part of a study on the impact of trail use on animal populations being conducted by researchers from the Center for Environmental Research and Conservation and the New York-New Jersey Trail Conference, sign-in registers will be added to several Forest trails for the duration of the main 2004 hiking season. The researchers need accurate data on how heavily different trails are used, so by simply signing in (just date, time, and number of people; names are not needed), hikers passing the registers will be helping provide data for an important scientific study.

**Adopt a Tree to Support Reforestation.** The Consortium is continuing its Adopt-a-Tree program to help support planting new trees in areas devastated by the November 2002 ice storm. For a \$25 donation, Forest staff will plant an oak, pine, birch, or other tree in a fenced reforestation area and give the contributor a certificate of adoption and data on the seedling planted. ■

## Join Us! Become a Friend of Black Rock Forest!

New Member or  Renewal

- |  |                |
|--|----------------|
| <input type="checkbox"/> White Oak       | \$1000 or more |
| <input type="checkbox"/> American Beech  | \$500          |
| <input type="checkbox"/> Hemlock         | \$250          |
| <input type="checkbox"/> Sugar Maple     | \$100          |
| <input type="checkbox"/> Individual      | \$20           |
| <input type="checkbox"/> Student/Over 65 | \$15           |
| <input type="checkbox"/> Family          | \$25           |

Please mail this coupon with your contribution to: Black Rock Forest, 129 Continental Road, Cornwall NY 12518-2119.

Please make checks payable to the Black Rock Forest Consortium.

*Thank you!*

*All contributions are tax-deductible as the Black Rock Forest Consortium is a 501(c)(3) organization.*

Name \_\_\_\_\_

Address \_\_\_\_\_

Phone \_\_\_\_\_

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My company will match my gift.  
Company name and address \_\_\_\_\_

Please send me information concerning:  
 Gifts of land/real estate  Memorial gifts

I would like to volunteer to help with the following:  
\_\_\_\_\_

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**Consortium Day**  
**June 13, 2004**  
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## ***Report from the Forest Manager***

The completion of the Forest Lodge begins a new era, with eager eyes towards the future. Guidance from the past has assured our future: Black Rock's historic past can be seen in all its new structures. The Science Center and Lodge demonstrate modern forest-friendly construction as well as Forest history.

The stone veneer of the foundations has been collected within the Forest, much as the stone of the Chatfield house was in 1832. Workers collecting rock soon discover the perfect stone is hard to find in a forest of black rock. It comes to their painful attention that most of the "flat" rock here is called "turtle shell," flat on one side and rounded to a tapered edge on the other, making solid wall-building difficult and collecting tedious. Before considering a name change to "Turtle Rock Forest," let us consider the Forest for its trees.

Wood from Black Rock Forest trees can be enjoyed in both buildings. Lumber from oak trees, salvaged wind-thrown trees from Hurricane Floyd, September 16, 1999, is

displayed as log columns, lumber siding, and benches in the Science and Education Center. The four prominent species of oak can be identified in the Center's four log columns as red, white, chestnut, and black oak. [Ed. Note: This use of materials from the Forest was cited in the Center's Northeast Green Building Award; see "[Forest News in Brief](#)," p. 7.]

Forest softwoods are used in the Lodge. Red pine, white spruce, and tamarack were planted at the Chatfield place in the years 1930-1932. These plantations were heavily damaged during the November 17, 2002, ice storm. The logs and lumber for the Lodge were prepared from these plantations: seedlings to lumber without ever leaving Black Rock Forest.

The salvaging of these trees has created clearings that reveal the past. Henry Tryon, the Forest's first director, described these areas at the time of the tree planting as having been rock-picked to create a livestock pasture and a nearby apple orchard during the mid-1800s. These areas will serve as fenced research enclosures

for experimental plantings, regeneration studies, and sporadic planting of "heritage" apple trees such as northern spy and greening. These trees will be a reminder of our past to future generations, and hopefully their planting will be supported by our Adopt-a-Tree program (see "[Forest News in Brief](#)," p. 7).

Changes in the land provide lessons from our past. Nearby, in sight distance, the great white oak tree (250 years old) is possibly the only living thing that has witnessed these changes since the area was virgin. If we do learn from our past, this tree may be the "wisest in this forest." This tree alone may know the answers to questions such as how many buildings in this area were built with stone from the Forest and wood from Black Rock's trees. Certainly the Forest continues to contribute in several ways to human well-being. With our great affection for trees, it is comforting to know that the wood in our new buildings has a heritage, a legacy of living with the land. ■

— John Brady