

NATURAL HISTORY OF HAWAII
Group Contract, Spring 1988

The program was about the geology and biology of the Hawaiian Islands. Eight weeks were spent in Hawaii, on the islands of Hawaii, Oahu, and Maui, for on-site field studies of volcanology, geomorphology, island ecology, and marine reef and shore ecology. Thematically, the studies were focused on the native biota, its biogeographic significance, the impacts of human occupation and associated introduced biota, and conservation initiatives.

The texts for assigned readings and seminars were Volcanoes in the Sea, (Gordon A. Macdonald, Agatin A. Abbott and Frank L. Peterson, 1986); Hawaii: A Natural History (Sheilwin Carlquist, 1980); Hawaii's Terrestrial Ecosystems: Preservation and Management (Charles P. Stone and J. Michael Scott, 1985); and Extinction (Paul and Anne Ehrlich, 1981). Various field guides on plants, birds, fishes, seaweeds, and marine invertebrates were recommended for optional individual use.

Introductory lectures on Hawaiian geology and ecology, and a film on "The Behavior and Ecology of Coral Reef Fishes," were presented by the faculty before going to Hawaii. In Hawaii, weekly seminars were held to discuss assigned readings in the texts. In addition, talks and field tours were arranged with various resource-persons and agencies (National Park Service, University of Hawaii, Bernice P. Bishop Museum, Waikiki Aquarium, and The Nature Conservancy) in Hawaii on the following topics: native birds and plants, control of alien plants and fire ecology in Hawaii Volcanoes National Park, ecology of lava caves, Hawaiian culture, biotic preserves, aquatic life in Hawaiian streams, native insects, and aquaculture.

Principal field sites and features observed in Hawaii were, by island: (1) Hawaii ("Big Island") - constructional and young volcanic structures (and active eruption), and related ecology in Hawaii Volcanoes National Park (Kilauea and Mauna Loa shield volcanoes), erosional landforms and related ecology of the Waipio Valley and Akaka Falls, introduction to reef corals and associated marine life of the Kona Coast, and Hawaiian cultural sites; (2) Oahu - coastal ecology and geology of Kaena Point, marine life and geology of Hanauma Bay and Sharks Cove (Waimea), and erosional landforms and vegetation of the Koolau Range on windward Oahu; and (3) Maui - geology and ecology of East Maui (Haleakala National Park and windward coast to Keanae) and West Maui (Iao Valley and leeward roadside sites), intertidal marine ecology (leeward and windward sites), and reef ecology (leeward sites).

Field studies in Hawaii were conducted as whole-group field trips, and as individual or small group excursions and projects. As an ongoing primary assignment, each student was expected to document all field studies in a rigorous field journal, following specified guidelines for format, content, and style. Special assignments were: (1) a paper summarizing and discussing field observations and related information from references and resource-persons for Hawaii (Big Island) and Oahu; (2) a written biological resume of a selected organism (preferably a marine species) presented as a poster; and (3) an individual or team field research project culminating in a written report, or, optionally, compilation of about ten species resumes (content similar to the previous poster assignment) for a variety of organisms.

Faculty: James M. Stroh (Geology) and Peter B. Taylor (Ecology).