

Soil Sampling Protocol

Materials:

- Hiking boots
- GPS
- Logbook
- Graphite/carbon pencil
- Whirl-pack bags
- Scoopula
- Hiking trail map
- Compass
- Backpack
- Permanent marker



Figure 1: Sampling equipment

Note 1: Be sure to pack plenty of water, food and sun protection for the trip.

Note 2: Hiking boots should be completely clean and sterilized before the start of each collection day.

Note 3: Create a hiking itinerary before the collection day. This will provide the collector with detailed information about each site along the collection route. This will also provide a pre-determined starting location.

Note 4: Samples should be collected at a minimum distance of 1.61 kilometers (1 mile) from the previous sampling location or when a change of habitat occurs.

Sample Collection:

1. Record the start of the trip in the GPS and logbook. Provide elevation, time of day, date, area outlook, and coordinates in the logbook.
2. Label the Whirl-pack bag with site location, waypoint number, and sample number.

3. Collect about 1/3 of the Whirl-pack bag by gathering soil from multiple locations within a diameter of 20 meters using the Scoopula (see Figure 2). Ideal samples are moist or wet soils. Avoid sandy soil (see Figure 3).
4. Clean the collection tools thoroughly after each use.



Figure 2: Scoopula in use



Figure 3: Shows examples of ideal collection sites and a sandy soil site that should not be used

- Place a small label written in pencil with the coordinates and sample number inside of the Whirl-pack bag with the collected sample. The outside of each Whirl-pack bag must also be labeled with a permanent marker, indicating the coordinates and corresponding sample number (see Figure 4). All site information should be saved in the GPS and added to the logbook.

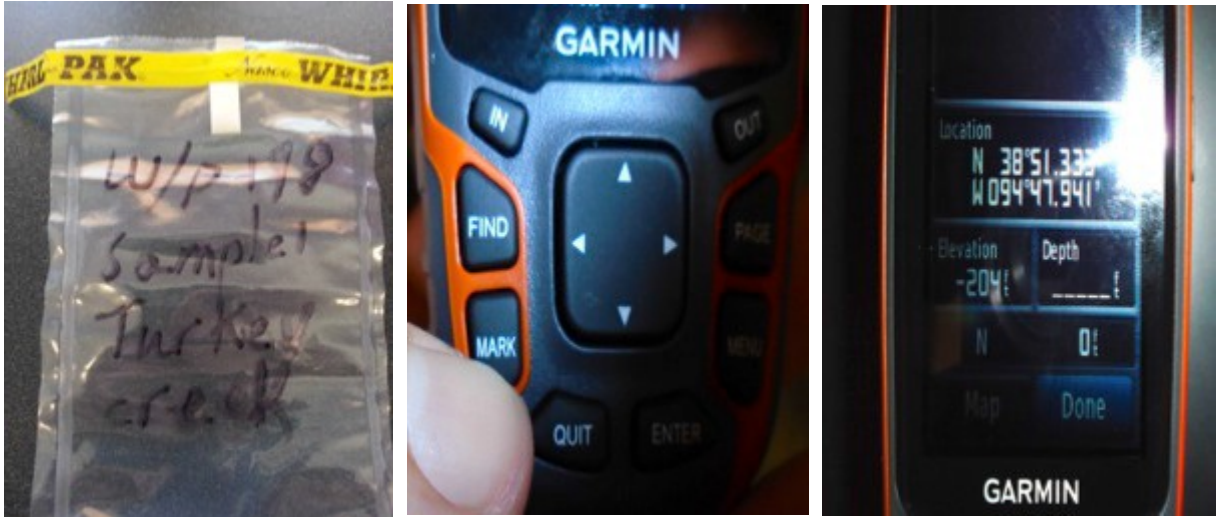


Figure 4: Whirl-pack label example and GPS marking

- Seal the sample properly by extracting as much air as possible from the Whirl-pack bag (see Figure 5). Store the sample in a backpack, and continue to the next sample site.



Figure 5: Sealing the Whirl-pack bag

- Repeat the process using a new Whirl-pack bag at each collection site.
- Scrape the bottom of your boot with the collection tool at the end of the trip to provide a comprehensive control sample.
- See Figure 6 for ideal examples of collection sites.



Figure 6: Examples of changes in habitat