Environmental Plastic Assessment Program (EPAP) Data Sheet

☐ **CHECKING THIS BOX INDICATES THAT YOU HAVE READ THE INFORMATION ON PAGES 6 - 8 OF THIS DOCUMENT, AS WELL AS THE FIELD TRAINING GUIDE PRIOR TO FILLING OUT THIS DATA SHEET.**

TEAM INFORMATION

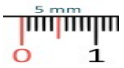
Team Lead Name / Email Address:		
Other Surveyors Full Name(s):		
Other Surveyors Email Address(es):		
Organization Name: (if applicable)	**Organization Location: (City, Country)**	
Survey Date: (mm/dd/yyyy)	**Survey Start Time: (am/pm)**	**Survey End Time: (am/pm)**

SURVEY AREA

RIB # (circle which applies): #1 #2 #3 #4

Name of Beach:	**Coordinates (Degrees, Minutes, Seconds)** **Lat: _____ Long: _____**	
Major Usage: (✓most appropriate) ☐ Recreation ☐ Commercial ☐ Remote/Unused ☐ Other: _____	**Reason for Location: (✓ all that apply)** ☐ Proximity/Convenience ☐ Known for Debris ☐ Other: _____	**Substrate Type: (✓ all that apply)** ☐ Sand ☐ Pebble ☐ Rip Rap (large boulders) ☐ Seaweed ☐ Other: _____
Nearest River Output Name: _____ **Approx. Distance from "zero" on the Spine: _____m / km**		
Last Tide Before Survey (circle one): Low / High **Height: _____ ft. / m Time: _____ am / pm**	**Next Tide After Survey (circle one): Low / High** **Height: _____ ft. / m Time: _____ am / pm**	
Wind Speed: (✓ most appropriate) ☐ Calm (0-3mph) ☐ Moderate (13-18mph) ☐ Gentle (4-12mph) ☐ Strong (over 19mph)	**Wind Direction: (see instructions)** _____	
Slope: (✓ most appropriate → see glossary) ☐ Winter Profile ☐ Summer Profile	**Compass Direction: (see instructions)** _____ °	
Comments / General Observations of the day:		

CLEAN OCEANS INTERNATIONAL

MACRO-Debris Rib Surface Survey: plastic must be > 5mm  A pencil eraser is 5mm 

	Rib #1 (closest to 0m)		Rib #2		Rib #3		Rib #4 (closest to 100m)			
Starting Point along the Spine									**Put Totals of all 4 Ribs in**	
Rib Length (m)									**the Columns Below ⇩**	
Item Type	**Fresh**	**Weathered**	**Fresh**	**Weathered**	**Fresh**	**Weathered**	**Fresh**	**Weathered**	**(F) Total**	**(W)**
Balloons										
Bottles										
Bottle Caps (incl. combined metal/plastic)										
Cigarette Butts										
Cups and Lids										
Disposable Lighters										
Film Plastic (stretchy / thin e.g. bags)										
Fishing Line										
Food Wrapper / Packaging										
Hygiene Items e.g. toothbrush, tampons, etc										
Medical Waste / Syringes										
								PAGE 2 TOTALS GO HERE →	**TOTAL (F)**	**TOTAL (W)**

CLEAN OCEANS INTERNATIONAL

MACRO-Debris Surface Rib Survey: Plastic must be > 5mm  A pencil eraser is 5mm 

	Rib #1		Rib #2		Rib #3		Rib #4			
Item Type	**Fresh**	**Weathered**	**Fresh**	**Weathered**	**Fresh**	**Weathered**	**Fresh**	**Weathered**	**(F) Total**	**(W)**
Plastic-based cloth e.g. nylon/ polyester										
Plastic Rope & Nets										
Shotgun Shells / Wads										
Straws										
Styrofoam										
Toys										
Urethane Foam										
Misc. Plastic										
								PAGE 3 TOTALS GO HERE →	**TOTAL (F)**	**TOTAL (W)**

ADD: TOTALS from MACRO-Debris Surface Rib Surveys pgs. 2&3 (Use Numbers)

	Total Fresh	Total Weathered
PAGE 2 TOTALS		
PAGE 3 TOTALS		
PAGE 2 & 3 TOTALS GO HERE →	**TOTAL (F)**	**TOTAL (W)**

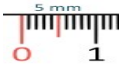
CLEAN OCEANS INTERNATIONAL

MACRO-Debris Surface Accumulation Survey: Plastic must be > 5mm  A pencil eraser is 5mm 

If unable to complete an accumulation survey, check box as to why:			
☐ Not enough time	☐ Not enough people	☐ Too much area	☐ Too much trash
☐ Other:			

Item Type	Fresh	Weathered	(F) Total	(W)
Balloons				
Bottles				
Bottle Caps (incl. combined metal/plastic)				
Cigarette Butts				
Cups and Lids				
Disposable Lighters				
Film Plastic (stretchy / thin e.g. bags)				
Fishing Line				
Food Wrapper / Packaging				
Hygiene Items				
Medical Waste / Syringes				
Plastic-based cloth e.g. nylon / polyester				
Plastic Rope & Nets				
Shotgun Shells / Wads				
Straws				
Styrofoam				
Toys				
Urethane Foam				
Misc. Plastic				
		PAGE 4 TOTALS GO HERE →	**TOTAL (F)**	**TOTAL (W)**

CLEAN OCEANS INTERNATIONAL

MICRO-Debris Surface Rib Survey: plastic must be ≤ 5mm  A pencil eraser is 5mm 

	Fresh	Weathered	Total (F)	Total (W)
Rib 1				
Rib 2				
Rib 3				
Rib 4				
		MICRO DEBRIS TOTALS GO HERE →	**TOTAL (F)**	**TOTAL (W)**

CUMULATIVE SURVEY TOTALS (Use Numbers)

	Total Fresh	Total Weathered	TOTAL
Totals from MACRO-Debris Surface Rib Survey (pg. 3)			
Totals from Accumulation Survey (pg.4)			
Totals from MICRO-Debris Surface Rib Survey (above)			
		TOTAL OF ALL PIECES GOES HERE →	

TOTAL WEIGHT OF ALL PIECES GOES HERE →	

GLOSSARY:

Survey Area: If the area being surveyed is extremely wide, the spine can be placed approximately 50m from the water's edge, or at the change of substrate. Each individual 'Team Lead' needs to decide on how large the survey area should be. Once decided, all subsequent survey dimensions in this survey area must remain the same to maintain consistency.

Film Plastic: Stretchy, thin-gauge packaging material used as a bag or a wrap. Examples include grocery sacks, trash bags, drycleaner bags, agricultural sheeting, and plastic wrap. This type of plastic will stretch under pressure from your thumb.

Food Wrapper / Packaging: Whole pieces or fragments of non-stretchy plastic film such as candy wrappers, chip bags, cigarette box wrappers, etc.

Hygiene Items: Whole pieces or fragments of toothbrushes, combs, hairbrushes, tampons etc.

Medical Waste: Medical face masks, syringes, gloves, gowns etc.

Micro Debris: Any pieces of plastic less than or equal to 5mm.

Miscellaneous Plastic: Pieces or fragments of plastic that may or may not be identifiable. This category includes countless different types of plastic such as hangers, plant pots, cigar tips, etc.

Rib: 50m of tape running perpendicular to the 100m 'spine' (see below). The four ribs begin at randomly generated starting places along the spine. The surveyors may need to shorten the rib to less than 50m on narrow beaches.

Spine: A 100m section of the shoreline that runs parallel to the water's edge and is typically located in the back beach area where there is a change of substrate.

Substrate: The type of material that makes up the shoreline that you are surveying. The substrate can be sand, gravel, rock, seaweed, grass, or other materials.

Summer Beach Profile: The summer beach profile features a steeper slope leading down to the water compared to the winter beach profile. It's distinguished by the presence of a raised area of sand known as the berm, formed by the accumulation of extra sand brought in by waves and tides. Overall, summer beaches are characterized by their pronounced berms and higher accumulation of sand compared to winter beaches.

Surface Accumulation Survey: This survey documents the remaining 80% of the survey area not covered in the Surface Rib Survey (see below). Volunteers line up at arm's length at one end of the 100m spine and collect and record all plastic items along the spine. This can only be done if you have enough volunteers to cover the entire survey area, and time to complete the task.

Surface Rib Survey: Starting at the spine, volunteers walk toward the water, surveying one side of the rib at a time. Collect-and record all plastic items only on the surface that are greater than 5mm. The survey area is 2.5m on either side of the rib, making a total of 5m per rib. After four surface rib surveys are completed, 20m (20%) of the survye area has been documented.

Urethane Foam: Soft, porous foam material typically from a mattress or seat cushion which commonly turns brown as it oxidizes.

Winter Beach Profile: The winter beach profile usually has a gentle slope towards the water, sometimes nearly flat. Unlike summer beaches, it tends to lack a pronounced berm, as storms and high tides often wash away some of the sand. Consequently, winter beaches typically have less sand compared to their summer counterparts.

EPAP DATA SHEET INSTRUCTIONAL GUIDE:

IMPORTANT! ➔ We are only collecting items that are either 100% plastic, or have plastic integrated into them. Items such as glass, metal, paper, or organic materials (e.g. food scraps) can be collected in a *separate container* to be disposed of and *not counted or weighed*. More details on this can be found on pg. 8 of this document.

Please use a blue or black pen and ***write as neatly as possible***. Ensure that *all fields* on the sheet are thoroughly filled out. Please refrain from using abbreviations, for example, write out the complete four-digit year (e.g., 2024). In all of the TOTALS boxes, use numbers, not tick marks.

FOR YOUR SAFETY→ DO NOT DIG INTO THE SURFACE OF THE SAND WITH YOUR HANDS or TOUCH/LIFT POTENTIALLY HAZARDOUS OR HEAVY ITEMS.
NOTIFY YOUR LOCAL OFFICIALS IF SUCH ITEMS ARE ENCOUNTERED.

→ REMEMBER TO WASH YOUR HANDS OR USE HAND SANITIZER AFTER SURVEYING ←

TEAM INFORMATION (pg. 1):

- **Team Lead Full Name / Email Address:** The Team Lead will be responsible for checking for accuracy and signing off on all data sheets. They will be available for contact, should the need arise. Please enter their information here.
- **Surveyor's Full Name(s) / Email Address(es):** Please enter the other participants information here.
- **Organization Name and Location:** Please provide the name and location of the High School, College, Company, or Vendor you are associated with. If you are working independently, simply write "Citizen Scientist".
- **Please be sure to include the *Survey Date*, *Start*, and *End Times* (including am / pm).**

SURVEY AREA (pg. 1):

- **RIB # (circle which applies):** In certain instances, large school groups are subdivided into groups of two or four. Each designated group then marks the specific Rib they are surveying on their individual data sheet. More commonly, small groups conduct surveys collectively on all four Ribs, therefore they would circle all four Rib #s.
- **Name of Beach:** Write in the formal name of the beach. If the beach has local nicknames, you can include them.
- **Coordinates:** You can find apps on your phone that will tell you your precise latitude and longitude. Please find an app that uses Degrees, Minutes, and Seconds for your location and record those 6 numbers.
    - This should look something like 36º, 47', 15" N and 122º, 18', 30" W. Use a small circle for degrees (º), a single quotation mark (') for minutes, and a double quotation mark (") for seconds.
- **Major Usage and Reason for Location** fields should be self-explanatory.
- **Substrate Type:** (see glossary) Select the appropriate box or provide a descriptor if the available choices do not apply.
- **Nearest River Output Name:** Typically, there is a river or creek near the survey area. If you are unaware of where this might be, you can refer to Google Maps or Google Earth.
- **Approximate Distance from "zero" on the Spine:** Estimate to the best of your ability how far the river mouth is from your Spine, using the zero end of the Spine. *Please use Metric for this measurement*. If you are used to miles or feet, you can convert to kilometers or meters. There are 0.62 mile/km and 3.28 ft/meter

- **Last Tide Before Survey and Next Tide After Survey:** Please refer to your local tides which can be found in a Tide Book, newspaper, or the internet. For U.S. tides, use *feet*. If you are outside the U.S. and the standard is meters, use meters. Typically, there will be two digits such as 6.1ft, or -0.8m, etc.

- **Wind Speed:** For Wind *Speed*, we are using general categories with descriptives such as Calm (0-3mph), Gentle (4-12mph), Moderate (13-18mph), and Strong (over 19mph).

- **Wind Direction:** For Wind *Direction*: keep in mind, winds are named on their origin (where they are coming *from*), not their destination. Use one of the following: North (N), Northeast (NE), East (E), Southeast (SE), South (S), Southwest (SW), West (W) or Northwest (NW). Use your compass to help you determine direction.

- **Slope: Summer vs Winter Beach Profiles:** See glossary for descriptions. If your beach is all gravel, or covered with seaweed, this may not apply, and you can just enter NA.

- **Compass Direction: BEFORE RECORDING THIS MEASUREMENT,** Be sure to set up your 100m spine and then enter the compass direction (between 0 and 360 degrees) that you observe when standing facing the water with your back to the spine. Some smartphones include a compass app. If not, you can find one on the internet.

- **Comments / General Observations of the day:** Please include your general observations for the survey. For example, "Today we found mostly small, weathered plastic in the wrack line near back of the beach."

MACRO-DEBRIS SURFACE RIB SURVEY (pg. 2):

- **Starting Point along the Spine:** The point on the spine where you are placing your Rib.
    - For example, Rib #1 is at 13m, Rib #2 at 29m, Rib #3 at 45m, and Rib #4 at 87m.

- **Rib Length** will be up to 50m, depending on the proximity of the water's edge. In some cases, you will need to make it shorter to avoid the water.

- **Recording the fresh (human deposition) and weathered (environmental source) items found in your survey:** Make sure to record the tick marks in the *proper Rib column*.

- **Carry an Extra Bag/Container to ensure the accuracy of the recorded weight of the survey:**
    - If the Accumulation Survey (pg. 4) *is* conducted, any non-plastic items should be collected in an *additional bag or container* but not counted in the final weight of the survey.
    - If the Accumulation Survey (pg. 4) is *not* conducted, any trash (including non-plastic items) found *outside* the 5m Rib Sections from the Surface Rib Survey should be collected in an *additional bag or container*.

- **Take photos** of your site and some of the debris items you collected! Team lead, see last bullet below.

DATA TOTALS (pg. 5):

- **IMPORTANT!** When your survey is complete, please *add up all the data on page 5*. Use written numbers for all 'total' boxes to make it easier to read.

- **Total Weight of All Pieces:** If you conducted the Rib Surface Survey *and* Accumulation Survey, combine all trash into *one weight*. If you conducted *only* the Rib Surface Survey, be sure and weigh *only trash collected along the four rib sections*.

- **The Team Lead** is responsible for emailing photos of the data sheets to davids@cointl.org. Enter the subject line following this 'location / date' example: Cowell's Beach / 04.08.24