

# HUBBARD BROOK RESEARCH FOUNDATION



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**2002 ANNUAL REPORT**

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*Operations Director*  
Judy F. Brown  
*Development Associate*  
David Whitall  
*Research Fellow*  
Eugenia F. Braasch  
*Science Links™ Program  
Associate*  
Geoffrey Wilson  
*Pleasant View Farm  
Facilities Manager  
and Educator*

## HOW TO REACH US

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*The Hubbard Brook Research Foundation is a non-profit, charitable 501(c)(3) organization established in 1993. We work in partnership with the USDA Forest Service, major universities and other institutions to provide oversight to the Hubbard Brook Ecosystem Study and develop new initiatives linking science and policy.*

## **MISSION**

The mission of the Hubbard Brook Research Foundation is to promote the understanding and stewardship of terrestrial and aquatic ecosystems through scientific research, long-term monitoring and public education.

## **GOALS**

The goals of the Hubbard Brook Research Foundation (HBRF) are to:

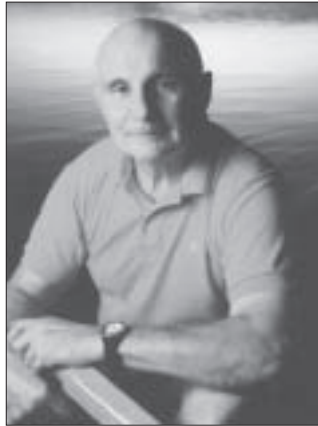
- ~ advance the conditions necessary to sustain and expand long-term ecological monitoring and research at the Hubbard Brook Experimental Forest in coordination with the USDA Forest Service;
- ~ bridge the gap between ecosystem science and public policy by enhancing the exchange of information and understanding among scientists, policy makers and land managers; and
- ~ foster public understanding of the functions of terrestrial and associated aquatic ecosystems and their importance to society.

## FROM THE BOARD CHAIR



**W**e had a good year at the HBRF in 2002, my first year as chair. We had many opportunities to excel and we kept our focus on the HBRF Mission and Goals.

- ~ **Our Science Links™ program** supported continued public interest in acid rain issues and policy choices. The nitrogen project proceeded with great interest from the scientific and public policy communities, as well as donor foundations. The board is considering a new series of Science Links™ projects that could benefit from the ecosystems studies that scientists are performing at the Hubbard Brook Experimental Forest.
- ~ **Our Facilities Expansion Plan**, to provide for the housing and collaboration of Hubbard Brook Ecosystem Study scientists, is examining new options for financing and new possibilities for land protection of the Mirror Lake research site.
- ~ **The Scientific Advisory Committee** has reexamined the functional and organizational relationships between scientists and the HBRF to improve coordination and clarify opportunities for the Foundation to be of greater assistance to the scientific community.



We had many challenges in achieving the needed financial support and were fortunate to expand our base of donors and community of interest.

~ **The Development Committee**, chaired by Peter Stein, initiated plans with the assistance of our new Development Associate that resulted in a number of first-time foundation grants. The Foundation also received a substantial increase in major gifts from individuals. Accomplished at a time when many foundations and

individuals were not considering new gifts, these achievements indicate a strengthened ability to articulate the importance of our Science Links™ projects and demonstrate how HBRF is making a difference.

We look forward to earning your continued interest and support. We believe that the work of the Hubbard Brook Research Foundation is important and necessary, that our scientific leadership is superb, and their work is compelling.

Thank you for your support.

A handwritten signature in blue ink that reads 'Milton Allen'.

Milton N. Allen  
*Chair*

## FROM THE EXECUTIVE DIRECTOR



This year marks the 40th anniversary of the Hubbard Brook Ecosystem Study (HBES). We join with the hundreds of scientists, alumni, students and friends in celebrating the accomplishments and future of this collaborative ecological research effort.

The team of “Bormann and Likens” has been one of the most prolific partnerships in ecological science. Together they have published nearly fifty scientific papers and books, and accumulated a loyal following of students schooled in the small watershed ecosystem approach. Their early efforts were augmented by the contributions of U.S. Forest Service hydrologist Robert Pierce and avian ecologist Dr. Richard Holmes of Dartmouth College.

As part of the 40-year celebration, we have launched a series of public tours at the Hubbard Brook Experimental Forest. Look for our forthcoming flier announcing these tours, and join us for a walk through the Forest.

There is much to report about some of the long-term researchers who have made Hubbard Brook what it is today.

- ~ In recognition of his many contributions to ecosystem science, Dr. Gene Likens received the coveted National Medal of Science at a White House ceremony in June 2002.
- ~ Dr. Herb Bormann was named Founding Trustee Emeritus of the Hubbard Brook Research Foundation.



We are also pleased to report that last year we raised a record amount in foundation grants, including a four-year \$240,000 grant from the Henry Luce Foundation to expand our Science Links™ program. With this and other foundation grants, we convened a team of scientists to undertake a project on nitrogen pollution in the northeastern U.S. The resulting publication is

available on our newly designed and updated website: [www.hubbardbrook.org/hbrf](http://www.hubbardbrook.org/hbrf).

We encourage you to take a look.

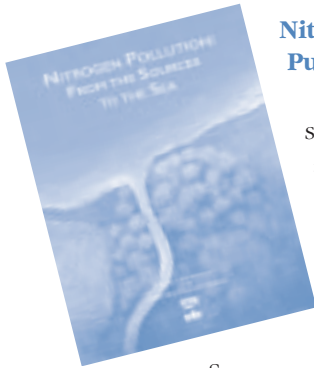
Now in our 10th year, the Hubbard Brook Research Foundation has become a significant part of the Hubbard Brook family and an important voice in national environmental science and policy discussions. We are grateful for the enthusiastic involvement of the scientific community and the generous support of foundations, government agencies and individuals (like you!) who make our work possible.

Thank you, and please join us in celebrating 40 years of ecological research at the Hubbard Brook Experimental Forest.

A handwritten signature in blue ink that reads 'Kathy J. Lambert'.

Kathy Fallon Lambert  
*Executive Director*

# HBRF ACTIVITIES AND ACHIEVEMENTS IN 2002



## **Nitrogen Pollution Reports Published**

The HBRF Science Links™ series on the effects of human alterations of major chemical cycles made a major leap forward in 2002-03. Under the leadership of Dr. Charles Driscoll (HBRF Trustee and University Professor at Syracuse University) and Dr. David Whitall (HBRF Research Fellow), we completed our Science Links™ project on nitrogen pollution. The project culminated in the publication of a five-paper special issue of the journal *BioScience* focused on nitrogen in the environment. The paper, spearheaded by HBRF, focused on the effects of and management strategies for nitrogen pollution in the northeastern U.S. To translate this scholarly paper, HBRF published

“Nitrogen Pollution: From the Sources to the Sea” and distributed it to almost 2,000 individuals, conservation organizations, government officials and industry representatives.

We held a press conference at the National Press Club in Washington D.C. to release the nitrogen paper and report. To date, we have received coverage in approximately 70 print and broadcast outlets across the U.S. including the *Boston Globe*, *Washington Post* and the *Philadelphia Inquirer*.

The Science Links™ publications also caught the eye of the attorneys general from seven Northeast states. Soon after the reports were released, they sent the report on to U.S. Environmental Protection Agency (EPA) Administrator Christine Todd Whitman urging EPA to consider the findings in the context of proposed amendments to weaken the Clean Air Act.

*Continued*

## **THANK YOU!**

### **Nitrogen Science Links™ Participants:**

Dr. David Whitall – HBRF Research Fellow  
Dr. Charles Driscoll – Syracuse University  
Ms. Kathy Fallon Lambert – HBRF  
Dr. John Aber – University of New Hampshire  
Dr. Beth Boyer – State University of New York  
Dr. Mark Castro – University of Maryland  
Dr. Chris Cronan – University of Maine  
Dr. Christy Goodale – Woods Hole Research Center  
Dr. Peter Groffman – Institute of Ecosystem Studies

Dr. Greg Lawrence – U.S. Geological Survey  
Dr. Chuck Hopkinson – Woods Hole Marine Biological Laboratory  
Dr. Scott Ollinger – University of New Hampshire

### **Science Links™ Advisors:**

Dr. F. Herbert Bormann – HBRF Trustee Emeritus  
Dr. Richard Haeuber – U.S. Environmental Protection Agency  
Mr. Mark Watson – New York State Energy and Research Development Authority

The nitrogen publications also received interest from several Congressional offices – specifically, Senators Jeffords (I-VT), Clinton (D-NY) and Sarbanes (D-MD). We will be working with the staff in these and other Congressional offices to make sure the report is used effectively in decision-making.

It is particularly important to note that this work would not have been possible without the long-term data record of the Hubbard Brook Ecosystem Study, and the generous participation and support of numerous scientists, advisors and funders.

### **Science Links™ Praised by the National Science Foundation**

In a 20-year review of its Long-Term Ecological Research program, the National Science Foundation (NSF) specifically cited the HBRF Science Links™ program as a model for increasing the impact of long-term research in addressing environmental problems. The report concluded that the NSF program should “follow the lead set by the Hubbard Brook Research Foundation’s Science Links™ program.” This accolade affirms the value of Science Links™ in bridging the gap between science and public policy through the use of long-term ecological research.

### **HBRF Receives \$240,000 from the Henry Luce Foundation**

In an extremely competitive process, HBRF emerged as the recipient of a four-year \$240,000 grant from the Program in Public Policy and the Environment at the Henry Luce Foundation. This grant will support HBRF’s long-term effort to advance science-driven public policy through the completion of a series examining human alteration of sulfur, nitrogen, mercury and carbon cycles. This grant puts HBRF on strong footing as we move forward in 2003.

### **Science Links™ Assessment Complete**

HBRF Associate Eugenia Braasch conducted a review of the Science Links™ program during 2002-03 with funding from the Jessie B. Cox Charitable Trust. The assessment focused on whether it is appropriate and advisable to expand the scope of Science Links™ to incorporate human health and economics information.

We interviewed 34 people representing a range of organizational affiliations, professional roles, expertise and awareness of Hubbard Brook. Some general themes that emerged from this assessment were: (1) the niche of the Science Links™ program is not filled by other organizations; (2) HBRF should promote parallel efforts among human health and economic organizations, rather than developing new expertise itself, and (3) HBRF should expand outreach activities to ensure that those organizations working in the fields of public health and resource economics are aware of and able to make use of Hubbard Brook data and research results, as appropriate.

### **Improvements at the Henrietta K. Towers Laboratory and Pleasant View Farm**

In 2002, HBRF continued its commitment to improve research facilities at the Henrietta K. Towers Laboratory and Pleasant View Farm, where many Hubbard Brook researchers conduct their work each summer. A grant of \$12,000 from the International Paper Foundation in support of our Laboratory Safety Initiative enabled on-site Facilities Manager Geoff Wilson to complete professional courses in laboratory safety and chemical handling to address safety issues. This new expertise resulted in a laboratory safety manual, a rules agreement for laboratory users, a chemical waste disposal policy, safety equipment and development of emergency procedures. We continue to improve the laboratory facilities under this initiative as grants and donations are available.

HBRF has also continued to focus on safety at the Pleasant View farmhouse, a summertime home to approximately 20 graduate students and interns. Over the past year, we worked closely with the state fire marshal and local fire chief in Thornton, New Hampshire to make many improvements in safety, including the installation of a new fire escape, an alarm system linked directly to the fire department, new “hard-wired” smoke detectors and emergency lighting throughout the building.

The Hubbard Brook Research Foundation appreciates the generosity of the International Paper Foundation and individual donors who have made these and other improvements at Pleasant View Farm and the Henrietta Towers Laboratory possible.

### **Land Protection at Mirror Lake**

HBRF has undertaken the challenge of protecting land around Mirror Lake, which lies within the Hubbard Brook watershed. Together with the Northeastern Research Station of the USDA Forest Service, we hope to raise the funds needed to conserve this important ecological resource. Mirror Lake has been the subject of research by the U.S. Geological Survey and Dr. Gene Likens for the past 38 years. Conserving the shoreline and



the watershed around Mirror Lake will protect the ecology of the lake from the impacts of future development and ensure the integrity of the site for continued long-term research.

In the coming year we will work to develop a strong constituency at the town, congressional and individual level for this important land protection project.

### **National Medal of Science Awarded to Gene E. Likens**

In 2002, Dr. Gene E. Likens, Hubbard Brook Ecosystem Study (HBES) co-founder, was awarded the National Medal of Science for his many and distinguished contributions to ecological science over the course of his career. This honor includes his many years of study at the Hubbard Brook Experimental Forest, where he and other members of the HBES team were the first to document the link between the increasing acidity of precipitation and fossil fuel combustion in North America, a phenomenon they termed “acid rain.” This work and the attention it commanded catalyzed



*Dr. Gene E. Likens*

vigorous public policy debate, raised awareness of the connections between human activities and the ecosystems upon which all life is dependent, and ultimately led to national legislation addressing the effects of acid rain. Dr. Likens’ approach has also spawned a new paradigm in the science of ecology and in the application of this science to finding solutions for global environmental problems, including deforestation, the greenhouse effect/global warming, acid rain and eutrophication.

The National Medal of Science is the nation’s highest award for lifetime achievement in fields of scientific research. It was awarded at a White House ceremony in June 2002. We wish to congratulate Dr. Likens on this great honor.

## F. Herbert Bormann Elected Founding Trustee Emeritus

Dr. F. Herbert Bormann, co-founder of the Hubbard Brook Ecosystem Study, has served on the board of the Hubbard Brook Research Foundation since its inception in 1993.

This past year, the board accepted Dr. Bormann's resignation as a full-time board member and unanimously voted to confer on him the title of Founding Trustee Emeritus. This title is given in honor of Dr. Bormann's long and unique commitment and many contributions to the research, education, development and leadership at Hubbard Brook.



*Dr. F. Herbert Bormann*

Dr. Bormann retired in 1993 from an eminent career as a scholar and professor at such institutions as Yale University, Dartmouth College, and Emory University. Dr. Bormann's publications include a varied study of ecosystem response to modern environmental forces. A recipient of many distinguished awards, Dr. Bormann has been elected to the National Academy of Sciences, received the Forest Service's 75th Anniversary Award, the U.S.D.A. Award for significant contributions to forestry and conservation. He also received the Tyler Prize and the Eminent Ecologist Award, awarded jointly to Dr. Bormann and Dr. Gene E. Likens in 1993 and 1995 respectively.

Dr. Bormann will continue his association with the HBRF as advisor to the board. We confer this honor with deep gratitude and lasting affection for Dr. Bormann and the many gifts he has shared with us.

## 35 years at Hubbard Brook: Dr. Tom Siccama

Dr. Tom Siccama, Director of Field Studies at the Yale School of Forestry and Environmental Studies, celebrated his 35th year of research at the Hubbard Brook Experimental Forest this year. Dr. Siccama is unrivaled in the consistency and volume of data he has collected on the soils and trees of the Hubbard Brook valley. His work also extends across the Northeast and most notably includes red spruce decline research on Camel's Hump in Vermont. Dr. Siccama is well known for his generous sharing of scientific data. For years, he has unselfishly made his raw data available to all who ask, helping to advance scientific understanding of forest ecosystems.

Dr. Siccama is also much appreciated as a colorful character at Hubbard Brook and known for his sculptures made of moose scat, his ability to detect soil



*Dr. Tom Siccama*

texture by taste, and his dislike of cheese. On behalf of all those students and fellow researchers who have worked with Dr. Siccama over the years at Hubbard Brook,

we send a resounding thank you for all your contributions – you are truly one of the finest field instructors to walk the woods of the Northeast! We look forward to working with you in the years ahead.

# HBES TIMELINE

**1955** ► USDA Forest Service establishes the Hubbard Brook Experimental Forest (HBEF) in the White Mountain National Forest of NH. ✨ G.R. Trimble publishes paper introducing HBEF in *Forest Notes*.

**1956** ► First stream gauged.

**Early 1960s** ► Scientists begin renting Pleasant View Farmhouse from Henrietta K. Towers.

**1963** ► National Science Foundation awards first grant to initiate the Hubbard Brook Ecosystem Study.

**1965-66** ► Watershed #2 clear-felled.

**1967** ► G. E. Likens and F. H. Bormann publish first HBES paper in *Science*. ✨ F. H. Bormann, G. E. Likens, N. M. Johnson and R. S. Pierce publish paper on hydrologic and mineral cycles at HBEF in *Ecology*.

**1970** ► Watershed #101 logged as a stem-only, block clearcut.

**1970-74** ► Watershed #4 progressively strip-cut.

**1971** ► R.T. Holmes and F.W. Sturges publish first paper on the bird community at HBEF.

**1972** ► First acid rain paper published by G.E. Likens, F. H. Bormann and N. M. Johnson in *Environment*.

**1976** ► Biosphere Program of the United Nations Educational, Scientific and Cultural Organization (UNESCO) designates HBEF a Biosphere Reserve in the Man and the Biosphere program.

**1978** ► HBEF joins the National Atmospheric Deposition Program (NADP); now one of 300 sites.

**1982** ► Yale and Cornell purchase Pleasant View Farm. National Science Foundation grant received to renovate Pleasant View Farm and build Henrietta K. Towers Laboratory.



1960



1976



1983-84



1999

**1983-84** ► Watershed #5 whole-tree harvested.

**1990** ► Land around Mirror Lake protected.

**1993** ► The Hubbard Brook Research Foundation (HBRF) incorporates; Peter R. Stein named first chair. J.E.S. Sokolow is Board administrator.

**1996** ► G. E. Likens, C. T. Driscoll and D. C. Buso publish paper in *Science* documenting changes in base cations in soils at HBEF.

**1998** ► HBRF hires first full-time staff.

**1999** ► C. Driscoll and T. J. Fahey lead experiment of 50 tons of a calcium-rich mineral applied to Watershed #1 by helicopter. ✨ Science Links™ program launched by HBRF.

**2000** ► Yale and Cornell transfer Pleasant View Farm to HBRF. ✨ Congress appropriates \$2 million to USDA Forest Service for facilities and establishment of the Northeastern States Research Collaborative.

**2001** ► HBRF publishes first Science Links™ report, *Acid Rain Revisited*. ✨ New legislation introduced to further address acid rain.

✨ Hubbard Brook Ecosystem Study produces approximately 1,800 publications.

✨ HBRF awarded NSF grant to develop facility master plan.

**2002** ► G. E. Likens awarded the National Medal of Science. ✨ F. H. Bormann named Trustee Emeritus of HBRF. ✨ T. Siccama celebrates 35 years of research at HBEF.

✨ R. T. Holmes receives two lifetime achievement awards for his work on birds at HBEF.

✨ HBRF publishes second Science Links™ report on nitrogen pollution.

**2003** ► Hubbard Brook Ecosystem Study celebrates its fortieth anniversary.

# HUBBARD BROOK ECOSYSTEM STUDY PUBLICATIONS / 2002



## Papers

- Aber, J.D., S.V. Ollinger, C.T. Driscoll, G.E. Likens, R.T. Holmes, R.J. Freuder and C.L. Goodale. 2002. Inorganic nitrogen losses from a forested ecosystem in response to physical, chemical, biotic and climatic perturbations. *Ecosystems* 5(7):648-658.
- Bernhardt, E.S. 2002. Lessons from kinetic releases of ammonium in streams of the Hubbard Brook Experimental Forest. *Verh. Internat. Verein. Limnol.* 28(1):429-433.
- Bernhardt, E.S. and G.E. Likens. 2002. Dissolved organic carbon enrichment alters nitrogen dynamics in a forest stream. *Ecology* 83(6):1689-1700.
- Bernhardt, E.S., R.O. Hall, Jr. and G.E. Likens. 2002. Whole-system estimates of nitrification and nitrate uptake in streams of the Hubbard Brook Experimental Forest. *Ecosystems* 5(5):419-430.
- Blum, J.D., A. Klaue, C.A. Nezat, C.T. Driscoll, C.E. Johnson, T.G. Siccama, C. Eagar, T.J. Fahey and G.E. Likens. 2002. Mycorrhizal weathering of apatite as an important calcium source in base-poor forest ecosystems. *Nature* 417:729-731.
- Bormann, B.T., C.K. Keller, D. Wang and F.H. Bormann. 2002. Lessons from the sandbox: Is unexplained nitrogen real? *Ecosystems* 5:727-733.
- Currie, W.S., R.D. Yanai, K. Piatek, C. Prescott and C.L. Goodale. 2002. Processes affecting carbon storage in the forest floor and in downed woody debris. Chapter 9. In: J.M. Kimble et al. (eds.) *The Potential for U.S. Forests to Sequester Carbon and Mitigate the Greenhouse Effect*. Lewis Publishers, Boca Raton, FL.
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- Gbondo-Tugbawa, S.S., C.T. Driscoll, M.J. Mitchell, J.D. Aber and G.E. Likens. 2002. A model to simulate the response of a northern hardwood forest ecosystem to changes in S deposition. *Ecol. Appl.* 12(1):8-23.
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- Hall, R.O., Jr., E.S. Bernhardt and G.E. Likens. 2002. Relating nutrient uptake with transient storage in forested mountain streams. *Limnol. Oceanogr.* 47(1):255-265.
- Johnson, C.E. 2002. Cation exchange properties of acid forest soils in the northeastern United States. *European Journal of Soil Science* 53:271-282.
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- Kobe, R.K., G.E. Likens and C. Eagar. 2002. Tree seedling growth and mortality responses to manipulations of calcium and aluminum in a northern hardwood forest. *Can. J. For. Res.* 32:954-966.
- Lawrence, G.B. 2002. Persistent episodic acidification of streams linked to acid rain effects on soil. *Atmos. Environ.* 36:1589-1598.
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- Likens, G.E., C.T. Driscoll, D.C. Buso, M.J. Mitchell, G.M. Lovett, S.W. Bailey, T.G. Siccama, W.A. Reiners and C. Alewell. 2002. The biogeochemistry of sulfur at Hubbard Brook. *Biogeochemistry* 60(3):235-316.

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Miller-Weeks, M. Eagar, C. 2002. The Northeastern ice storm 1998: A forest damage assessment. USDA Forest Service and Northeast State Foresters Association. 32 pp.

Palmer, S.M. and C.T. Driscoll. 2002. Decline in mobilization of toxic aluminum. *Nature* 417: 242-243.

Pardo, L.H., H.F. Hemond, J.P. Montoya, T. J. Fahey and T.G. Siccama. 2002. Response of the natural abundance of  $^{15}\text{N}$  in forest soils and foliage to high nitrate loss following clear-cutting. *Can. J. For. Res.* 32:1126-1136.

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Rhoads, A.G., S. Hamburg, T. J. Fahey, T.G. Siccama, E.N. Hane, J. Battles, C. Cogbill, J. Randall and G. Wilson. 2002. Effects of an intense ice storm on the structure of a northern hardwood forest. *Can. J. For. Res.* 32:1763-1775.

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Sillett, T.S. and R.T. Holmes. 2002. Variation in survivorship of a migratory songbird throughout its annual cycle. *Journal of Animal Ecology* 71:296-308.

Stelzer, R.S., G.E. Likens, D.C. Buso and J.H. McCutchan. 2002. Seasonal variation of phosphorus in precipitation at Hubbard Brook Experimental Forest. *Verh. Internat. Verein. Limnol.* 28:1211-1215.

Strong, A.M. and T.W. Sherry. 2002. Body condition of Swainson's Warblers wintering in Jamaica, and the conservation value of Caribbean dry forest. *Wilson Bulletin* 113:410-418.

Tierney, G.L. and T. J. Fahey. 2002. Fine root turnover in a northern hardwood forest: a direct comparison of the radiocarbon and minirhizotron methods. *Can. J. For. Res. Rapid Communication* 32:1692-1697.

Webster, M.S., P.P. Marra, S.M. Haig, S. Bensch and R.T. Holmes. 2002. Links between worlds: unraveling migratory connectivity. *Trends in Ecology and Evolution* 17:76-83.

## Dissertations

Douglas, L. 2002. Impact of human habitat degradation on resident and neotropical migratory birds occupying the Tropical Dry Forest Life zone of southern Jamaica. M.S. Thesis, University of the West Indies, Jamaica.

Fiorentino, I. 2002. Early response of phosphorus cycling to an experimental addition of calcium in a northern hardwood forest. M.S. Thesis, Cornell University. 59 pp.

Gulezian, P. 2002. Reproductive success in forest birds: a test of the mobbing playback method. Senior Honors Thesis, Dartmouth College.

Nagy, L.R. 2002. Causes and consequences of individual variation in reproductive output in a forest-dwelling Neotropical migrant songbird. Ph.D. Thesis, Dartmouth College.

Stanculescu, D. 2002. Weight loss in breeding female Black-throated Blue Warblers: a result of energetic stress or an adaptive physiological trait? Senior Honors Thesis, Dartmouth College.

Tierney, G.L. 2002. Fine root dynamics in a northern hardwood forest. Ph.D. Thesis, Cornell University. 116 pp.

To see a complete list of all HBES publications, including abstracts, go to: [www.hubbardbrook.org/research/pubs/hbrbib.htm](http://www.hubbardbrook.org/research/pubs/hbrbib.htm)





## 2002 FINANCIAL STATEMENTS

### **Statement of Financial Position** *(December 30, 2002)*

#### **ASSETS:**

##### **Current Assets:**

Cash and cash equivalents	\$	30,951
Cash-restricted		9,574
Pledges receivable		335,687
Prepaid expenses		971
Total Current Assets		<u>377,183</u>

##### **Property and equipment:**

		234,806
Total assets	\$	<u><u>611,989</u></u>

#### **LIABILITIES AND NET ASSETS:**

##### **Current Liabilities:**

Accounts payable and accrued liabilities	\$	2,217
Deferred income		335,187
Total Current Liabilities		<u>337,404</u>

##### **Net Assets:**

Unrestricted		59,019
Temporarily restricted		46,590
Permanently restricted		168,976
Total Net Assets		<u>274,585</u>
Total Liabilities and Net Assets		<u><u>611,989</u></u>

## Statement of Activities *(For the Fiscal Year Ended December 30, 2002)*

### **REVENUES, GAINS AND OTHER SUPPORT:**

Contributions received	\$	18,390
Grants		300,307
Rent income		15,204
Other income		794
User fees		2,600
Realized and unrealized investment losses		(1,805)
Net assets released from restrictions		-
Total Revenue, Gains and Other Support		<u>335,490</u>

### **EXPENSES:**

Science Links™		205,069
Stewardship		45,128
Management		97,507
Fundraising		57,305
Total Expenses		<u>405,009</u>

### **CHANGES IN NET ASSETS:**

NET ASSETS, beginning of year		<u>344,104</u>
NET ASSETS, end of year	\$	<u>274,585</u>

*Note:  
Complete  
financial  
statements and  
accompanying  
accountant's  
report are  
available upon  
request.*

## **CONTRIBUTIONS AND BEQUESTS TO HBRF**

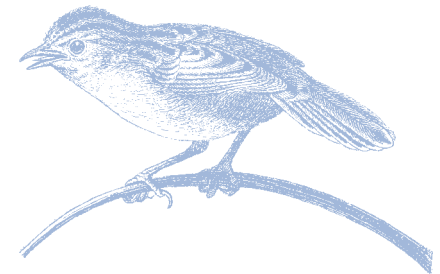
The Hubbard Brook Research Foundation is a non-profit charitable organization that relies on a variety of funding sources to achieve its goals. While support from private foundations and other grant sources have helped to build success in our early years, personal contributions are increasingly valuable to the long-term financial stability of HBRF.

Private donations from people like you are vital to building a strong financial base for the future programs of HBRF. All cash gifts are tax deductible to the maximum extent allowed by law and may be sent to HBRF at the address below.

You can also make a lasting contribution through giving securities or making a bequest to HBRF in your will. If you would like additional information on such planned giving opportunities, please contact us at 603-653-0390.

The address for contributions is: HBRF, 16 Buck Road, Hanover, NH 03755

Thank you for supporting the Hubbard Brook Research Foundation.



## 2002 CONTRIBUTIONS AND GRANTS



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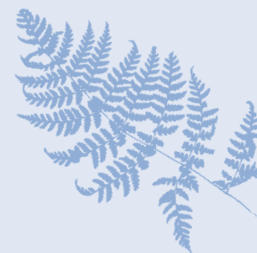
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As in previous years, nearly 100 students and senior scientists gathered at the Robert S. Pierce Laboratory of the USDA Forest Service Station in 2002 for the Hubbard Brook Cooperators' Annual Meeting. The Hubbard Brook Cooperators' Meeting provides an important opportunity for participants to exchange ideas and research plans as well as to renew friendships with colleagues from the Hubbard Brook community and other organizations.

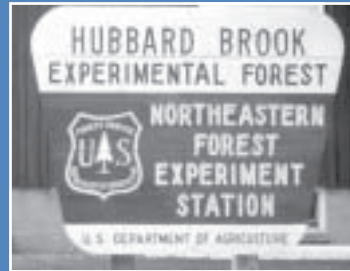


2003 marks the 40th year since the first water sample for biogeochemical analysis was collected in March 1963.

To celebrate the 40th Anniversary of the Hubbard Brook Ecosystem Study, a special Alumni Meeting has been planned to take place during the 2003 Cooperators' Meeting. The Alumni Meeting will be an opportunity for all who have contributed to the Hubbard Brook Ecosystem Study as technicians, students, post docs and scientists to share experiences, swap ideas and stories and renew old friendships. Scheduled events will include presentations and discussions, field activities and free time, a barbecue at Pleasant View Farm and an evening social event.



# CELEBRATING 40 YEARS OF ECOSYSTEM RESEARCH: 1963-2003



HUBBARD BROOK RESEARCH FOUNDATION

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[www.hubbardbrook.org](http://www.hubbardbrook.org)