



Natural History Field Seminars, Workshops, and Courses at Eagle Hill on the Eastern Maine Coast

Marine Benthic Macroinvertebrates, Communities, and Habitats

July 15-21, 2012

The diverse marine habitats of downeast Maine hold a rich array of boreal benthic invertebrates that contribute to the high productivity of the region. This seminar provides an overview of the natural history and ecology of the macroinvertebrates. Primary topics are benthic communities and habitats, biogeography, ecological health, and ecosystem services. Field trips by rubber boots to intertidal mudflats and by small boat to subtidal soft-bottom habitats provide samples for identification and quantification. Labs provide opportunities to key out common benthic invertebrates, focusing on crustaceans, molluscs, and echinoderms, which are often the first groups to drop out of benthic communities if environmental conditions become degraded. Computer software used to analyze community data is introduced, using a nearshore Gulf of Maine data set. Participants will learn the skills needed to continue further studies of benthic invertebrate communities on their own. This seminar is intended for conservation biologists, marine researchers, environmental consultants, teachers, natural historians, and others just curious about what lives down there on the bottom and how they contribute to marine ecosystems.

Stephen Hale (hale.stephen@epa.gov) is a benthic ecologist at the Atlantic Ecology Division laboratory of the U.S. Environmental Protection Agency in Narragansett, Rhode Island. His current research on the ecology of seafloor fauna in Narragansett Bay and the Gulf of Maine includes development of ecological indicators of ecosystem health, quantifying ecosystem services, and the effects of hypoxia on benthic communities. Previously, he was a Research Associate at the University of Rhode Island's Graduate School of Oceanography and a Fishery Biologist with the Alaska Department of Fish and Game. He is the current President of the New England Estuarine Research Society. In addition to a number of scientific publications, he recently contributed a chapter on marine bottom communities to *The Ecology of Block Island*, published by the Rhode Island Natural History Survey.

