In the last decade, the boating population has exploded, and moorings are increasing in number. The demand for mooring locations in Connecticut has grown, while the number of vessels most harbors can accommodate is fairly fixed. A mooring refers to a structure or anchor used to hold secure a boat in a certain area, with a float or buoy attached. Years ago, only inner harbors were used for mooring areas. Now, outer harbors and even bays and ocean-front properties have moorings that are very exposed (INAMAR, 2000). Safety of a boat on a mooring depends on a number of elements—one of them is the type of bottom or soil surface layer materials.

The Subaqueous Soil Survey

Traditional soil mapping is conducted by a field soil scientist trained to understand the interaction of soil forming processes and soil-landscape relations. Mapping soil typically involves field work with the soil scientist traversing the landscape and digging many holes to observe the soil condition and classify the soil. Subaqueous soil mapping is performed in much the same way, except the soil is under water. Instead of topographic maps to provide landscape position, subaqueous soil mapping uses bathymetric maps to identify landscapes and landforms. Shovels are replaced by augers and special tools such as peat corers and vibracores to obtain the soil samples.

Soil samples are described to depths up to 200 cm. If the soils are very soft and fluid (high $n$ value soils) or high in organic material, the peat sampler or push tubes are used. The $n$ value is a measure of the amount of water a soil can hold relative to the clay and organic matter content. It was originally applied to very young alluvial marine or fluvial soils in the Netherlands and derived as a measure of soil “ripening” (Pons and Zonneveld (1965). Its application in Soil Taxonomy (Soil Survey Staff, 1999) is for a prediction of load support or degree of subsidence once a soil is drained. On the basis of these descriptions, representative soils are sampled for laboratory analysis from each landform.

Fig. 1. Photograph of a boat mooring area in Little Narragansett Bay. In the last decade, the boating population has exploded and moorings are increasing in number.