Litter Intelligence.
Data. Insights. Action.

Stream litter monitoring.

Methodology summary for Citizen Scientists.

OFFICIAL VERSION 1.0

Choose Survey Area

This methodology is for wadeable streams. If safe to do so, you will be sampling the stream itself and the stream banks. It can be modified for use on non-wadeable streams and rivers by restricting your litter survey to the waterway banks. Choose a site on a stream where you can safely access. The stream site should be a continuous space that is not broken up by tributaries or large gaps that are not going to be surveyed.

This methodology is a localised adaptation of the United Nations Environment Program / Intergovernmental Oceanographic Commission Guidelines on Survey and Monitoring of Marine Litter and the Surface Water Ambient Monitoring Program's Rapid Trash Assessment Protocol.

Note: This is a methodology overview intended for Citizen Scientists. It does not replace official training, which covers important Health and Safety, logistics and planning considerations.

1

Set-up Survey Area

Complete a site risk assessment before each 'Litter Survey'.

Measure a 30 metre length of stream[1] and mark either end with stakes or flagging tape.

Then, measure the width of your site and set up stakes or tape here. Your total site width includes the stream itself[2] and the active floodplain on both stream banks where litter would be deposited during high flow events. Site widths vary among streams. This is your 'Survey Area'. Citizen Scientists only collect litter from this area.

At the downstream end of your site take 3 photos: (1) Facing upstream (2) Left bank (3) Right bank. Also record your visual assessment grade (A-D) for the site.

2

Complete Litter Survey

Brief 'Citizen Scientists' on Health & Safety and how to do the survey. Provide clean-up/survey equipment. Survey should take 30 mins - 2 hours.

Collect all visible litter from the stream and the stream banks by walking the entire survey area (starting at the downstream end) at least two times and looking under vegetation. While you can collect items under 5mm, these are not included in the audit.

Found less than 10 items? Extend the survey length up to a total length of 100 metres and continue to survey (if safe to do so).

Leave behind all dangerous, large or immovable, and organic litter.

3

Complete Litter Audit

While you can do this on site, it can be easier in a sheltered location like a garage or a school. Some items can be dangerous, so follow safety instructions.

Sort all litter from the survey area into the categories provided. **Use the sieve to separate any items under 5mm,** so that they aren't counted or weighed.

Group items from each category in one of your sorting bins. Record the item count and total weight (in grams) of the items in each category. Also record confidence level (High or Low) for weight.

Record your visual assessment grade (A-D) for plastic resin pellets.

Repeat Four Times A Year

To get long-term data and insights on our litter problem, surveys should ideally be **repeated at least every 3 months.**

This is a great chance to get back together with your friends, whanau and/or colleagues to look after the places you love.

Make sure you follow steps 1 to 3 each time, and complete the survey in exactly the same place each time so we can compare data!

1. In heavily littered streams, you may reduce the length of stream sampled to 10 meters. You should aim to sample a minimum area of 100 m^2.
2. If it is not safe to enter the stream (e.g., too deep, can't see the bottom) you can sample the stream banks only. Report your site width as the sum of the width of the left and right bank. Similarly, if it is not safe to sample one of the stream banks, you can restrict your sampling to one bank only.