|  |  |
| --- | --- |
| • The extent and abundance of stranded, dead, or moribund organisms | • Abundance or percent cover of certain oiling types (e.g., tarballs) |

|  |  |
| --- | --- |
| • site markers (appropriate for substrate type)  • surveying flags, tape  • 30 m fiberglass tape measure, marked in cm  • quadrats (1.0, 0.25, and 0.063 m2)  • GPS  • compass  • hand counter  • meter stick, rulers  • identification charts/guides  • field notebook (water-proof paper)  • pencils, waterproof pens, markers | • percentage estimation charts  • shoreline oil terminology code sheet  • standardized data sheets (waterproof)  • 35 mm camera, video camera  • slide and print film, video tapes  • photo scales, photo log forms  • specimen sample bags/jars, cooler and ice  • waterproof labels  • chain of custody forms and labels |

mulation)

- shoreline habitat type

- dominant species or types of biota present

- presence of stranded dead or moribund animals

- extent and degree of shoreline oiling (use shoreline oil terminology codes and % cover charts)

- type or degree of shoreline cleanup performed (particularly note removal of stranded biota)

•If significant strandings of biota are observed, they must be documented promptly to avoid loss to predation, or removal by tidal action or beach cleanup. Qualitative documentation of strandings would include systematic observations at representative sites, including:

- location of the survey sites using a GPS and an appropriate basemap; field markings so that repeat surveys can be conducted as needed

- photodocumentation using scales and/or quadrats of the general area and stranded organisms so that the relative abundance of species can be identified

- estimates of the approximate length and width of the stranding area

- record of the condition of stranded organisms (e.g., dead, moribund, decomposed) and any atypical behavior(s)

- similar documentation at appropriate reference areas

•If a significant stranding event occurs over a large area and detailed sampling may be justified, a biostatistician should be consulted as soon as possible. If time and personnel permit, a preliminary estimate of stranded biota abundance should be made. The strategy for estimating the abundance of stranded biota will depend, in part, on how those organisms are distributed on the shoreline. In most cases, dead organisms will be distributed in a relatively narrow band at the last high tide line parallel to the shoreline. At selected segments:

- lay out a 30-m tape parallel to the shore at the high tide line

- randomly select at least 5 locations along the tape. Lay out a transect perpendicular to the shore (shore-normal) at each of the five locations

-