

## SITE SELECTION 8.2

The study sites selected for sampling bottom material will affect the quality of the data collected. Guidelines are provided in this section for selecting the location and number of subareas or sampling points at a site. Apply these guidelines as appropriate for meeting study objectives.

### LOCATION OF SAMPLING SITES 8.2.1

For most studies, in most bodies of water, a single site or sampling point is not adequate to represent the physical properties, distribution, and abundance of chemical constituents and biologic communities in a water body. Each body of water, whether flowing or still, has a unique set of conditions to be identified for the site-selection process. These conditions must then be evaluated with respect to study objectives for sampling bottom material. Mudroch and MacKnight (1994) state, "There is no formula for design of a sediment sampling pattern which would be applicable to all sediment sampling programs."

Before selecting a site location, review the historical information available about the site, such as flood history, land use, and type and source of any previous contamination. Delineate in three dimensions the environmental system or portion of that system to be studied. When selecting a sampling site, consider the safety of field personnel and the type of equipment and sampling methodology that will be needed. After the site has been selected, map the area from which samples will be collected. Consider using global-positioning equipment (for site positioning), a side-scan sonar sub-bottom profiler, and (or) acoustic survey (such as echo, seismic reflections, and refraction) to characterize the configuration of the stream bottom, and photography to help identify sampling location(s).

***As part of the process for selecting site locations, consider study objectives with respect to:***

- ▶ The proximity to the sampling site of manmade structures such as bridges, roads, and piers—selecting sites near such structures can interfere with data-collection objectives and therefore such sites normally are avoided.
- ▶ Locating sites near a water discharge-stage gaging station—such site locations are advantageous for data interpretation.