Methods for collecting microplastics in the Hawkesbury Nepean River

Equipment needed

1 x 20m measuring tape
1 x glass jar, approximately 300ml
1 x 10mm sieve
1 x 5mm sieve
1 x collection tray
1 x 30cm Foil Tray
Roll of foil
1 x texter

Figure 1: Equipment needed for sampling

Before you start - make sure that you look around the site and assess all possible risks before undertaking any sampling. If the risks cannot be mitigated do not continue sampling.

Method

1. Determine if the site you are sampling at is tidal. If so, you will sample from the high tide mark. If not, you will sample at the edge of the water.

2. Run a 20 meter transect along your sample site (figure 2)

Figure 2: A transect along the sample site in the Hawkesbury River

3. Randomly choose four numbers between one and twenty. You can do this by using a random number generator on your phone. These four numbers will determine

where you take your sample along the transect, i.e., if you get the numbers 1, 18, 7 and 4 you will take sediment samples at 1m, 4m, 7m and 18m along the transect.

4. Holding your glass jar upside down, push your jar into the sediment until it is completely full. Turn your glass jar upright and pull it out of the sediment.

5. Empty your jar of sediment into the 10mm sieve (figure 3). Using the metal spoon push the sediment through the 10mm sieve into the 5mm sieve. Discard all the debris left in the 10mm sieve. Repeat with the 5mm sieve until the sediment is through to the collection tray underneath. Discard all the debris left in top of the 5mm sieve.

Figure 3: Sediment being emptied into 10mm sieve.

6. Once all the sediment is in the collection tray, use the metal spoons and scoop all sediment into the foil tray. Cover with foil and label using a texter the date, location and your name.

7. Return the tray and all equipment to Western Sydney University Laboratories where the samples will be dried and processed to determine the number of microplastics in the sediment.

Methods for identifying and counting microplastics in the Hawkesbury Nepean River

Equipment needed:

Microscope
1 x metal spoon
1 x glass petri dish
1 x metal tweezers
1 x scales
1 x data sheet

Method:

1. Weigh 3g of dried sediment into a glass petri dish.
2. Look at the sample under the microscope. Start at one side of the petri dish and work slowly around the petri dish.
3. Identify and count any microplastic you see in your petri dish. Record the data in the table below.
4. Once you have finished place your petri dish on top of this data sheet on the table in the middle of the laboratory for verification.

Types of microplastics:

microfragment microfilm microfibre microbead

Microplastics count in the Hawkesbury Nepean River

Date Collected	Sample Site	Type of microplastic	Count	Comments

Identified by _____ date_____
Verified by _____ date_____