

NEWS

The Evergreen State College
Olympia, Washington 98505

for immediate release

for further information

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Judy Annis, 866-6128

The results of several months of scientific research --- supported by the National Science Foundation and The Evergreen State College --- will be reported by 21 students and their faculty sponsors in a public campus meeting December 13 in Lecture Hall Two.

The reports, scheduled to begin at 9 a.m., will reveal results of studies on: Douglas Fir Tussock moth damage as it relates to forest management; effects of acid rain on nitrogen fixation in Western Washington coniferous forests; and fluoride concentration: levels in an ecosystem and research into related ecosystemic changes.

All three studies were financed through the NSF Student-Originated Studies Programs last Spring. The student scientists, most of whom have been enrolled in either the Evergreen Environment or Ecology and Chemistry of Pollution Coordinated Studies program, were guided in their NSF projects by three Evergreen faculty members.

Dr. Steve Herman, a biologist, worked with nine students on the Tussock Moth study, which was directed by Karen Oakley, a Bellevue senior. Dr. Oscar Soule, also a biologist, worked with six students on the acid rainfall research, which was coordinated by Bob Denison, a Corvallis, Oregon junior. And, Dr. Michael Beug, a chemist, assisted seven students on the fluoride concentration project, guided by Mort Fabricant, a Massachusetts senior.

The presentations, which are all open to the public, will conclude at 3 p.m. with a tour of Evergreen's analytical laboratories and a description of research into the levels and effects of DDT and PCBs (polychlorinated biphenyls) in the environment being conducted by members of the Ecology and Chemistry of Pollution program.

Dick Nichols, Director
Information Services

THE ECOLOGY AND CHEMISTRY OF POLLUTION PROGRAM
OF
THE EVERGREEN STATE COLLEGE
Olympia, Washington

presents ¹ AND LAB TOUR ²
A DAY OF ENVIRONMENTAL RESEARCH SEMINARS
FRIDAY, DECEMBER 13, LECTURE HALL 2

Public Reporting meeting on student originated research carried out during the summer of 1974.

9:00 AM — Douglas-fir tussock moth damage as it relates to forest management.

Researchers: *Gary Bateman, Judith Hadley, Polly Hessing, Deborah Lev, Karen Oakley*, Ron Olson, Martin Roush, Janet Storington, and Margaret Taylor. Steven G. Herman, Faculty Project Advisor.*

The Douglas-fir tussock moth is a native defoliating insect of Douglas-fir and true fir in the Pacific Northwest. Tussock moth populations fluctuate between normal low densities and very high, epidemic densities. Between 1971 and 1974 the largest tussock moth outbreak to date caused severe damage to large acreages of conifers in Oregon, Washington and Idaho. Despite this history of occasional, widespread damage, little is known about how environmental factors affect the normal tussock moth population fluctuations. This study considered the relationship between the extent and intensity of tussock moth damage and forest management practices. Preliminary results indicate that previously harvested areas have a higher degree of defoliation.

10:30 AM — Effects of acid rain on nitrogen fixation in Western Washington coniferous forests.

Researchers: *Steven Anderson, Bernard Bormann, Bruce Caldwell, Bob Denison*, Lindell Eldred, and Cindy Swanberg. Oscar Soule, Faculty Project Advisor.*

Our results indicate that acid rain, a byproduct of air pollution, would have an adverse effect on nitrogen fixation. The significance of this depends on a number of factors. The relative importance of various organisms responsible for N-fixation changes over the course of forest succession. Bacteria, algae, and lichens, both on the ground and in the canopy, as well as red alder, are affected to a greater or lesser extent by acid rain, air pollution, micro-climate, and forest management practices. This study was carried out as a part of The Evergreen Environment Program, 1973-74.

1:30 PM — Fluoride concentration: Levels in an ecosystem and research into related ecosystemic changes.

Researchers: *Melissa Brown, Mort Fabricant*, Sam Farmer, Geoff Gilbert, Kathy Roche, David Scoboria, and Susan Southwick. Michael Beug, Faculty Project Advisor.*

The electrolytic reduction of aluminum results in the release into the atmosphere of fluoride compounds. A comparative study of the area near an existing aluminum mill near Troutdale, Oregon has examined potential effects on the diversity and density of plant communities from fluoride intake related to observed fluoride concentrations. Secondly, a study of the plant communities on the site of the future AMAX aluminum mill at Warrenton, Oregon now provides baseline data essential to the observation of temporal changes in the plant community if fluorides accumulate in the future.

3:00 PM — Small group meetings and laboratory tours.

1/ *Sponsored by the National Science Foundation Student-Originated Studies Program Grants GY-11450, GY-11461, and GY-11470.*

2/ *Visitors who have time remaining are invited to tour our analytical laboratories where residue analyses for DDT, PCB's and fluorides are currently in progress.*

*Principal speaker.