



THE OREGON INSTITUTE  
OF  
MARINE BIOLOGY

1956

*Summer Session*

JUNE 18 – JULY 27

*Post Session*

JULY 30 – AUGUST 10

Combined Services of the Departments of Biology

of the OREGON STATE SYSTEM OF HIGHER EDUCATION

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# THE OREGON INSTITUTE OF MARINE BIOLOGY

## GENERAL INFORMATION

The INSTITUTE OF MARINE BIOLOGY has about 100 acres of property along Coos Bay and the ocean front near Goos Head. It surrounds the Coast Guard Station on three sides. To the southwest the Institute is adjoined by Coos Head Park. Most of the area is a modified high marine terrace bordered by abrupt slopes of cliffs. Native vegetation and animal life has been conserved as far as possible.

Coos Bay and the surrounding region are of particular biological interest. The foothills of the Coast Range are forested with Douglas fir, Sitka spruce, and Port Orford cedar, with maple and alder along the streams. These trees and the luxuriant undergrowth are typical associations of the coastal belt of the Pacific Northwest. A number of coastal lakes bordered by active or ancient sand dunes are readily accessible. The region abounds with varied bird life, including many aquatic species which breed in the vicinity or are visitors during their migrations. Small mammals are abundant and deer are seen occasionally.

Coos Bay and its inlets afford a wide range of aquatic environments with differences in salinity, temperature, and character of the bottom which are reflected in the life of these waters. Coos River and the numerous streams emptying into Coos Bay support an additional varied fish fauna and are the spawning grounds for several migratory fish.

The ancient life of the region is represented in the rocky exposures along the ocean front and in the coal-bearing rocks dating as far back as the Eocene.

The ocean frontage between Coos Head and Cape Arago is rugged, with rocky promontories, small bays, and long sandy beaches. Across from Coos Head are the long ocean and bay beaches of North Spit with their different faunas and floras.

The marine life is abundant and varied, including both northern and southern forms. The number and diversity of habitats accessible within a few minutes' drive of the station, and the fact that most of these have been relatively little altered by man, makes available to the student un-

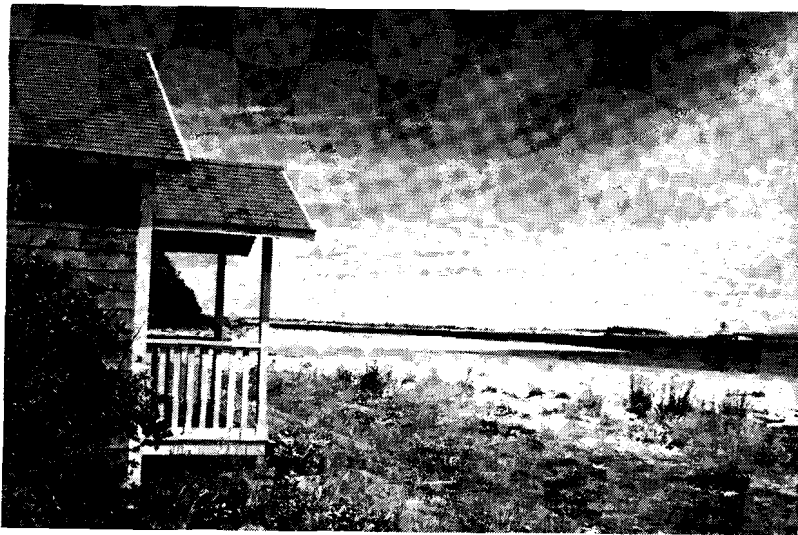
usually rich invertebrate and fish faunas. Commercial fishermen sometimes bring unusual catches from deeper water to the station. Over 300 different kinds of marine algae have been listed from the region and numerous fresh-water algae are also available.

The buildings are located on a flat five-acre tract on the bay side of the property close to the post office and stores of Charleston, a small fishing village. The station is about four miles from the town of Empire and eight miles from the cities of North Bend and Coos Bay.

## FACILITIES

The buildings, constructed and used by the Civilian Conservation Corps while improving the property of the Institute, have been recently renovated and are ideal for use as dormitories, dining hall, classrooms and laboratories. All are provided with electricity and heated with stoves. The dining hall and women's dormitory are finished with knotty cedar. The kitchen is well equipped and capable of providing for the expected number of persons.

*Dormitories.* Rooms in the women's dormitory accommodate one or two persons. Each student is furnished with a cot, mattress, chair, table,



*The women's dormitory overlooks the channel leading into Coos Bay, an important harbor for coastwise and world-wide shipping.*



*Running salt water is provided in the attractively wood-paneled and well-lighted research laboratory.*

and chest of drawers. The building is equipped with showers. The men's dormitory rooms are provided with cots, mattresses, metal lockers, and chests of drawers.

*Staff Housing.* A cottage and two other buildings provide living quarters for staff members and their families.

*Camping Sites.* There are camping sites on the grounds and large tents are available for groups. House trailers can be accommodated.

*Laboratories and Equipment.* There are three large laboratory classrooms and a research laboratory. All are provided with running salt water, study tables or benches, and lamps. Some basic laboratory equipment is kept at the station. Microscopes, chemicals, and other equipment are borrowed from other units of the State System. Additional equipment and supplies needed for special advanced or graduate work or for research may be provided, if arrangements can be made in advance. A working library is made available through loans from the libraries of the State System of Higher Education. Requests for specific publications needed for advanced study or research should be made before the opening of the session.

The facilities are available for use of investigators and for field trips by groups throughout the year, though special facilities, such as running salt water, library, and most of the laboratory equipment will only be provided during the summer session.

## FIELD TRIPS

Collecting trips are made to the nearby beaches and mud flats of Coos Bay, and along the ocean front of the Cape Arago region whenever tides are favorable. Twenty-minus tides occur at times suitable for field work. The best low tides occur in the early morning hours, leaving the rest of the day free for class and laboratory work. Longer trips to lakes, streams, forests, and other areas of the coast are also taken. Students occasionally make private arrangements to accompany Charleston fishermen on deep-sea trips.

## RESEARCH OPPORTUNITIES

Persons interested in undertaking research are invited to correspond with the director in advance of the opening date of the session. There are good opportunities for research, especially in taxonomy and ecology, which are basic to much marine work in a region where the flora and fauna are still incompletely known. Other areas of research not involving elaborate equipment can also be carried on at the station.

## RECREATION

Bastendorf Beach, within walking distance of the Institute, is a pleasant uncrowded picnic area. Coos Bay and the surrounding region are excellent for fishing, swimming, hiking, and photography. Striped bass, sea trout, ling cod, sea perch, and flounders are taken in the bay.

A ping pong table and volley ball court are provided at the Institute. There is also a small photographic darkroom.

Firearms are not allowed in Coos Head Park. Those brought into the Institute grounds must be registered with the director. Their use is restricted to persons with scientific collector's permits.

## MAIL AND TRANSPORTATION

During the summer session mail sent to students and staff should be addressed to Charleston, Oregon. Telephone calls can be made to Coos Bay, TUxedo 8-4297.

Persons traveling on public facilities may buy tickets to either Coos Bay or North Bend. A local bus provides transportation to Charleston.

## COURSES

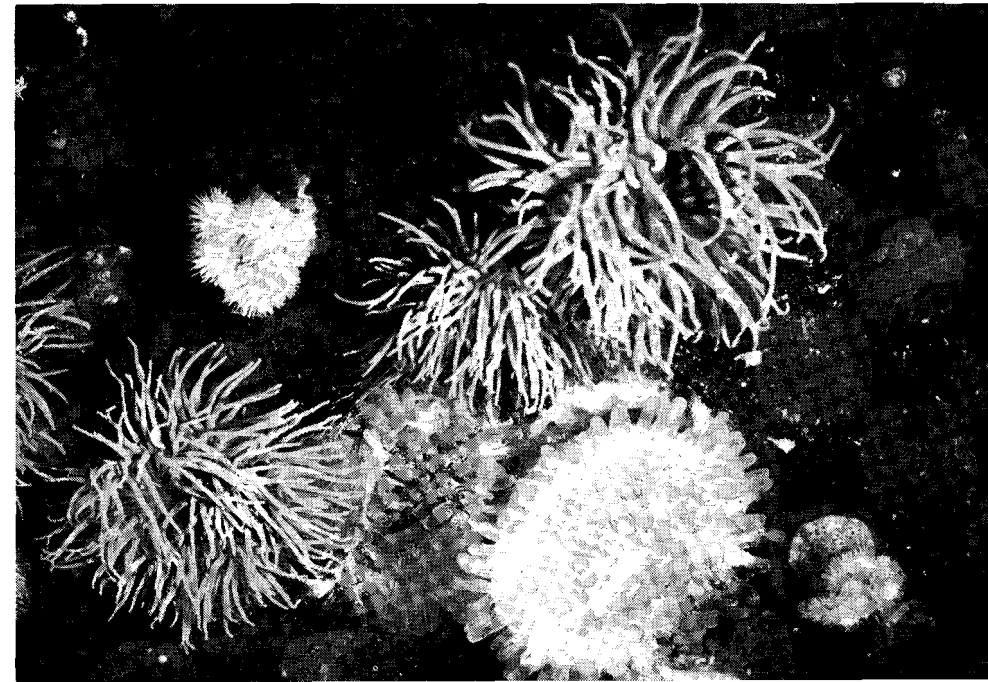
The Institute of Marine Biology offers the nonspecialized student an opportunity to study biology at the seashore in the stimulating atmosphere of a biological station, in a place where representatives of almost all important phyla and classes of animals and plants can readily be studied alive. It offers basic biological courses, credit for which will be accepted towards meeting the science requirements in all units of the State System. It is hoped that high-school science teachers in the region, through work at the Institute, will be stimulated to make more effective use of the rich biological materials available along our coast.

The Institute also provides an opportunity for advanced students to undertake more specialized work or to engage in research on an individual basis. Candidates for the degree of Master of Arts, Master of Science, or Doctor of Philosophy may apply graduate work at the Institute toward either a major or minor for a degree from the University of Oregon or Oregon State College under the regulations of their respective graduate schools.

The Departments of Zoology and Botany at Oregon State College and the Department of Biology at the University of Oregon recommend

*Sea anemones, though sessile and flower-like in appearance, are active carnivores, capturing their prey with their numerous tentacles armed with stinging cells.*

(Photo by Ralph Buchsbaum)

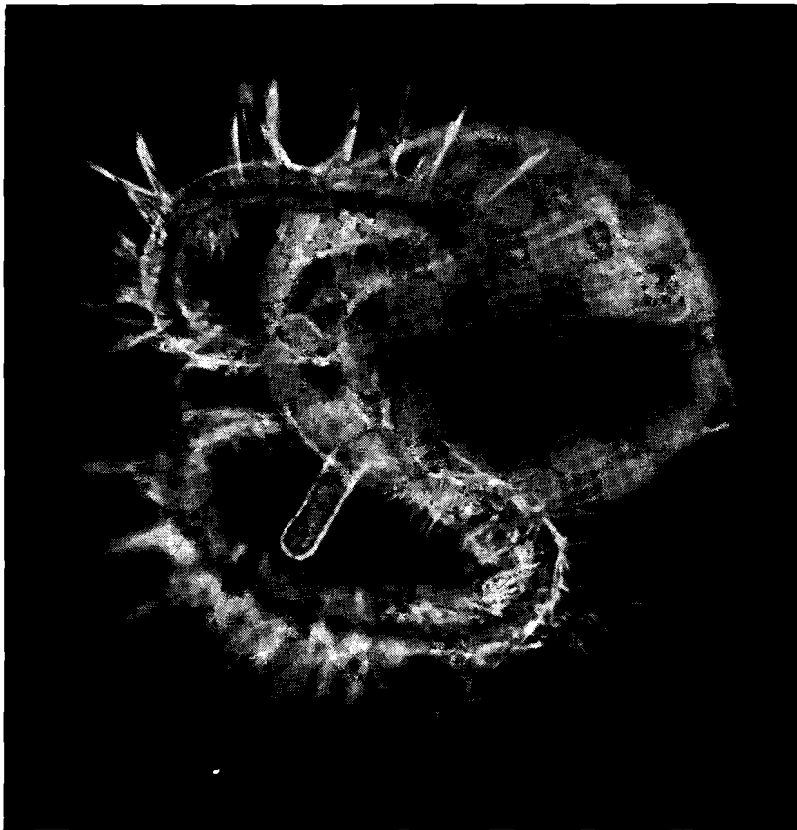


that candidates for advanced degrees take at least one summer session at the Institute of Marine Biology or some other marine station. Students expecting to undertake graduate work leading to a degree should submit transcripts of their undergraduate and graduate work in advance of registration.

The general eligibility requirements of undergraduate or graduate students are those of the summer session of the State System of Higher Education. All student records, credentials, and credits earned are filed with the Registrar of the University of Oregon. Transcripts of undergraduate or graduate credit earned will be transmitted to any institution of higher learning on request to the University Registrar.

*Free swimming veliger larva of a marine mollusk. This unique larval form with its large winglike ciliated lobes is found only in marine mollusks.*

(Photo by D. P. Wilson)



\*Ent 200. **Introduction to Entomology.** 4 hours.

\*Bot 201, 202. **General Botany.** 6 hours.

\*Bot 203. **Field Botany.** 3 hours.

Z 201, 202, 203. **General Zoology.** 9 hours.

For students majoring in biology, zoology, or fish and game management, and for premedical or pre dental students or other students who wish a basic course in zoology. Satisfies the University or State College requirement for a group sequence in science. Macnab.

Bi 401, 501. **Research.** Hours to be arranged.

Bi 403, 503. **Thesis.** Hours to be arranged.

Bi 405, 505. **Reading and Conference.** Hours to be arranged.

Bi 407, 507. **Seminar.** 1 hour.

Lectures on topics of biological interest by staff members, visiting biologists, and advanced students.

Bi 450. **Marine Invertebrate Types.** (g) 2 hours.

Recognition and natural history of the more common or conspicuous marine invertebrates. McConnaughey.

Bi 451. **Planktonology.** (G) 3 hours.

Chief groups of plankton organisms. The roles of the plankton in the biology of the oceans and of inland waters. Methods of collection and study. Morris.

\*Bi 454. **Algology.** (G) 6 hours.

Bi 462. **Invertebrate Zoology.** (G) 6 hours.

Survey of major invertebrate groups, with emphasis on marine forms. Students required to make anatomical studies in groups with which they are not already familiar and to classify a representative collection. McConnaughey.

Bi 474. **Biology of Fishes.** (G) 6 hours.

The anatomy, life histories, habits, and adaptive mechanisms of fishes, and their ecology. Morris.

Bi 482. **Marine Ecology.** (G) 3 hours.

Study of important marine habitats; their dominant animal and plant groups; relationships between environmental and biotic factors and the communities of organisms in the sea. Macnab, staff.

\* The courses marked with an asterisk will not be offered in the 1956 summer session.

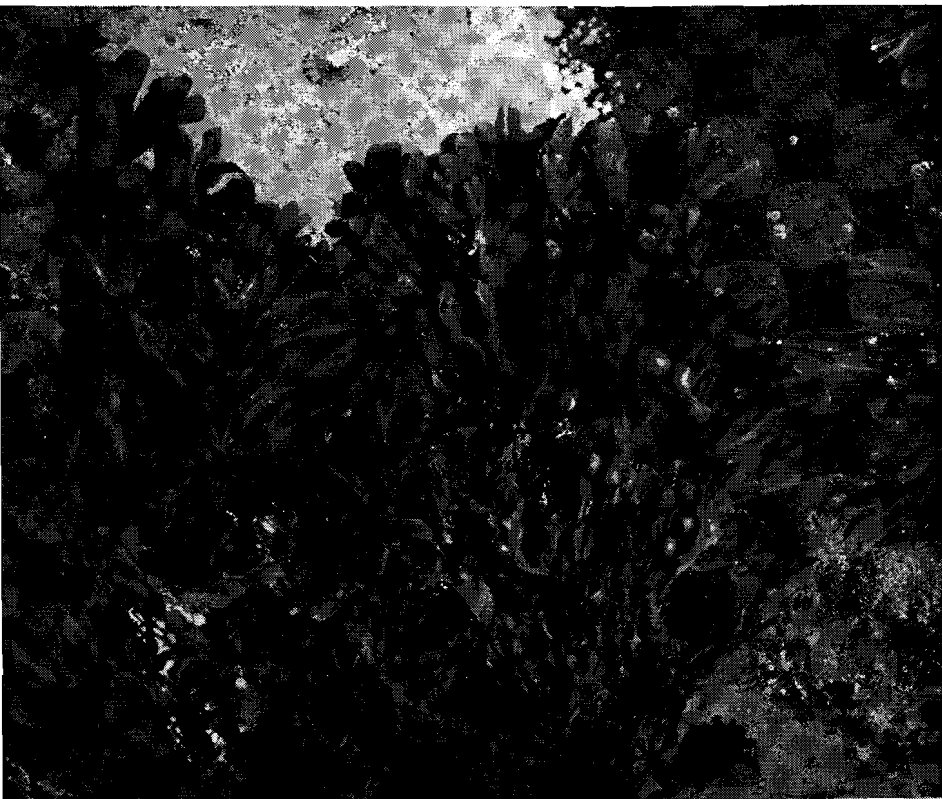
## EXPENSES

The expenses for the six-week period may be estimated as follows:

Registration fee.....	\$ 65.00
Board and room.....	100.00
Total.....	<u>\$165.00</u>

Students taking 6 term hours of work or less pay the part-time fee of \$8.00 per term hour, with a minimum fee of \$16.00. Auditor's fee is the same as the part-time fee.

All fees are payable at the time of registration. Students will be responsible for equipment issued to them. As far as practicable, occasional guests and families of registered students will be furnished board and lodging at reasonable rates.



(Photo by Ralph Buchsbaum)

Rockweed (*Fucus*) an abundant intertidal marine alga much used in the study of algal reproduction.

## STUDENT EQUIPMENT

Cots and mattresses are issued, but the student should furnish warm bedding. Clothing should include a raincoat and warm sweater; rubber hip boots or waders are essential for low-tide collecting. The water is cold (about 50 F.) and the air is often chilly during the early morning collecting hours. Each student should buy his own supplies, including a dissecting set, biology drawing paper, pencils, eraser, notebook, and will purchase his own bottles and vials if he wishes to retain a collection of specimens accumulated during his course work.

## BOOKS

A small working library is borrowed from the libraries of the State System, but students having any of the following will find them very useful, since the number of copies in the library will be limited.

- Anthony, *Field Guide to North American Mammals*.  
Borradaile, *The Invertebrata*.  
Brown, *Selected Invertebrate Types*.  
Buchsbaum, *Animals without Backbones*.  
Bullough, *Practical Invertebrate Anatomy*.  
Clemens and Wilby, *Fishes of the Pacific Coast of Canada*.  
Comstock, *Introduction to Entomology*.  
Gordon, *The Amphibia and Reptilia of Oregon*.  
Hartman and Reish, *Marine Annelids of Oregon*.  
Hegner, *Invertebrate Zoology*.  
Hesse, Allee, and Schmidt, *Ecological Animal Geography*.  
Hoffman, *Birds of the Pacific States*.  
Ingle, *Mammals of California*.  
Jewett and Gabrielson, *Birds of Oregon*.  
Johnson and Snook, *Seashore Animals of the Pacific Coast*.  
Kudo, *Protozoology*.  
Light, *Intertidal Invertebrates of the Central California Coast* (Lab and Field Text revised by Smith, Pitelka, Abbott, and Wiesner).  
Nelson, *Wild Animals of North America* (National Geographic, Nov. 1916, May 1918).  
Peterson, *A Field Guide to Western Birds*.  
Pickwell, *Amphibia and Reptiles of the Pacific Coast*.  
Pratt, *Manual of the Common Invertebrate Animals*.  
Ricketts and Calvin, *Between Pacific Tides*.  
Sanborn and Doty, *The Marine Algae of the Coos Bay-Cape Arago Region of Oregon*.

Schultz, *Key to the Fishes of Washington, Oregon, and Closely Adjoining Regions.*

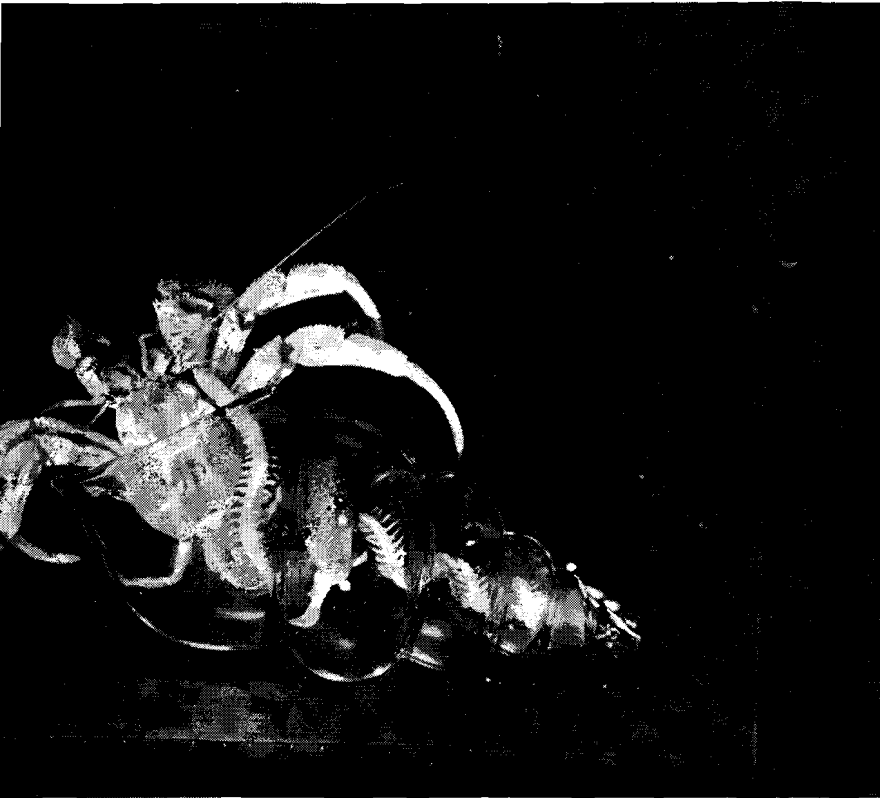
Smith, *Marine Algae of the Monterey Peninsula.*

Storer, *General Zoology.*

Ward and Whipple, *Fresh Water Biology.*

## REGISTRATION

Students interested in summer study at THE INSTITUTE OF MARINE BIOLOGY should fill out the enclosed application form and send it to Director, Oregon Institute of Marine Biology, Department of Biology, University of Oregon, Eugene, Oregon.



(Photo by Ralph Buchsbaum)

*Hermit crab and commensal polychaete worm. Glass substituted for gastropod shell permits observations of habits and relationships.*

## OREGON INSTITUTE OF MARINE BIOLOGY APPLICATION FORM

Name \_\_\_\_\_ Sex \_\_\_\_\_

If married, does your spouse expect to accompany you? \_\_\_\_\_ How  
many children and what ages \_\_\_\_\_ will accompany you?

Circle one of following or explain your status under comments:

I am an undergraduate, graduate student, public school teacher, other.  
List below the courses you wish to take. Give both number and exact name.  
Six to nine credits constitute a normal load; maximum (including seminar) 10  
units for six-week session. If post session is offered 2-3 additional credits may be  
earned.

Comments or questions:

Your full address:

Receipt of this form will be acknowledged either by acceptance for attendance  
or by a request for further information.

Send the completed form to:

DIRECTOR  
Institute of Marine Biology  
Department of Biology  
University of Oregon  
Eugene, Oregon