Visual Audit Protocol – U of T Trash Team



Purpose: To help identify hotspots for litter accumulation at your local waterbody, and to provide further information on where to place trash capture devices, such as Seabins, in the future. The protocol was initially created to audit litter accumulation in the Toronto Harbour, **but intended to be adapted for any location and waterbody.**

Materials:

- Camera (any device that can take a photo)
- Datasheets
- Pencil/pen
- Site Map
- Hat/sunscreen/water/snacks

Methods:

Designing the visual audit:

- Create a map of the locations you want to audit and draw the path of where you want to conduct the audit (see page 3-10 for example).
- Use template site-specific datasheet and replace the example map with the map of where you plan to conduct your audit. Repeat for however many sites you plan to audit.

NOTE: Ensure when you start a site, you complete it to the end and not halfway through, as this will help us region/pinpoint where the hotspots of debris are. Do only as many sites as you can within a day.

On site:

- 1. Print each site-specific datasheet you plan to audit for the day.
- 2. Obtain a datasheet and fill in all the information pertaining to the date, time, weather, and waterfront conditions.
- 3. On the relevant datasheet, take a picture of the site map on the datasheet to mark that you are beginning this site (this will help us know which photos go with each site, especially if you are doing more than one site per day).
- 4. Begin walking along the perimeter closest to the edge of the water.
- 5. To ensure standardized data collection, the visual audit should be done from a standing position. When looking for debris, DO NOT bend over. Walk upright and look down with your eyes. Bend down to see anything you are unsure of for closer inspection, but do not identify any other debris while bent down.
- 6. Only identify the debris floating at the surface of the water which you can successfully characterize and that are **larger than a bottle cap**. Record each of the items on your datasheet. Tally each item as you see them repeatedly.
- 7. When you encounter a large mass of floating **large debris (debris larger than a bottle cap)**, and it is not practical to count, take a photo. On the site-specific datasheet, circle the area where the large patch of debris is accumulating according to the site map provided. Under the **ITEM** column on the datasheet, write large debris patch.

- **a.** On the map where you circled the area of the large debris patch and took a photo label it with the photo number; if it's the first photo of that day, call it #1. If the 2nd, call it #2, and so on. Then take the photo of the debris. Record the photo # on the datasheet as well next to "large debris patch".
 - An alternative to recording the site on the map, if you have an iPhone or a device which can mark your location when you take a photo, turn your location services for your Photos app so it can track the exact locations for you. Once you are finished go to Albums and scroll down to People & Places. There you press Places and it will display the exact locations of each photo you took along the waterfront.
- 8. How much small anthropogenic debris (smaller than a bottle cap) is present? Match which one of the four images below best represents the amount of small debris at the site and circle and label it on your site-specific datasheet.







No Small Debris

Little Small Debris



Large amount of Small Debris

- 9. Once you finish the survey of this site, take a final picture of your site map. This will mark the end of the photos for this site.
- 10. If you are doing another site on the same day, repeat steps 1 9.
- 11. When you are back from the field, upload all photos taken of large debris patches to a cloud storage platform if available. Rename each photo in the order you took them as "Site_X_Photo #_Date_Name" (i.e. Site_2_Photo #1_Jun23_Cassy). Save both pictures of your map indicating where each of the photos was taken, rename as "Map Site X Date Name Start" and "Map Site X Date Name End".
- 12. Once finished, input all the information on your datasheet into an excel spreadsheet.

Analyse photos:

- 13. Fill out as many datasheets as photos you will analyze either in a Word document or by printing them.
- 14. Access the photos from your phone or cloud storage. Pick a visual audit and site to analyse. Next, go through each photo in the order that the photos were taken. For each photo analysed, use a new datasheet. The researcher who took the photo should have indicated which site each photo was taken. Record this information on the datasheet.
- 15. On the datasheet, record the photo number that is in the file name of the photo. Next, go through the photo from left to right, and top to bottom. Record what is found in the cluster of debris and tally each item as they are repeatedly found.
- 16. If there are items you cannot identify from the photo, record as UNIDENTIFIABLE under the ITEMS column. Once finished, input all the information on your datasheet into the excel spreadsheet.

NOTE: Below are examples of maps we created for each site we wanted to audit along the Toronto waterfront.



Site 1: Portland Slip

Site 2: Marina Quay West



Site 3: Spadina Slip



Site 4: Peter Street Slip



Site 5: Peter Street Basin



Site 6: Police Basin



Site 7: Marina Four



Site 8: York Street



Site 9: Harbour Square Park West



Site 10: Jack Layton Ferry



Site 11: Queens Quay East Slip



Site 12: Sugar Beach Slip



Site 13: Toronto Islands

