



## Related Links

[UNH Institute for the Study of Earth, Oceans, and Space](#)

[Forest Watch](#)

# Concord High Teacher Honored By UNH For Outstanding Service

Contact: [David Sims](#)  
603-862-5369  
Science Writer  
Institute for the Study of Earth, Oceans, and Space

Dec. 16, 2004

---

DURHAM, N.H. -- Phil Browne of Concord High School was awarded the 2004 Gary N. Lauten Award for outstanding service and commitment to the University of New Hampshire's Forest Watch program at a ceremony held last week on the Durham campus.

"Gary Lauten was a wonderful man and a unique individual so I'm really honored that the team saw fit to give me the Lauten Award," said Brown, when presented with the handcrafted, wood-burned walking stick that is given annually to recipients of the award. "I'll cherish it, and I'll use it all the time."

Browne has been instrumental in Forest Watch since it began in 1991 as a unique, hands-on way of conducting science with the help of primary and secondary school students to collect and process data relating to air pollution damage in forest stands in New England. More than 260 schools have participated in the program, with 50 to 100 actively engaged in the science in any given year.

Lauten, a former Air Force lieutenant colonel who died in December 2001, served as the Forest Watch coordinator from 1992-1999. In 2002, the educational outreach program began recognizing teachers who best exemplify Lauten's devotion to Forest Watch's long-term goals.

"This award recognizes Gary's commitment to making science accessible in the classroom. He loved the program and became its heart and soul," said Barry Rock, Forest Watch director and professor of natural resources and plant biology at UNH's Institute for the Study of Earth, Oceans, and Space (EOS) and the Department of Natural Resources. "Teachers love the program because it integrates biology with physics, math, earth science, etc."

Each group of Forest Watch students collects white pine needles from a 30 x 30 meter plot each year. They then conduct several ecological and biophysical measurements using specific scientific protocols developed at UNH. The samples are measured and analyzed by the students who look for evidence of damage to the needles from ground-level ozone or smog. Their results, as well as needle samples, are shipped to UNH for further analysis.

Student data are compared to spectrometer measurements (which gauge how much chlorophyll needles contain) collected from samples sent to UNH, and the student and spectral data are compared to ground-level ozone data collected from state and Environmental Protection Agency

(EPA) air quality monitoring sites throughout New England. Student samples provide evidence of changing white pine health and growth year after year in response to both smog levels and climate variables such as rainfall.

Over 15 years, Forest Watch has demonstrated that students can collect valuable data for ongoing scientific research and learn science and mathematics by doing research in their local area. Student data have clearly shown how responsive white pines are to year-to-year variations in ozone levels.

"This is a chance for kids to do real science, it's not just cookbook, follow-the-lab manual stuff. Every year, their data is published, and they realize they can be part of developing awareness of environmental problems and how those problems can be solved through their help," said Browne, who teaches a senior-level science course that incorporates the Forest Watch program. For more information on Forest Watch, go to [www.forestwatch.sr.unh.edu](http://www.forestwatch.sr.unh.edu).

**Editors: A digital photograph of Phil Browne is available for download at the Web site: <http://www.unh.edu/news/img/lautenaward04.jpg>.**