

NATURAL HISTORY OF HAWAII  
Group Contract, Spring 1990

The program was about the geology and biology of the Hawaiian Islands. Five weeks were spent in Hawaii, on the islands of Hawaii and Maui, for field studies of volcanology, geomorphology, island ecology, and the ecology of marine reefs and shores. Thematically, the studies were focused on the native biota, its biogeographic significance, the impacts of human occupation and associated introduced "alien" biota, and conservation initiatives.

The texts for assigned readings and seminars were Volcanoes in the Sea: the Geology of Hawaii (G.A. Macdonald, A.A. Abbott, and F.L. Peterson 1986), Hawaii: A Natural History (S. Carlquist 1980), "Hawaii, Showcase of Evolution" (Natural History, special issue, December 1982), and Conservation Biology in Hawai'i (C.P. Stone and D.B. Stone 1988). Various field guides and other references about plants, birds, fishes, seaweeds, and marine invertebrates of Hawaii were recommended for individual purchase or taken as a portable library to Hawaii.

Before going to Hawaii, introductory lectures on Hawaiian geology and ecology were presented, and readings were assigned in the texts. A field trip was conducted to a site on the Strait of Juan de Fuca to observe Pacific Northwest temperate/continental rocky shore marine life for later comparisons with Hawaii. In Hawaii, in addition to the field studies, weekly seminars were held to discuss the assigned readings. The book Conservation Biology in Hawai'i was the basis for the thematic seminars.

For the field studies in Hawaii, the group was based eight days on Hawaii Island (the "Big Island") to observe volcanically produced, and subsequently weathered and vegetated, landforms in Hawai'i Volcanoes National Park, ranging in age from very young (from a present eruption) to historic and prehistoric. The vegetation and birdlife of the variously-aged sites were also studied. A trip was made also to the South Kona coast to observe marine reef and shore life by snorkeling. The group resided on Maui Island for twenty-eight days to examine older, more weathered and eroded, landforms and volcanic structures, and the associated vegetation and birdlife, in Haleakala National Park and West Maui. The marine reefs and shores of Maui were observed especially on the southern coast of West Maui, where the field camp was located, with additional sites along the leeward and windward coasts of Maui.

As an ongoing primary assignment, each student was expected to document all field studies, whether group field trips or individual field work, in a scientifically rigorous field journal. Other special assignments for individual work were: (1) species resumes summarizing systematic, geographical, and ecological highlights from references and personal field observation for at least fifteen species representing terrestrial

plants, birds, and mammals, and marine seaweeds, invertebrates, and fishes; (2) research on a biotic or geologic specialty (taxonomically or topically defined) based on references and field observations for presentation as a poster, with discussion; and (3) a research project (also taxonomically or topically defined) emphasizing field studies, for presentation as written and oral reports.

Faculty: Dr. James M. Stroh (geology) and Dr. Peter B. Taylor (biology)