

## THE EVERGREEN ENVIRONMENT - A RECORD OF ACTIVITIES

The program was designed to serve the learning experiences of students (and faculty) in two ways. The most important of these ways was the problem oriented field projects which emphasized the study of the natural environment of the Evergreen campus. These projects provided practical experience for the individual, while the second method of learning—workshops, field trips, internships and other studies—provided skills, background and extension of knowledge. Within the framework of the program, students also pursued work that was not field and campus oriented. Examples of some of these include: plant and animal anatomy and physiology, fish pathology, tissue culture, folk nature lore, language study, counselling and housing management.

The main focus of the program was the various studies of the natural features of the campus. One extensive project was the study of the campus forest communities. Sampling over the entire campus provided information for the classification of the forest vegetation into a number of different types determined by qualitative and quantitative species composition data. An equally extensive task was undertaken in the biological survey of the beach intertidal zone. Transects laid out at intervals along the beach were used to determine the variety and amount of animal life in the area between high and low water. More general surveys have initiated checklists of more specific organisms: shrubs and herbaceous plants, fungi, insects and birds. One of the most interesting (and perhaps most difficult) was a small mammal live trapping program to determine species present and also to begin a study of their distribution and territorial habits. None of these studies are complete and it is anticipated that they will be continued in future years.

In order to do work of this kind, the student must have a good background in some basic principles of biology and ecology. Much of this comes in working with faculty (and other professional people) who have extensive training and experience in these areas. A number of workshops also helped to develop skills in a number of areas. Each one involved about a day a week over a quarter's time. The computer workshop was mainly concerned with developing basic proficiency in the use of the school's computer and in writing programs in the BASIC language. Studying and identifying the intertidal animals was the main focus of the marine invertebrate workshop; while the plant ecology workshop was concerned with collection and identification of plants found on the campus. The surveying workshop provided an introduction to the use of tapes, levels, compasses and transits in working out basic surveying problems.

To help tie together the reading and studying on campus, biological field trips were taken to various areas in the Pacific Northwest. During the past year, there were five such trips. The year started with a long venture that included the San Juan Islands, the Nisqually River drainage basin, and the Willapa Bay area of southwestern Washington. Shorter journeys took in Lake Ozette and the ocean beaches at Cape Alava; the Lummi Tribe aquacultural project near Bellingham; and forestry practices on the lands of the Quinault Tribe on the coast at Taholah. The year ended with another long trip, this time to the central Oregon coast, to study the sand dunes and the rocky intertidal zone.

Not all off-campus activity occurred as field trips. Internships of various kinds became a very important part of the program. These usually developed once the individual became interested in a specific area of environmental science and wanted to see and work in the more practical aspects of everyday life. These have turned out to be as diverse as the interests of the people in the program.

The following is a list of some of these.

1. Forest management with the Washington Department of Natural Resources.
2. Deer and vegetation studies with the Washington Department of Game at the Scatter Creek Wildlife Recreation Area in Washington.
3. Nematode research with the Washington State University Agricultural Experiment Station in Prosser.
4. Natural history inventory at the Everglades National Park in Florida.
5. Development of interpretive materials for the Washington State Parks Commission.
6. Natural resource inventory of shorelines with the Washington Planning and Community Affairs Agency.
7. Field research, banding and census at the Point Reyes Bird Observatory in California.
8. Participation in field and laboratory research on Kiket Island with the Fish Research Institute of the University of Washington.
9. Study of salmon aquaculture on central Puget Sound with the Washington Department of Fisheries.
10. Research on forest tree diseases at the Washington Department of Natural Resources.

Other significant work by individuals in the program included an ethnobotanical study of campus plant species, involvement in the formation of the Cooper Point Association, a survey of vegetation on the site of a local private development, and cooperation with the Environmental Design program in their waterfront survey.

Students and faculty in the program were leaders in the establishment of the campus Environmental Advisory Committee. The future work of this group will be important to development of the campus. It has already influenced decisions and policy with respect to the use of the land.

The need for the continuation of the Evergreen Environment program is obvious. Much yet needs to be learned. Much data must be collected while the campus is still in a relatively undisturbed state. Many studies must go on over a long period of time. Some of these have been started: climatic data, stream flow, stream and inlet quality, seasonal changes in plant and animal life, records of plant and animal life known to occur. Others must be started. Continuity of these must be assured and their scope expanded.

Marine biology readings:

Hardy, A. C. 19 . The Open Sea. Houghton Mifflin Co., Boston.

Hedgpeth, J. W. (Ed.) 1957. Treatise on Marine Ecology and Paleocology. Geol. Soc. Amer. Memoir 67.

McConnaughey, B. H. 1970. Introduction to Marine Biology. C. V. Mosby Co., Saint Louis, Mo.

Ricketts, E. F. and J. Calvin, revised by J. W. Hedgpeth 1968; Between Pacific Tides. 4th Edition. Stanford Univ. Press.

Russell-Hunter, W. D. 1970. Aquatic Productivity. Macmillan, London.

Scientific American Book. 1970. The Ocean. W. H. Freeman & Co., San Francisco. (chapters on biology by Isaacs and Holt)

Southward, A. J. 1967. Life On the Sea-shore. Harvard Univ. Press, Cambridge, Mass.

CONTRACTED STUDENTS: BIOLOGY

Autumn 1971

READINGS

For the week of:

October 11 - The Forest and The Sea (all)

October 18 - A Sand County Almanac (all)

October 25 - The Darwin Reader (Parts One, Two and Six)  
Readings in Ecology (Pages 1 - 10)

November 1 - Readings in Ecology (Pages 11-17, 117-129, 140-143, and 165-171)

November 8 - The Meaning of Evolution (Part I)

November 15 - The Meaning of Evolution (Part II)

November 22 - The Darwin Reader (Part III)

November 29 - The Darwin Reader (Part IV)  
The Meaning of Evolution (Part III)

December 6 - The Immense Journey (all)

PT/cmc  
11-1-71

# The Evergreen Environment

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## Field Trip Itinerary

Mon., Oct 11

10:00 A.M. Group collects at TESC

12:00 noon Leave TESC, drive to Anacortes

4:10 P.M. Ferry from Anacortes to Friday Harbor.

6:15 P.M. Approx. arrival time at Friday Harbor Lakes

Tues, Oct. 12

Wed, Oct. 13

Thurs, Oct. 14

at Friday Harbor Lakes (Univ. of Wash.)

telephone SCAN 8-206-378-2165 or 2166  
or regular way 378-2165

Fri., Oct 15

6:30 A.M. Ferry from Friday Harbor to Anacortes

8:30 A.M. Leave ferry at Anacortes.

Drive to Olympia, via Deception Pass State Park

Skagit Flats, etc.

mid-afternoon. Arrive TESC or Millersylvania State Park

Sat, Oct 16

All day. Trips into Nisqually River basin

Sun. Oct 17

Open schedule.

Mon. Oct 18

9:00 AM. (approx.) Leave Millersylvania State Park

Drive to Long Beach. Interest - stops along

Willapa Bay. Willapa National Wildlife Refuge HQ

mid-afternoon. Arrive Fort Conboy State Park near

Ilwaco. Darrell Skings, Park Ranger

Telephone 642-3078 or 642-3334

Tues. Oct 19

A.M. Visit Willapa Shellfish Laboratory (WWSL Dept. Fish.)  
at Ocean Park (or Nahcotta).

Telephone 665-6101

P.M. at Leadbetter Point, no telephone.

evening, return to Fort Conby State Park.

Wed. Oct. 20

A.M. at Leadbetter Point

P.M. Leave Long Beach Peninsula

Drive to TESC, Olympia

(note: we could elect to spend Wed. evening  
camping at Fort Conby State Park, and return to  
Olympia Thursday morning.)

OREGON COAST FIELD TRIP

- Sunday  
28 May  
1972  
Leave Olympia, travel to Sand Lake Dunes area southwest of Tillamook via the coast highway (101).  
Look at parallel-ridge system of Clatsop Plains (near Warrenton).  
Arrive at staging area near Sand Lake dunes and walk over dunes to the camp area in Camp Meriwether (Boy Scouts of America).
- Monday  
29 May  
Look at the dunes complex in the area, study three main vegetations types: wet deflation plains, unstable dunes, and forest.  
Also observe holiday phenomenon of dune-buggies.
- Tuesday  
30 May  
Leave SandLake dunes and travel to Beverly Beach State Park north of Newport, noting Cape Kiwanda dunes and Cascade Head on the way. Go out on rocky inter-tidal near Agate Beach.
- Wednesday  
31 May  
Leave Beverly Beach and travel to Florence, camping at Honeyman State Park, stopping Cape Perpetua and Darlingtonia Waysides.
- Thursday  
1 June  
On the Coos Bay dune sheet, noting dune formations. Also stabilization work.
- Friday  
2 June  
Leave Florence, return to Olympia (about 7 hrs) via Willamette Valley and Portland

Travel in a car will cost \$15. a person.

If the hitch-hikers want the cars to carry anything, we would have to (\$5?) because it would probably mean extra vehicle.

One car may be going early..Saturday morning.

One may be returning early..Wednesday morning.

Food and eating.....?