

MARINE BIOLOGY

Group Contract, Fall 1977 - Peter Taylor and Dave Milne, Faculty Sponsors

Animals and plants of the open sea and coastal waters were surveyed, with emphasis on marine invertebrates. Marine algae and vertebrates were considered briefly. The main features of the sea as a habitat and the adaptations of organisms to marine life were also studied. This program included lectures, films, reading, seminars, laboratory studies, and field experience.

Lectures and Films. Topics of lectures by the sponsors were: introduction to marine environments and marine organisms, plankton, Cnidaria, benthos, Crustacea, pelagic trophic systems, cycle of life in the sea, Puget Sound biology, marine vertebrates (except fishes), deep sea biology, and biogeography. Invited speakers presented lectures on: marine botany (T. Mumford), whales (K. Balcom), surf diatoms (J. Lewin), Harbor Seal (TESC-student group), and marine fishes (J. Walton). Films shown were: The Restless Sea (oceanography), and There Are No Islands Anymore (marine mammals).

Texts. Barnes, R.D., (1974). Invertebrate Zoology. Saunders; Hardy, A.C., (1965). The Open Sea. Houghton Mifflin; Kozloff, E.N., (1973). Seashore Life of Puget Sound, The Strait of Georgia, and the San Juan Archipelago. Univ. of Wash.; Kozloff, E.N., (1974). Keys to the Marine Invertebrates of Puget Sound, the San Juan Archipelago, and Adjacent Regions. Univ. of Wash.; Smith, D.L., (1977). A Guide to Marine Coastal Plankton and Marine Invertebrate Larvae. Kendall/Hunt; Sumich, J.L., (1976). Introduction to the Biology of Marine Life. Wm. C. Brown.

Seminars and Study Questions. Weekly sessions were held to review and discuss assigned reading. Study questions based on the reading were assigned for written responses and discussion. Two additional seminars were scheduled to discuss selected scientific articles on intertidal marine ecology.

Field Trips. Field trips were conducted to the Seattle Aquarium, two southern Puget Sound beaches and, on San Juan Island, intertidal sandflat (False Bay), rocky shore (Cattle Point) and marina floats (Friday Harbor). Boat trips were scheduled on the 55-foot Hydah for dredging and bottom trawling among the San Juan Islands.

Laboratories. At TESC, scheduled lab sessions were held on plankton, marine algae, benthic infauna, marine fishes, epifaunal invertebrates, and fish stomach analysis. Field activities were scheduled in conjunction with the lab sessions to collect the organisms and to demonstrate techniques of plankton sampling, bottom trawling, dredging, bottom-grab sampling, and beach seining. Twelve days were spent at the Friday Harbor Labs (University of Washington), San Juan Island. Unscheduled laboratory time was available for "species-accounts" studies (see below).

Journals and Species Accounts. Strong emphasis was given to the development of effective detailed records of observations in Laboratory and Field Journals. In addition, each participant was expected to compile accounts of the biology of 50 different species, drawing information from the laboratory and field journals and from published references. For about 20 of the species, taxonomic groups were designated by the sponsors for broad representation of marine organisms.