**FIELD PROTOCOLS FOR NRDABiota/Tarball Stranding Documentation**

Objectives

•To document or estimate the abundance of stranded biota or discrete oil deposits such as tarballs

•To obtain preliminary information to help evaluate the need for more comprehensive studies

Parameters

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

Equipment

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| • 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 |

# Methods

•Conduct overflights within two-hours of low tide (before or after), to determine the extent of visible contamination and stranding of biota. Use USGS 7.5 minute topographic maps, vertical aerial photographs, or other detailed maps to record observations. Record the:

- locations and approximate lengths of oiled shoreline segments

- approximate width and degree of oiling along different segments of shoreline

- evidence of stranding or mortality events (bodies, gulls feeding)

- presence or location of debris or wrack accumulations (where biota might also accumulate)

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l 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

- scale the width of the shore-normal transects to the size and abundance of the stranded organisms. This could vary from 0.1 to 1 m wide

- count (or collect) the number of individual organisms or oil type (e.g., tarballs) within each shore-normal transect; for very large numbers of individuals, it may be necessary to conduct counts in randomly located quadrats along the transect

- estimate the total number of stranded organisms by multiplying the average density of the five transect belts by the total length of the segment

- consider a subtidal survey to evaluate the condition of organisms in nearshore areas adjacent to major strandings, and to see if some organisms are not being stranded onshore

- conduct similar stranding estimates in appropriate reference areas

- be aware of beach cleanup activities so that removal or disposal of stranded or dead organisms (or lack thereof) does not confound initial or repeat sampling efforts

- photodocument the stranding and sampling effort in detail

•Consider collecting reference specimens or a large sub-sample of individuals for species identifications; age, size, and sex determinations; necropsy; or chemical analyses. Store samples on ice while in the field, freeze for longer-term storage or transport. If chemical and certain necropsy analyses are not planned, invertebrate and fish samples can be preserved in a chemical fixative such as 10% buffered formalin. Check with the laboratory or specialist conducting analyses about appropriate preservation methods and holding times. Specimens preserved in formalin must be shipped as hazardous materials.

References

NOAA Damage Assessment Center, 1997, Field forms and codes. Appendix 6: in Natural Resource Damage Assessment Emergency Guidance Manual, Version 3.1. NOAA Damage Assessment Center, Silver Spring, MD.