



NOAA Marine Debris Program

Marine Debris Monitoring and Assessment Project

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Marine Debris
[mə-rēn' də-brē'] *noun*

Any persistent solid material that is manufactured or processed and directly or indirectly, intentionally or unintentionally, disposed of or abandoned into the marine environment or Great Lakes.

General

Q: Our volunteers cannot make the regularly scheduled survey. How should we reschedule the survey?

A: Surveys should be conducted on a regular, every 28 day schedule. If you need to miss a survey it should be made up within a three day window of the original survey date (i.e., 28 days \pm 3 days). That gives you a seven day window for completing the missed survey.

Q: How many photos should be taken at each survey?

A: Taking a photo of the entire site from the beginning and end points at each survey is a good way to visually capture changes in shoreline topography and other characteristics that may affect debris deposition. In addition, please take photos of interesting, unidentifiable, or fouled debris (organisms growing on or attached to debris).

Q: How do I keep track of the date on which photos were taken?

A: You should download the photos to your computer following each survey. Change the filename of the photos to include a date, location, and photo # (e.g., 06-10-2012_LongBeach#01.jpg). You can also write comments about the photos you've taken in the notes section of the data sheet.

Shoreline Characterization

Q: If my shoreline is greater than six meters wide, I need to record GPS coordinates at all four corners of survey site. How do I take GPS coordinates at the water's edge when waves are washing in and out?

A: When you conduct your initial shoreline characterization it is important to arrive at the site at low tide so that you can capture the entire width of the beach. In order to record GPS readings at the water's edge, watch the breaking waves to try to determine the shoreward extent of the water. Record coordinates at that point. If a portion of the shoreline site is underwater at subsequent surveys do not try to enter the water to survey. Only survey the exposed area of the shoreline.

Q: How do I determine the tidal distance?

A: Tidal distance is the horizontal distance on the beach between the average low and high tide lines. Arrive at your site at low tide and measure the distance from the water's edge to the high tide wrack line.

Q: My shoreline site is longer than 100 m. How do I select a 100 m segment?

A: Select your 100 m segment based on areas with relatively low public usage, little evidence of debris from day use (picnic debris), and areas that are not immediately adjacent to an obstruction to nearshore circulation (e.g., breakwater, point of land). Also consider landmarks or permanent features to assist in returning to the same segment at future dates.

Survey Protocols

Q: I found an item of debris smaller than 2.5 cm in the longest dimension. Why can't I record it on the data sheet?

A: The 2.5 cm size cutoff (about the size of a bottle cap) is used as a standard metric because it is the smallest size that can reliably and consistently be detected with the human eye. Other methods exist for evaluating smaller debris (e.g., sieve samples), but those are beyond the scope of this project.

Q: Do surveys always need to be conducted at low tide?

A: The NOAA protocols ask for surveys to be conducted at low tide so that the entire area where debris may be deposited is surveyed. However, in some areas where tidal ranges are measured in 10's of meters, it may not be practical to survey at low tide when large mud flats or wave-cut platforms are exposed. If after a few surveys you notice that an insignificant amount of debris is found in the intertidal region (all debris is washed up to the wrack at or above the high tide line), you may conduct surveys at any time before or after high tide. Please let NOAA know if you plan to take this approach.

Q: Why do we need to measure beach width at every survey?

A: Knowing the width of the shoreline allows NOAA to report debris densities in units of # of items per square meter of shoreline. NOAA asks for the shoreline width at each survey in order to evaluate the variability in shoreline width over the course of the project. Ideally, you could note the shoreline width at the average lowest tide of the day (tidal height 0' according to tide tables or graphs), referred to as Mean Lower Low Water (MLLW, more information available at: http://tidesandcurrents.noaa.gov/datum_options.html).

Q: How do you record the width of the site if the back of the shoreline is not parallel to the water (e.g., a U-shaped site)?

A: If the shoreline site is irregularly shaped, you will need to measure the width in a few different places in order to get an accurate shoreline area. Please sketch the shape of the site in the data sheet notes section. Break the shoreline into a series of rectangles and measure the length and width of each. This does not need to be done at every survey. Please consult NOAA MDP if you have questions (MD.monitoring@noaa.gov).

Q: What should I do if I cannot determine the debris material type?

A: If you don't know whether an item is rubber, plastic, metal, etc., record it under "other," provide a description, and take photos.

Q: I found multiple pieces of a larger piece of debris. Should I record it as one item or multiple items?

A: Record the item in the condition you found it. If the item was broken when you found it, record each piece separately. If it broke while you were examining it, record the debris as one item only.

Q: There is debris beyond the first barrier or change in substrate at the back of the shoreline. Can I record those items?

A: Items located beyond the first barrier can be noted and described in the notes section of the data sheet.

Q: What should I do if I find debris fouled with what might be invasive species?

A: If you suspect that you may have found debris with invasive species, please take clear photos of the item, attached organism, and any identifying marks on the object. Remove the item from the water or shoreline and place on dry land well above the high tide line. If you are on the West Coast, in Hawaii, or in Alaska, please contact the appropriate state JTMD invasive species coordinator listed at <http://www.anstaskforce.gov/Tsunami.html>. In your report note the current location of the item.

Q: What should I do if I find a piece of hazardous debris?

A: If you encounter hazardous items such as oil or chemical drums, contact your local authorities (a 911 call), state environmental health agency, and the National Response Center 1-800-424-8802. Provide as much information as possible so the authorities can determine how to respond.



Q: What should I do if I find a derelict vessel or other large object that may become a hazard to navigation?

A: Contact your local authorities (a 911 call), state environmental health agency, and your local [U.S. Coast Guard Command](#). Provide as much information as possible so the authorities can determine how to respond.

Q: What should I do if I find an item that may be a valuable or significant memento?

A: If you are on the West Coast, in Hawaii, or in Alaska, the item may be from the 2011 tsunami in Japan. If an item has unique identifiers and may be traceable to an individual or group, please take photos and report the item to DisasterDebris@noaa.gov (note that the item was found during a monitoring survey). Use your best judgment to determine what may or may not be valuable. Remember that debris from abroad washes up on our shores all the time. You do not need to take notes or photos and report every item with Asian characters or writing.

Q: I am completing standing-stock surveys. Why do I need to take GPS coordinates of all four transects at every survey?

A: Taking GPS coordinates of each transect helps NOAA to track the location of transects and to ensure that the survey site location is not changing over time (due to moving landmarks or shifting beach dynamics). Additionally, it helps to ensure that site start/end points are located correctly and that equipment is functioning properly.

Q: I am completing standing-stock surveys, and at multiple surveys I have been encountering the same item. Should I tally this item at each survey (assuming it is in one of the random transects)?

A: Yes! This is part of the reason that standing-stock surveys are informative. They provide information on the density of debris on the shoreline and how it changes over time. Debris that remains on the shoreline for long periods of time is part of the “standing-stock.” The persistence of the item can be noted in the notes section of the data sheet.

Data Entry and Submission

Q: How do I get access to the NOAA MD-MAP database?

A: Send an email to MD.monitoring@noaa.gov for questions about the database or to request a login.

Q: How often should I upload data to the NOAA MD-MAP database?

A: Please enter data into MD-MAP as soon as possible after each survey to ensure that data is entered accurately.

Q: What should I do with the paper survey data sheets after submitting data to NOAA?

A: If possible, please retain the paper data sheets until the end of the project. Alternatively, you can mail them to NOAA.

Q: When will I receive the results of the surveys?

A: NOAA will compile data from the various sites and report results through a newsletter that will be distributed to monitoring partners and other interested parties.

